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Organisation météorologique mondiale

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GENÈVE, le 8 janvier 2015

Annexes: 2

Objet: Lancement du site Web consacré au Dix-septième Congrès météorologique mondial

Madame, Monsieur le Ministre,

J'ai l'honneur de me référer au Dix-septième Congrès météorologique mondial, qui aura lieu à Genève, du 25 mai au 12 juin 2015, et de vous informer que le site Web s'y rapportant, qui contient les documents de session et d'autres renseignements pertinents, est désormais accessible à l'adresse http://cg-17.wmo.int/.

À cet égard, je tiens à attirer votre attention sur les documents ci-joints:

a) Cg-17/Doc. 13.1(1) – Nombre de sièges au Conseil exécutif;

b) Cg-17/Doc. 10.2 – Budget de la dix-septième période financière (2016-2019), disponible pour le moment en anglais seulement.

Nous informerons les Membres concernés dès que ce dernier document sera disponible dans les autres langues.

Copie de la présente lettre est envoyée au Représentant permanent de votre pays auprès de l'OMM.

Veuillez agréer, Madame, Monsieur le Ministre, les assurances de ma très haute considération.

(M. Jarraud)
Secrétaire général

Aux: Ministres des affaires étrangères des pays Membres de l'Organisation météorologique mondiale (WMO-1416)

Organisation météorologique mondiale **Cg-17/Doc. 13.1(1)**

CONGRÈS MÉTÉOROLOGIQUE MONDIAL

Présenté par: Secrétaire général
Date: 28.X.2014
Langue originale: Anglais
Étape: **VERSION 1**

DIX-SEPTIÈME SESSION
Genève, 25 mai-12 juin 2015

POINT 13 DE L'ORDRE DU JOUR: QUESTIONS GÉNÉRALES ET JURIDIQUES

POINT 13.1: QUESTIONS RELATIVES À LA CONVENTION

NOMBRE DE SIÈGES AU CONSEIL EXÉCUTIF

RÉSUMÉ

DÉCISIONS/MESURES À PRENDRE:

Examiner la question du nombre de sièges au Conseil exécutif et prendre une décision en la matière.

CONTENU DU DOCUMENT:

La table des matières n'est disponible qu'en version électronique par le biais de la commande «Explorateur de documents»*.

* En MS Word 2003 ou 2007, cliquer sur «Affichage». En MS Word 2010, cliquer sur «Affichage» > «Volet de navigation». En MS Word sur Mac, cliquer sur «Affichage» > «Volet de navigation», puis choisir «Explorateur de documents» sur le menu déroulant à gauche.

APPENDICE A
PROJET DE TEXTE À INSÉRER DANS LE RÉSUMÉ GÉNÉRAL

13. QUESTIONS GÉNÉRALES ET JURIDIQUES (point 13 de l'ordre du jour)

13.1 Questions relatives à la Convention (point 13.1)

Nombre de sièges au Conseil exécutif

13.1(1).1 Le Congrès a étudié le rapport de la soixante-sixième session du Conseil exécutif concernant le nombre de sièges au Conseil exécutif.

13.1(1).2 Le Congrès a pris note de la proposition du Conseil régional II (Asie) concernant l'ajout, au Conseil exécutif, d'un siège pour cette Région.

13.1(1).3 Le Congrès a également pris note des positions adoptées par les Conseils régionaux I (Afrique), III (Amérique du Sud), IV (Amérique du Nord, Amérique centrale et Caraïbes), V (Pacifique Sud-Ouest) et VI (Europe) en réaction à cette proposition, et a étudié ses décisions antérieures à propos de l'augmentation du nombre des sièges au Conseil exécutif.

13.1(1).4 Le Congrès a analysé la question du nombre de sièges attribués à chaque Région au sein du Conseil exécutif à la lumière des divers défis auxquels est confrontée l'Organisation ainsi que des avantages, notamment en ce qui concerne la représentation des conseils régionaux, et des frais supplémentaires entraînés par l'ajout d'un ou de plusieurs sièges.

13.1(1).5 Compte tenu de ce qui précède, le Congrès a décidé… *(à compléter)*

APPENDICE B
RAPPORT D'ACTIVITÉ POUR INFORMATION – À NE PAS INSÉRER DANS LE RÉSUMÉ GÉNÉRAL

NOMBRE DE SIÈGES AU CONSEIL EXÉCUTIF

Représentation du Conseil régional I au Conseil exécutif

Rapport provisoire de la seizième session du Conseil régional I (Afrique), RA I-16/Doc. 5.3.2, paragraphes 5.3.2.1 à 5.3.2.3
http://rai-16.wmo.int/documents-français

(La position du Conseil régional I sera ajoutée après la seizième session du Conseil régional I, en février 2015)

Représentation du Conseil régional II au Conseil exécutif

Abridged Final Report with Resolutions of the Fifteenth Session of Regional Association II (Asia), Part I (WMO-No. 1106), résumé général, paragraphes 5.1.24 à 5.1.27
http://library.wmo.int/pmb_ged/wmo_1106_en.pdf

5.1.24 Le Conseil régional a affirmé que la représentation du Conseil régional II au sein du Conseil exécutif constituait l'un des principaux défis pour la Région II. Il a rappelé qu'étant donné sa grande diversité géographique, climatique, écosystémique et religieuse, la diversité des régimes politiques et de l'organisation économique, ainsi que le nombre de Membres du Conseil régional II qui peuvent contribuer notablement aux activités du Conseil exécutif, son président avait présenté en 2010 à la soixante-deuxième session du Conseil exécutif une proposition en vue de faire passer le nombre des membres du Conseil exécutif de 37 à 38 afin de permettre au Conseil régional II d'obtenir un siège supplémentaire (passant ainsi de six à sept sièges) en vue d'un examen lors du Seizième Congrès météorologique mondial conformément aux procédures décrites dans la Convention de l'OMM.

5.1.25 Le Conseil régional a également rappelé qu'après avoir étudié les débats qui se sont déroulés à la soixante-deuxième session du Conseil exécutif et les recommandations du Groupe de travail de la planification stratégique et opérationnelle de l'OMM, le Seizième Congrès avait approuvé les amendements au Règlement général proposés par le président du Conseil régional I concernant l'introduction d'une nouvelle règle établissant la répartition des sièges au sein du Conseil exécutif qui reflète l'accord informel («gentlemen's agreement») négocié lors des Quatorzième et Quinzième Congrès (2003 et 2007) et permettant l'attribution de six sièges au Conseil régional II sur le total des 37 sièges.

5.1.26 Il a également noté que le Congrès avait pris acte de la proposition des présidents des Conseils régionaux II (Asie), IV (Amérique du Nord, Amérique centrale et Caraïbes) et V (Pacifique Sud-Ouest) d'accroître le nombre de membres du Conseil exécutif pour que ces Régions puissent obtenir un siège de plus que ce que prévoit la répartition stipulée dans la résolution 44 (Cg-XVI), proposition à soumettre au Dix-septième Congrès (2015), conformément aux procédures énoncées dans la Convention de l'OMM.

5.1.27 À cet égard, le Conseil régional est convenu d'aller de l'avant avec la proposition visant à augmenter de six à sept le nombre de sièges alloués au Conseil régional II et a demandé au Groupe de gestion d'élaborer une proposition appropriée qui sera soumise par le président au Conseil exécutif.

Représentation du Conseil régional III au Conseil exécutif

Provisional Report of the Sixteenth Session of Regional Association III (South America), RA III/Doc. 5.3.2, APPROVED, paragraphes 5.3.2.1 à 5.3.2.3
http://raiii-16.wmo.int/documents-english

5.3.2.1 Le Conseil régional a également rappelé qu'après avoir étudié les débats qui se sont déroulés à la soixante-deuxième session du Conseil exécutif et les recommandations du Groupe de travail de la planification stratégique et opérationnelle de l'OMM, le Seizième Congrès avait approuvé les amendements au Règlement général proposés par le président du Conseil régional I concernant l'introduction d'une nouvelle règle établissant la répartition des sièges au sein du Conseil exécutif, qui reflète l'accord informel («gentlemen's agreement») négocié lors des Quatorzième et Quinzième Congrès (2003 et 2007) et concernant le total des 37 sièges.

5.3.2.2 Le Conseil régional a noté que le Seizième Congrès avait examiné la proposition du président du Conseil régional II visant à accroître le nombre de sièges du Conseil exécutif pour que cette Région puisse obtenir un siège de plus que ce que prévoit la répartition stipulée dans la résolution 44 (Cg-XVI), proposition qui sera soumise au Dix-septième Congrès (2015), conformément aux procédures énoncées dans la Convention de l'Organisation météorologique mondiale. Le Conseil régional a également pris note des discussions suscitées par cette proposition au sein des Conseils régionaux I (Afrique), IV (Amérique du Nord, Amérique centrale et Caraïbes) et V (Pacifique Sud-Ouest,) ainsi que des réserves émises par ces Conseils régionaux qui ont tous estimé qu'il serait difficile de mettre en avant des arguments en faveur d'un tel changement s'ils sont perçus comme la préoccupation d'une seule Région. Le Conseil a notamment relevé la position du Conseil régional VI (Europe) qui souhaite maintenir le nombre de sièges à 37, tout en se réservant le droit de solliciter un siège supplémentaire dans l'éventualité où d'autres Régions proposeraient d'augmenter ce nombre. Par ailleurs, le Conseil régional a noté qu'à sa soixante-sixième session le Conseil exécutif avait recommandé que la question du nombre et de la répartition des sièges par Région au Conseil exécutif soit examinée à la lumière des divers défis auxquels est confrontée l'Organisation et a prié le Secrétaire général de veiller à dûment informer les Membres à ce sujet, au moins six mois avant l'ouverture du Dix-septième Congrès, en application de l'article 28 de la Convention de l'OMM.

5.3.2.3 À cet égard, le Conseil régional a demandé au Groupe de gestion d'étudier cette question plus avant afin d'envisager les modes d'approche adéquats, y compris la possibilité de travailler avec les Groupes de gestion des autres Régions afin de contribuer au récapitulatif détaillé qui doit être remis au Congrès et qui devra inclure les difficultés rencontrées actuellement en matière de représentation au sein du Conseil exécutif et des conseils régionaux, les mesures qui ont été prises à ce jour pour surmonter ces difficultés et indiquer clairement les avantages et les coûts supplémentaires afférents à l'augmentation du nombre de sièges. Le Conseil a prié le président de la Région de participer à la rédaction d'une résolution pour le Dix-septième Congrès, concernant la modification de l'article 13 de la Convention de l'OMM et de la règle correspondante du Règlement général.

Représentation du Conseil régional IV au Conseil exécutif

Abridged final Report with Resolutions of the Sixteenth Session of Regional Association IV (North America, Central America and the Caribbean), Part I (WMO-No. 1117), résumé général, paragraphes 5.1.11 à 5.1.13
https://drive.google.com/file/d/0BwdvoC9AeWjUUDkwdHU3Y05oNTg/edit?usp=sharing

5.1.11 Le Conseil régional a rappelé qu'après avoir étudié les débats qui se sont déroulés à la soixante-deuxième session du Conseil exécutif et les recommandations du Groupe de travail de la planification stratégique et opérationnelle de l'OMM, le Seizième Congrès avait approuvé les amendements au Règlement général proposés par le président du Conseil régional I concernant l'introduction d'une nouvelle règle établissant la répartition des sièges au sein du Conseil exécutif

qui reflète l'accord informel («gentlemen's agreement») négocié lors des Quatorzième et Quinzième Congrès (2003 et 2007) et permettant l'attribution de cinq sièges au Conseil régional IV sur le total des 37 sièges.

5.1.12 Le Conseil régional a en outre noté que le Seizième Congrès avait pris acte de la proposition des présidents des conseils régionaux II (Asie), IV (Amérique du Nord, Amérique centrale et Caraïbes) et V (Pacifique Sud-Ouest) d'accroître le nombre de membres du Conseil exécutif pour que ces Régions puissent obtenir un siège de plus que ce que prévoit la répartition stipulée par le Seizième Congrès dans sa résolution 44 (Cg-XVI), proposition qui sera soumise au Dix-septième Congrès (2015), conformément aux procédures énoncées dans la Convention de l'OMM.

5.1.13 À cet égard, le Conseil régional a estimé que le CR IV devrait adopter une approche analogue à celle du Conseil régional I qui avait proposé au Seizième Congrès une modification du Règlement de l'OMM. Le Conseil régional a demandé au Groupe de gestion d'étudier cette question plus avant afin d'envisager les modes d'approche adéquats, y compris la possibilité de travailler avec les Groupes de gestion des autres Régions et le Conseil exécutif afin de préparer un projet de résolution pour le Dix-septième Congrès, concernant la modification de l'article 13 de la Convention de l'OMM et celle du Règlement général.

Représentation du Conseil régional V au Conseil exécutif

> *Provisional Report of the Sixteenth Session of Regional Association V (South-West Pacific), RA V 16/Doc. 5.3(2), APPROVED* – paragraphes 5.3(2).1 à 5.3(2).4
> http://rav-16.wmo.int/documents-english

5.3(2).1 Le Conseil régional a rappelé que le Conseil exécutif, lors de sa soixante-deuxième session (Genève, juin 2010), avait examiné la proposition du président du Conseil régional II visant à porter de 37 à 38 le nombre de sièges au sein du Conseil exécutif pour que la Région II puisse disposer d'un siège supplémentaire (7 au lieu de 6), et que le Seizième Congrès (2011) avait pris acte des propositions des présidents des Conseils régionaux II (Asie), IV (Amérique du Nord, Amérique centrale et Caraïbes) et V (Pacifique Sud-Ouest) d'accroître le nombre de sièges du Conseil exécutif pour que ces Régions puissent obtenir un siège de plus que ce que prévoit la répartition stipulée dans la résolution 44 (Cg-XVI), propositions qui seraient soumises au Dix-septième Congrès, conformément aux procédures énoncées dans la Convention de l'Organisation météorologique mondiale (OMM).

5.3(2).2 Le Conseil régional a relevé que le Conseil exécutif, lors de sa soixante-cinquième session, avait demandé au Secrétaire général d'aider les présidents des conseils régionaux à élaborer pour septembre 2013, une proposition à l'intention du Groupe de travail de la planification stratégique et opérationnelle relevant du Conseil exécutif, et avait chargé ledit groupe d'élaborer une proposition qui lui serait soumise lors de sa soixante-sixième session et dans laquelle figureraient les modifications qu'il conviendrait d'apporter, le cas échéant, à la Convention et au Règlement général de l'OMM.

5.3(2).3 Le Conseil régional a également relevé qu'à l'issue de leur réunion de janvier 2014 les présidents des conseils régionaux étaient convenus que l'octroi d'un siège supplémentaire au Conseil régional II était l'option acceptable, et que sur la base de cette proposition le Groupe de travail de la planification stratégique et opérationnelle avait examiné, lors de sa troisième session (Genève, février 2014), la possibilité d'augmenter le nombre de sièges au Conseil exécutif et avait fait une proposition à la soixante-sixième session du Conseil exécutif, visant notamment à réviser l'article 13 de la Convention de l'OMM et la règle 17 du Règlement général portant sur la répartition des sièges au sein du Conseil exécutif. [ref. EC-66/Doc. 7.3(2) disponible sur: https://docs.google.com/a/wmo.int/file/d/0B-Uo8XYH2gzqeDlmbEtEWXBuekk/edit].

5.3(2).4 Le Conseil régional a examiné la question de sa représentation au Conseil exécutif en ce qui concerne la répartition des sièges stipulée dans la résolution 44 (Cg-XVI), et a décidé de souscrire à la recommandation du Groupe de travail de la planification stratégique et opérationnelle visant à maintenir à quatre le nombre de sièges attribué à la Région V.

Représentation du Conseil régional VI au Conseil exécutif

Rapport provisoire de la seizième session du Conseil régional VI (Europe), Partie I (OMM-N° 1125), résumé général, paragraphes 5.2.14 à 5.2.17
https://drive.google.com/file/d/0BwdvoC9AeWjUWVkwejN6cVhyLW8/edit?usp=sharing

5.2.14 En examinant la question de la répartition des sièges au sein du Conseil exécutif entre les six Régions de l'OMM, le Conseil régional a souligné que le premier souci devrait être de préserver le bon fonctionnement du Conseil exécutif. À cet égard, on en est venu à la conclusion que le nombre de sièges pourrait être maintenu à 37, le Conseil régional se réservant toutefois le droit de solliciter un siège supplémentaire, dans l'éventualité où d'autres Régions proposent d'accroître ce nombre. Aussi le Conseil régional a-t-il demandé à son président d'écrire une lettre dans ce sens au Président de l'OMM avant la fin du mois de septembre 2013.

5.2.15 Afin d'élargir la participation aux sessions du Conseil exécutif, le Conseil régional a encouragé les membres actuels du Conseil exécutif à inviter d'autres directeurs de Services météorologiques et hydrologiques nationaux (SMHN) à titre de conseillers. Il a aussi été rappelé que les représentants permanents de la Région pourraient assister aux sessions en qualité d'observateurs.

5.2.16 Le Conseil régional a ajouté que l'on devrait disposer de solides mécanismes infrarégionaux de sélection des candidats pour le Conseil exécutif afin que les différentes parties de la Région puissent être activement représentées au sein du Conseil exécutif.

5.2.17 Le Conseil régional a prié le Groupe de gestion d'examiner plus avant cette position de la Région et a autorisé le président à la soumettre au Conseil exécutif et à d'autres organes concernés.

Conseil exécutif: nombre de membres et répartition des sièges

Rapport final abrégé et résolutions de la soixante-sixième session du Conseil exécutif EC-66 (OMM-N° 1136), paragraphes 7.3.6 à 7.3.10

7.3.6 Le Conseil a examiné le rapport et en particulier les propositions de son Groupe de travail de la planification stratégique et opérationnelle de l'OMM concernant le nombre de ses membres et la répartition des sièges.

7.3.7 Le Conseil a pris note de la proposition du Conseil régional II (Asie) concernant l'ajout, au Conseil Exécutif, d'un siège pour cette Région.

7.3.8 Le Conseil a également pris note des positions des Conseils régionaux I (Afrique), III (Amérique du Sud), IV (Amérique du Nord, Amérique centrale et Caraïbes), V (Pacifique Sud Ouest) et VI (Europe) en réaction à cette proposition, et a recommandé que le Congrès reçoive un récapitulatif détaillé des décisions antérieures prises par le Congrès à propos de l'augmentation du nombre et de la répartition des sièges au Conseil exécutif.

7.3.9 Pour que l'ensemble de l'Organisation bénéficie d'une valeur ajoutée optimale et du meilleur rapport coût-efficacité, le Conseil a également recommandé que la question du nombre et de la répartition des sièges par Région au Conseil exécutif soit examinée à la lumière des divers défis auxquels est confrontée l'Organisation. Le récapitulatif détaillé qui sera remis au Congrès devra inclure les difficultés rencontrées actuellement en matière de représentation au sein du

Conseil exécutif et des conseils régionaux, les mesures qui ont été prises à ce jour pour surmonter ces difficultés et indiquer clairement les avantages et les coûts supplémentaires afférents à l'ajout de sièges.

7.3.10 Le Conseil a prié le Secrétaire général de veiller à dûment informer les Membres à ce sujet, au moins six mois avant l'ouverture du Dix-septième Congrès, en application de l'article 28 de la Convention de l'OMM.

Processus règlementaire à suivre pour modifier éventuellement la Convention à l'aide d'un amendement.

1. Le nombre de sièges au Conseil exécutif est fixé conformément à l'article 13 de la Convention de l'OMM, comme suit:

PARTIE VII

Le Conseil exécutif

ARTICLE 13

Composition

Le Conseil exécutif est composé:

a) Du Président et des Vice-Présidents de l'Organisation;

b) Des présidents des conseils régionaux, qui peuvent être remplacés aux sessions par des suppléants, ainsi qu'il est prévu au Règlement;

c) De 27 directeurs de Services météorologiques ou hydrométéorologiques des Membres de l'Organisation, qui peuvent être remplacés aux sessions par des suppléants, sous réserve:

i) Que ces suppléants soient ceux prévus par le Règlement;
ii) Qu'aucune Région ne puisse compter plus de neuf membres et qu'elle compte au moins quatre membres du Conseil exécutif, y compris le Président et les Vice-Présidents de l'Organisation, les présidents des conseils régionaux et les 27 directeurs élus, la Région étant déterminée pour chaque membre conformément aux dispositions du Règlement.

La modification du nombre de sièges au Conseil exécutif constituant un amendement à la Convention de l'OMM, il y a lieu de se reporter à l'article 28 de ladite Convention qui stipule:

PARTIE XV

Amendements

ARTICLE 28

a) Tout projet d'amendement à la présente Convention sera communiqué par le Secrétaire général aux Membres de l'Organisation, six mois au moins avant d'être soumis à l'examen du Congrès;

b) Tout amendement à la présente Convention comportant de nouvelles obligations pour les Membres de l'Organisation sera approuvé par le Congrès, conformément aux dispositions de l'article 11 de la présente Convention, à la majorité des deux tiers, et entrera en vigueur, sur acceptation par les deux tiers des Membres qui sont des États, pour chacun de ces Membres qui accepte ledit amendement et, par la suite, pour chaque Membre restant, sur acceptation par celui-ci. De tels amendements entreront en vigueur, pour tout Membre qui n'est pas responsable de ses propres relations internationales, après acceptation en son nom par le Membre responsable de la conduite de ses relations internationales;

c) Les autres amendements entreront en vigueur après avoir été approuvés par les deux tiers des Membres qui sont des États.

Une modification du nombre de sièges au Conseil exécutif ne crée pas d'obligations nouvelles pour les Membres. C'est donc l'alinéa *c)* de l'article 28 qui s'applique.

Éléments historiques

2. Il y a lieu de rappeler que la question du nombre de sièges au Conseil exécutif a été débattue lors des Neuvième et Quatorzième Congrès qui ont adopté respectivement les résolutions 41 (Cg-IX) et 39 (Cg-XIV). Les deux textes, très proches, sont reproduits ci-dessous.

AMENDEMENTS À APPORTER À L'ALINÉA *c)* DE L'ARTICLE 13 DE LA CONVENTION
texte de la résolution 41 (Cg-IX) – texte de la résolution 39 (Cg-XIV) – texte commun aux deux résolutions
LE CONGRÈS,
CONSIDÉRANT:
1) que le nombre de Membres de l'Organisation a augmenté,
1) l'augmentation du nombre des Membres de l'Organisation,
2) que les diverses Régions devraient être mieux représentées au sein du Conseil exécutif,
2) le fait qu'il est souhaitable d'élargir la consultation au sein du Conseil exécutif et, ainsi, non seulement d'augmenter le nombre des directeurs de Services météorologiques ou hydrométéorologiques prenant une part active au fonctionnement de l'Organisation, mais aussi d'améliorer la représentation des Régions,
DÉCIDE:
1) de modifier comme suit l'alinéa *c)* de l'article 13 de la Convention:
1) que le texte de l'article 13 c de la Convention sera remplacé par le texte suivant:
«c) de *vingt-six* / vingt-sept directeurs de Services météorologiques ou hydrométéorologiques des Membres de l'Organisation, qui peuvent être remplacés aux sessions par des suppléants, sous réserve:
i) que ces suppléants soient ceux prévus par le Règlement;
ii) qu'aucune Région ne puisse compter plus de neuf membres et qu'elle compte au moins *trois* / quatre membres du Conseil exécutif, y compris le Président et les Vice-Présidents de l'Organisation, les présidents des *associations* / conseils régionaux et les *vingt-six* / vingt-sept directeurs élus, la Région étant déterminée pour chaque membre conformément aux dispositions du Règlement.»
2) que ces amendements entreront en vigueur *le 11 mai 1983* / le 14 mai 2003.

À cet égard, le Congrès souhaitera sans doute se remémorer l'avis émis lors de sa quatorzième session sur cette question (OMM-N° 960 – pp 149 disponible à l'adresse: ftp://ftp.wmo.int/Documents/PublicWeb/mainweb/meetings/cbodies/governance/congress_reports/french/pdf/Cg-XIV_960_fr.pdf):

> **11.2.4** Le Congrès a noté qu'à sa cinquante-quatrième session, le Conseil exécutif était convenu de lui proposer que l'on ajoute un siège au nombre de sièges des membres élus du Conseil exécutif pour tenir compte de l'augmentation du nombre de Membres de l'Organisation. En outre, pour que les diverses Régions soient mieux représentées, le Conseil a également proposé de porter à quatre le nombre minimal de membres du Conseil exécutif (composé du Président et des Vice-Présidents de l'Organisation, des présidents des associations régionales et des membres élus) provenant d'une Région donnée. Compte tenu de ce qui précède, le Congrès est convenu d'ajouter un siège au nombre de sièges des membres élus du Conseil exécutif dans la limite des fonds disponibles. Il a décidé que cet amendement entrerait en vigueur pendant cette session, avant l'élection des membres du Conseil exécutif. Il a adopté la résolution 39 (Cg-XIV).

3. Cela montre que la variation du nombre total de sièges au sein du Conseil exécutif avait résulté principalement de l'augmentation du nombre de Membres au sein de l'OMM ainsi que de la volonté de disposer d'une meilleure représentation des différentes Régions et, dans ce cas précis, du fait qu'il avait été jugé nécessaire qu'un représentant des petits États insulaires du Pacifique appartenant à la Région V siège au Conseil exécutif. Il y a lieu de noter cependant que, la répartition des sièges entre les Régions ne faisant pas l'objet d'une prescription dans le Règlement général, mais relevant uniquement d'un accord informel («Gentlemen's agreement»), le Congrès a décidé de faire passer à quatre le nombre minimum de sièges par Région, pour veiller à ce que la Région V continue d'obtenir quatre sièges.

4. Par conséquent le Congrès souhaitera peut-être envisager pour la définition du nombre des sièges, des critères n'ayant pas un caractère définitif et incontestable et qui pourraient entrainer une modification de l'alinéa *c)* de l'article 13 de la Convention quand:

a) Une demande dans ce sens est adressée au Secrétaire général, conformément à l'alinéa *5)* de la règle 201, par au moins soit un Membre, par l'intermédiaire de son gouvernement, soit une Région, par l'intermédiaire de son président et en application d'une décision adoptée au cours d'une session du Conseil régional. À ce sujet, il y a lieu d'informer le Congrès des points suivants:

i. À sa quinzième session, le Conseil régional II (Asie) est convenu de présenter une proposition visant à augmenter de six à sept le nombre de sièges qui lui sont alloués au Conseil régional et a demandé à son Groupe de gestion de formuler de façon appropriée la proposition que le président soumettra au Conseil exécutif afin que celui-ci examine plus avant la possibilité d'augmenter le nombre de ses membres, comme l'avait demandé le Seizième Congrès. Le président du Conseil régional II a envoyé au Secrétaire général une lettre à ce sujet, datée du 24 septembre 2013 (voir l'annexe 1);

ii. À sa seizième session, le Conseil régional VI (Europe), en examinant la question de la répartition des sièges au sein du Conseil exécutif entre les six Régions de l'OMM, a souligné que le premier souci devrait être de préserver le bon fonctionnement du Conseil exécutif. À cet égard, on en est venu à la conclusion que le nombre de sièges pourrait être maintenu à 37, le Conseil régional se réservant toutefois le droit de solliciter un siège supplémentaire, dans l'éventualité où d'autres Régions proposent d'accroître ce nombre. Le Conseil régional a autorisé son président à communiquer cette décision au Conseil exécutif et à d'autres organes compétents. La lettre datée du 30 septembre 2013 et adressée au Président de l'OMM à ce sujet est reproduite dans l'annexe 2 du présent document, à titre indicatif uniquement.

b) Il apparaît nécessaire de modifier le nombre minimum et/ou le nombre maximum de sièges par Région afin de corriger un déséquilibre perçu; avec 37 sièges et 191 Membres, la moyenne s'établit à un siège pour 5,16 Membres. Le tableau qui suit présente la situation lors de la tenue du Seizième Congrès.

Représentation des membres du Conseil exécutif au Seizième Congrès

	Région I	Région II	Région III	Région IV	Région V	Région VI
Nombre de Membres siégeant au Conseil régional	56	35	13	26	23	50
Pourcentage des pays et territoires siégeant au Conseil régional	27,6 %	17,2 %	6,4 %	12,8 %	11,3 %	24,6 %
Nombre de membres au Conseil exécutif	9	6	4	5	4	9
Nombre moyen de Membres du Conseil régional représenté par un membre du Conseil exécutif	6,2	5,8	3,3	5,2	5,8	5,6

Si le Congrès envisageait de conserver une règle qui fixe la répartition des sièges par Région, il lui faudrait probablement alors réexaminer le besoin de préciser un nombre minimum et un nombre maximum de sièges par Région en se demandant si cela introduit une contrainte inutile, en particulier compte tenu de la nécessité de faire évoluer à l'avenir le nombre de sièges et/ou la répartition des sièges.

Examen des avantages et des difficultés associés aux différentes options

5. Les fonctions du Conseil exécutif sont définies dans l'article 14 de la Convention de l'OMM. Malgré leurs spécificités, ces fonctions sont assez vastes. Le Conseil exécutif est un collectif de directeurs de Services météorologiques ou hydrométéorologiques conformément à la définition de l'article 6 de la Convention, sélectionnés par le Congrès en fonction de leurs connaissances et de l'influence dont ils disposent au sein de leur Région d'origine et au-delà, mais, comme cela est énoncé à l'alinéa b) de l'article 6 de la Convention, qui «se comporteront comme les représentants de l'Organisation et non comme ceux de Membres particuliers de l'Organisation.»

6. Il est donc relativement difficile d'établir et d'évaluer les performances du Conseil exécutif en ce qui concerne sa capacité de remplir ses fonctions par rapport soit au nombre de sièges dont il se compose soit à la répartition de ces sièges. Depuis que le rôle du Conseil exécutif a été adopté par le Congrès, il n'a jamais été remis en question. Bien au contraire, dans un monde qui évolue dans toutes ses dimensions – politiques, financières, économiques, technologiques, scientifiques, etc., ce rôle s'est renforcé si bien qu'il a permis à l'Organisation de conduire ses activités avec beaucoup de réussite, non seulement dans son domaine, principal et incontesté, de compétence et d'expertise techniques et scientifiques, mais aussi en tant que partenaire fiable et de plus en plus recherché au sein et en dehors du système des Nations Unies.

7. Plusieurs décisions et pratiques ont aussi apporté davantage de transparence et d'efficience dans le travail du Conseil exécutif. Il est possible de souligner par exemple les éléments suivants:

a) Un accès public à tous les documents non confidentiels;

b) Une amélioration de l'accessibilité, de la clarté et de la lisibilité des documents;

c) La possibilité dont dispose tous les Membres de l'OMM d'assister aux sessions de travail du Conseil exécutif – sans bénéficier du droit de parole et à l'exception des réunions tenues à huis clos – ainsi qu'à certaines réunions des groupes de travail du Conseil exécutif;

d) Un renforcement de la coordination au sein des conseils régionaux et des commissions techniques ainsi qu'entre ces organes, facilitant le travail du Conseil exécutif;

e) Davantage d'outils de contrôle mis à la disposition des Membres et du Conseil exécutif afin de diriger et d'orienter la mise en œuvre du budget-programme, à savoir, pour n'en nommer que quelques-uns, des rapports de vérification interne et externe, un processus de suivi et d'évaluation, la gestion des risques;

f) Des communications plus soutenues entre le Conseil exécutif et les groupes de gestion des conseils régionaux par l'intermédiaire des présidents des Régions.

8. Étant donné qu'un changement du nombre de sièges au Conseil exécutif nécessite un amendement à la Convention de l'OMM, la question doit être examinée à haut niveau au sein des autorités gouvernementales des Membres. Le moindre changement à son importance pour les Membres de l'OMM et en particulier pour ceux d'une Région qui demande une augmentation de sa représentation au sein du Conseil exécutif. Il serait difficile de mettre en avant des arguments en faveur d'un tel changement s'ils sont perçus comme la préoccupation d'une seule Région.

9. Dans la mesure où la définition du nombre total de sièges ne peut reposer sur un critère définitif et incontestable, il peut apparaître judicieux d'envisager un point de vue légèrement différent. À cet égard, il est probablement utile d'examiner les principes et méthodes suivis pour établir la composition du Groupe spécial de haut niveau pour le Cadre mondial pour les services

climatologiques, adoptés par les participants à une réunion intergouvernementale destinée à contribuer à la définition et à l'élaboration du Cadre mondial. Ce Groupe spécial de haut niveau a été constitué en effet pour réunir un ensemble de personnes disposant d'un large éventail de compétences dans des disciplines essentielles, et représentant toutes les zones géographiques, les cultures et les langues, l'équilibre hommes-femmes étant pris en compte. Les participants à la réunion intergouvernementale ont d'abord approuvé une composition partielle, laissant ainsi au Secrétaire général le soin de trouver, pour compléter l'équipe, une ou deux personnes compétentes, afin que toutes les caractéristiques fixées soient bien réunies au sein du Groupe spécial de haut niveau.

10. Le Congrès pourrait envisager de définir une composition ciblée, en s'inspirant de ce type de méthode, grâce à laquelle il serait possible de justifier la modification du nombre de sièges par la nécessité d'intégrer ou de renforcer certaines dimensions de son expertise collective, à savoir un argument plus facile à faire valoir dans chacun des pays, ce qui n'empêcherait pas d'anticiper de quelle(s) Région(s) une telle expertise peut provenir. À ce sujet, le Congrès pourrait souhaiter élargir le domaine d'expertise collective du Conseil exécutif pour prendre en compte: l'importance accrue des conditions climatiques sur la société et l'économie, étant donné en particulier la vulnérabilité et l'exposition croissantes des populations et de leurs biens aux catastrophes naturelles; l'attention accrue qu'il y a lieu d'accorder aux questions sociales et économiques pour définir des services optimaux de bout en bout, notamment dans le contexte du Cadre mondial pour les services climatologiques; et les différents problèmes que pose le passage à une économie plus verte dans tous les pays, en particulier dans les pays émergents.

11. Le Congrès devrait également être informé du fait que le coût supplémentaire moyen (coûts de déplacement depuis la Région jusqu'à Genève, prise en compte du fait qu'un membre du Conseil exécutif vient ou non d'un des pays les moins avancés, etc.) lié à l'ajout d'un siège au Conseil d'exécutif est de l'ordre de 45 000 francs suisses par période financière de 4 ans (participation à 4 sessions du Conseil exécutif et à 8 réunions d'un groupe de travail du Conseil).

Exemple d'amendements possibles

12. Dans le cas de l'ajout d'un siège supplémentaire au Conseil exécutif, le projet de résolution, s'inspirant des précédentes résolutions adoptées lors des Neuvième et Quatorzième Congrès, pourrait être libellé comme suit:

> ***AMENDEMENTS À APPORTER À L'ALINÉA c) DE L'ARTICLE 13 DE LA CONVENTION***
>
> *LE CONGRÈS,*
>
> ***Considérant**:*
> *1) L'augmentation du nombre des Membres de l'Organisation;*
> *2) L'équilibre opportun entre l'efficacité, l'efficience et les incidences en matière de coûts sur son fonctionnement, ainsi que celui de ses groupes de travail et groupe d'experts;*
> *3) Le bien-fondé d'une représentation élargie tenant mieux compte de la diversité de ses membres en ce qui concerne la dynamique des populations et la vulnérabilité aux catastrophes naturelles et aux conditions météorologiques dangereuses;*
> *4) La mesure dans laquelle les Membres sont disposés à participer de manière dynamique à la gouvernance de l'Organisation grâce à l'engagement, à titre personnel de leurs représentants permanents;*

***Décide**:*

1) de modifier comme suit l'alinéa c) *de l'article 13 de la Convention:*

«c) de vingt-huit directeurs de Services météorologiques ou hydrométéorologiques des Membres de l'Organisation, qui peuvent être remplacés aux sessions par des suppléants, sous réserve:

i) que ces suppléants soient ceux prévus par le Règlement;

ii) qu'aucune Région ne puisse compter plus de neuf membres et qu'elle compte au moins quatre membres du Conseil exécutif, y compris le Président et les Vice-Présidents de l'Organisation, les présidents des conseils régionaux et les vingt-huit directeurs élus, la Région étant déterminée pour chaque membre conformément aux dispositions du Règlement.»

2) que ces amendements entreront en vigueur le [mai/juin 2015].

Annexes: 2

ANNEXE 1

World Meteorological Organization
Organisation météorologique mondiale
Secrétariat
7 bis, avenue de la Paix – Case postale 2300 – CH 1211 Genève 2 – Suisse
Tél.: +41 (0) 22 730 81 11 – Fax: +41 (0) 22 730 81 81
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Weather • Climate • Water
Temps • Climat • Eau

24/09/2013

The Secretary General
World Meteorological Organization, Geneva

Subject: Increase the number of EC Seats for RA II

Dear Sir,

I would like to bring to your notice the decision taken in last RA-II (Asia) session held in Doha, Qatar in December, 2012. According to this decision, the RA-II was requested to take up with WMO to increase the number of RA-II EC seats from present six seats to seven seats.

To this effect, RA II wishes to put forward the following points for the justification of increasing the seats to our region.

Region II (Asia) has great diversity in geography, climate, ecosystems, religions, history, culture, experiences of economic development, and political and economic systems. It is also a home for the largest portion of population among WMO six regions. Even though the number of EC members in a region is not determined on a representation by population basis, Region II (Asia) seems to be underrepresented at the decision-making body within WMO.

In addition, considering the rapid change in economic, political situations and technological development addressing WIS, WIGOS & GFCS and also operational Meteorological Satellite information services provided by Members in the Region, the exiting number of seats will be inadequate to effectively meet the regional needs and challenges.

Besides, Asia has seen the increase of nations who are willing to actively participate in the WMO programmes and activities. Since widening gaps exist in politics, economies and technologies, the Region requires appropriate players who can bridge such gaps. Most of members consider becoming an EC Member as an honour and it provides us a great chance not only to draw public attention but also to enable us to conduct more international activities in meteorological field with financial support from the central government befitting the status.

In this regard, the increase of EC seats for the Region would contribute effectively to tackle a range of issues that RA II faces from various angles and different perspectives especially the vulnerability to natural hazards and severe weather conditions faced by our members of RAII.

In this context, although this issue might be a little pressure for WMO, it should be continuously stressed that the decision to increase the number of EC seats to RA II, a home of more LDCs and land locked countries will bring more benefit to the WMO in the long and broad term.

Concluding on behalf of RA II, to value a wider representation in a way to better reflect the diversity of our members with respect to population dynamics, vulnerability to natural hazards and severe weather conditions, I request the EC Working Group on Strategic and Operational Planning may prepare a proposal to increase the EC seats for RA II for submission to 17th Congress to amend Article 13 of the WMO Convention and General Regulation for approval.

Best regards,

Ahmed Abdulla Mohammed
President of RA II (ASIA)

Civil Aviation Authority (CAA), P.O. Box 3000, Doha, Qatar
Tel.: + 974 44 557 190 - Fax: + 974 44 659 541 - E-mail: ahmed_qatar@yahoo.com

ANNEXE 2

ORGANISATION MÉTÉOROLOGIQUE MONDIALE
CONSEIL RÉGIONAL VI (EUROPE)
BUREAU DU PRÉSIDENT

WORLD METEOROLOGICAL ORGANIZATION
REGIONAL ASSOCIATION VI (EUROPE)
OFFICE OF THE PRESIDENT

Ivan Čačić
President

Meteorological and Hydrological Service, Gric 3
HR-10000 Zagreb, Croatia

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Mr. David Grimes
Meteorological Service of Canada
141 Laurier Avenue West
Ottawa, Canada
e-mail: david.grimes@ec.gc.ca

Our ref.: 910-04/13-01/26
No.: 554-03/01-13-09

Your ref.:

Annex:

Zagreb, 30th September 2013

Subject: Increase the number of EC seats - position of the RA VI

Dear Mr. Grimes,

I would like to bring to your notice the perspective of the Regional Association VI (Europe) regarding the increase of the number of EC seats. In this regard, I would like to recall the position of the RA VI (Europe) members taken at the 16th RA VI session, held in Helsinki, Finland, that is reflected in the document RA-VI-16-d05-2-IMPROVED-EFFICIENCY-draft2_en.doc in the following paragraphs:

5.2.14 The Association addressed the distribution of the seats on the Executive Council among the six WMO Regions and emphasized that the main consideration should be the effectiveness of the EC. In this regard, it was felt that the current number of 37 seats could be kept. However, the Association would reserve the right to request one additional seat, should other Regions propose an increase.

5.2.15 In order to enable broader participation in the EC sessions, the Association encouraged the current EC members to invite other Directors of NMHSs as advisers. At the same time, it was recalled that PRs from the Region could attend EC sessions as observers.

5.2.16 The Association discussed further that there should be better in-region mechanisms for selecting candidates for EC that would enable more PRs from the Region to serve as EC members.

5.2.17 The Association requested the Management Group to elaborate on this position of the Region and authorized the president to convey it to EC and other relevant bodies.

With kind regards,

M.Sc. Ivan Čačić
Ivan Čačić
President of RA VI

World Meteorological Organization **Cg-17/Doc. 10.2**

WORLD METEOROLOGICAL CONGRESS

Submitted by: Secretary-General
Date: 12.XII.2014
Original Language: English
Status: **DRAFT 1**

SEVENTEENTH SESSION
Geneva, 25 May to 12 June 2015

AGENDA ITEM 10.2: BUDGET FOR THE SEVENTEENTH FINANCIAL PERIOD (2016-2019)

BUDGET FOR THE SEVENTEENTH FINANCIAL PERIOD (2016-2019)

SUMMARY

DECISIONS/ACTIONS REQUIRED:

Congress is invited to:

(a) Approve the Secretary-General's budget proposal for the seventeenth financial period (2016-2019) contained in this document; and

(b) Take note of the Operating Plan for the seventeenth financial period (2016-2019).

CONTENT OF DOCUMENT:

The Table of Contents is available only electronically as a Document Map*.

* In MS Word 2007 or 2003, go to "View" > "Document Map". In MS Word 2010, go to "View" > "Navigation Pane". In MS Word on a Mac, go to "View" > "Navigation Pane", select "Document Map" in the drop-down list on the left.

APPENDIX A:
DRAFT TEXT FOR INCLUSION IN THE GENERAL SUMMARY

10.2 Budget for the seventeenth financial period (2016-2019) (agenda item 10.2)

10.2.1 Congress considered the budget proposal from the Secretary-General for the seventeenth financial period (2016-2019). Under the present agenda item, Congress considered and decided on the maximum expenditure for the eight Expected Results. The detailed discussions of various scientific and technical programmes and other activities, and the decisions of Congress thereon, were recorded under their respective agenda items.

[Article 3 of the WMO Financial Regulations requires the Secretary-General to prepare estimates of income and expenditures for each financial period and to submit these to all Members at least six months prior to the opening of Congress.]

10.2.2 Congress noted that the budget proposal for the seventeenth financial period was linked to the draft WMO Strategic Plan 2016-2019 and was prepared in accordance with the guidance provided by the Executive Council.

10.2.3 After discussion, Congress decided to approve a budget of CHF … for the seventeenth financial period (2016-2019), and adopted Resolution 10.2 (Cg-17).

(to be completed after discussion)

APPENDIX B:
DRAFT RESOLUTION

Draft Resolution 10.2 (Cg-17)

MAXIMUM EXPENDITURE FOR THE SEVENTEENTH FINANCIAL PERIOD (2016-2019)

THE WORLD METEOROLOGICAL CONGRESS,

Noting:

(1) Article 23 of the Convention of the World Meteorological Organization,

(2) Article 4 of the Financial Regulations of the Organization,

Authorizes the Executive Council during the seventeenth financial period from 1 January 2016 to 31 December 2019:

(1) To incur expenditures of … Swiss francs (CHF …), of which CHF … shall be from the assessed contributions and shall serve as the starting point for the assessed contributions budget level for the seventeenth financial period and the division of such expenditures into Expected Results as shown in the Annex to this resolution; and

(2) To approve biennial appropriations within these limits.

Annex: 1

Annex to draft Resolution 10.2 (Cg-17)

MAXIMUM EXPENDITURE FOR 2016-2019 BY EXPECTED RESULTS (in Swiss francs)

Expected Result	Budget 2016-2019
1. Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate, water and related environmental predictions, information, warnings and services in response to users' needs and to enable their use in decision-making by relevant societal sectors	
2. Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements	
3. Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support, in particular, reduced disaster risk and climate impact and adaptation strategies	
4. Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable Earth- and space-based observation systems for weather, climate and hydrological observations, as well as related environmental and space weather observations, based on world standards set by WMO	
5. Enhanced capabilities of Members to contribute to and draw benefits from the global research capability for weather, climate, water and related environmental science and technology development	
6. Enhanced capabilities of Members' NMHSs, in particular, in developing and least developed countries and Small Island Developing States, to fulfil their mandates	
7. New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to demonstrate the value of WMO contributions within the United Nations system, relevant regional organizations, international conventions and national strategies	
8. Promote Quality Management Systems in NMHSs and within the WMO Secretariat for efficient and effective use of resources	
Total	

APPENDIX C:
NOT TO BE INCLUDED IN THE GENERAL SUMMARY

WORLD METEOROLOGICAL ORGANIZATION

SEVENTEENTH CONGRESS

GENEVA, 2015

BUDGET PROPOSAL FOR THE SEVENTEENTH FINANCIAL PERIOD (2016-2019)

Secretary-General's Proposal

(Cg-17/Doc. 10.2)

Secretariat of the World Meteorological Organization – Geneva – Switzerland

CONTENTS

I. OVERVIEW

Strategic Planning process and Results-Based Budgeting

1. Results-based budgeting is an integral part of the WMO Strategic Planning process encompassing strategic planning, operational planning, results-based budgeting, and monitoring and evaluation. The four-year WMO Strategic Plan sets the directions and priorities to guide the activities of all WMO constituent bodies to enable all Members to improve their core information, products and services, maintain necessary infrastructures, and to directly benefit from advancements in science and technology through the implementation of key priorities. These all lead to a continued support for disaster risk reduction, as well as allowing potential economic and societal benefits to be maximized, through sustainable services.

2. The WMO Operating Plan presents time-bound programme activities and projects associated with the priorities to address the global societal needs and achieve the Expected Results. It includes performance metrics to assess the progress to achieve expected results and forms the basis for resource allocation, and monitoring and evaluation. The WMO results-based budget identifies regular and voluntary resources that are needed to implement programme activities and projects in the WMO Operating Plan, and contains the following elements: (i) a logical framework for the identification of required resources; (ii) justification of required resources to help optimize their use; and (iii) performance metrics to gauge progress towards key performance targets against allocated resources.

3. In line with the related Strategic Plan and with a view to effective use of limited resources, the regular resources are justified and structured on the basis of the eight Expected Results, fully taking into account the key priorities on which to focus the combined efforts of WMO Members' NMHSs and partners to realize maximum benefits to Members. Details of the Expected Results and the key priorities are provided in the WMO Strategic Plan.

4. The present document provides an overview of activities which are conducted under the day-to-day management discretion of the WMO Secretary-General, under the guidance of the Executive Council. They include: (i) the Regular Budget, which comprises activities intended to be funded by Members through Assessed Contributions; and (ii) other activities, which are expected to be funded from Other Regular Resources. The approval sought by Congress concerns the proposed level of Assessed Contributions. Additional details at the level of individual activities, including costs of activities, are presented in the WMO Operating Plan 2016-2019. Funds which are provided to the WMO for a defined scope (i.e. for Jointly-Funded Activities and for Priority-Funded Activities) are presented as part of a dedicated document.

Table 1: Summary of Proposed Regular Resources 2016-2019 by Source of Funding
(in thousands of Swiss francs)

Financial Period / Source of Funding	Proposed Resources 2016-2019		Approved Resources 2012-2015
	Amount	Variance (%)	
Regular Budget	280 350.0	7.4	261 000.0
Activities funded from other regular resources	12 200.0	(18.7)	15 000.0
Other regular resources	(12 200.0)	(18.7)	(15 000.0)
Assessed Contributions	**280 350.0**	**7.4**	**261 000.0**

Overall resource requirement

5. The proposed regular resources for 2016-2019 include the regular budget of CHF 292.55 million financed from assessed contributions of CHF 280.35 million and other regular resources of CHF 12.2 million financed from other sources of income (Table 1) such as the rental income, programme support cost income and interest. The proposed regular resources correspond to the requirements that allow the Secretariat to implement the mandated activities reflecting the decisions of the WMO Congress.

6. The regular budget resources for 2016-2019 represent an increase of CHF 19.35 million or 7.4 per cent for the four-year financial period of 2016-2019 as compared to 2012-2015. This increase is considered necessary to provide an adequate level of funding for WMO basic programme activities, after two decades in which the level of regular resources, with the exception of the sixteenth financial period in which a nominal increase was granted by Congress, has been maintained at Zero Nominal Growth, as shown in Table 3 below. The regular budget resources funded from assessed contributions constitute the maximum expenditure of the seventeenth financial period.

7. The level of other regular resources of CHF 12.2 million (interest, rent and programme support income) has been reduced by CHF 2.8 million or 18.7 per cent in comparison to 2012-2015, taking into account past experience. Unlike the budget for the present financial period, these resources are not considered as part of the maximum expenditure to be approved by Congress.

Table 2: Regular Resources: Direct and Apportioned Costs by Expected Result
(in thousands of Swiss francs)

Expected Result	Regular Budget and Other Regular Resources 2016-2019			
	Direct Costs A	Apportionned Costs B	Total C = A + B	%
1. **Improved service quality and service delivery:** Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate, water and related environmental predictions, information, warnings and services in response to users' needs and to enable their use in decision-making by relevant societal sectors	20 825.9	5 579.6	26 405.5	9.0
2. **Reduced Disaster Risk:** Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements	8 219.2	2 202.1	10 421.3	3.6
3. **Improved Data Processing, Modelling and Forecasting:** Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support, in particular, reduced disaster risk and climate impact and adaptation strategies	20 281.6	5 433.8	25 715.4	8.8
4. **Improved Observations and Data Exchange:** Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable Earth- and space-based observation systems for weather, climate and hydrological observations, as well as related environmental and space weather observations, based on world standards set by WMO	33 163.6	8 885.1	42 048.7	14.4
5. **Advance Targeted Research:** Enhanced capabilities of Members to contribute to and draw benefits from the global research capability for weather, climate, water and related environmental science and technology development	21 329.2	5 714.5	27 043.7	9.2
6. **Strengthened Capacity Development:** Enhanced capabilities of Members' NMHSs, in particular, in developing and least developed countries and Small Island Developing States, to fulfil their mandates	49 222.4	13 187.6	62 410.0	21.3
7. **Strengthened Partnerships:** New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to demonstrate the value of WMO contributions within the United Nations system, relevant regional organizations, international conventions and national strategies	18 466.2	4 947.4	23 413.6	8.0
8. **Improved Efficiency and Effectiveness:** Promote Quality Management Systems in NMHSs and within the WMO Secretariat for efficient and effective use of resources	59 224.4	15 867.4	75 091.8	25.7
TOTAL	**230 732.5**	**61 817.5**	**292 550.0**	**100.0**

Resource allocation by Expected Result and notable activities

8. Table 2 indicates the allocation of the total regular resources amounting to CHF 292.55 million by Expected Result for 2016-2019 and further broken down by direct and apportioned costs and identifies direct programme costs and apportioned costs (costs of resource management, capital assets and United Nations system interagency coordination activities).

9. The highest level of resources (25.7 per cent of the total resources) is allocated to Expected Result 8 that contains budgetary provisions for policymaking organs (Congress, Executive Council and FINAC) and for the Executive Management, internal oversight, strategic planning, gender mainstreaming, language, conference and publishing services. The second and third highest levels of resources are allocated to Expected Result 6 Capacity Development (21.3 per cent) and Expected Result 4 Observations and Data Management (14.4 per cent), both of which are the highest programmatic priorities.

10. A detailed budget is presented in Section III in accordance with the eight Expected Results. The most notable activities are as follows:

(a) The Eighteenth World Meteorological Congress in 2019; four sessions of the Executive Council; four sessions of the Financial Advisory Committee (FINAC); eight sessions of the Bureau and eight sessions of the Audit Committee; the IMO Prize; the Executive Management of the WMO Secretariat; internal oversight; strategic planning; and language, conference and publishing services, as well as communications activities, including the website development and maintenance (reflected in Expected Result 8);

(b) Capacity development and observations and data management activities (reflected in Expected Results 6 and 4);

(c) Nine meetings of the technical commissions, namely, the Commission for Basic Systems (CBS; two meetings), the Commission for Instruments and Methods of Observation (CIMO), the Commission for Hydrology (CHy), the Commission for Atmospheric Sciences (CAS), the Commission for Aeronautical Meteorology (CAeM), the Commission for Agricultural Meteorology (CAgM), the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), and the Commission for Climatology (CCl); and approximately 30 meetings of their subsidiary bodies (reflected in relevant Expected Results);

(d) Activities in support of technical commissions, such as meetings, publications (reflected in relevant Expected Results);

(e) Six meetings of the regional associations, six regional technical conferences, six regional seminars, and other regional activities (reflected in Expected Result 6).

Priorities

11. The proposed budget 2016-2019 reflects the following seven priorities outlined in the WMO Strategic Plan 2016-2019:

Priority I. High impact services for disaster risk reduction: Improve the effectiveness of high quality impact-based forecasts and multi-hazard early warnings of high impact meteorological, hydrological and related environmental hazards, thereby contributing to international efforts on disaster risk reduction, resilience and prevention;

Priority II. GFCS: Implement climate services under the GFCS particularly for countries that lack them by: (a) establishing regional climate centres; (b) identifying user requirements for climate products; (c) developing the Climate Services Information System (CSIS); and (d) advancing the Subseasonal to Seasonal (S2S) Prediction Project;

Priority III. WIGOS: Complete the implementation of the WIGOS/WIS focusing on the implementation of all the interoperability building blocks of the framework and supporting their acceptance at regional and national levels;

Priority IV. Aviation meteorological services: Improve the ability of NMHSs to meet International Civil Aviation Organization (ICAO) requirements by: (a) accelerating the implementation of ICAO/ WMO competency standards and Quality Management Systems (QMS); (b) addressing the emerging needs and challenges associated with the emerging Global Air Navigation Plan; and (c) strengthening cost recovery frameworks;

Priority V. Polar and high alpine regions: Improve operational meteorological and hydrological monitoring and prediction services in polar and high alpine regions and beyond by: (a) operationalizing the Global Cryosphere Watch (GCW); (b) better understanding the implications of changes in these regions on the global weather and climate patters; and (c) advancing the polar prediction under the Global Integrated Polar Prediction System (GIPPS);

Priority VI. Capacity Development: Enhance the capacity of NMHSs to deliver on their mission by assisting with human resource development, technical and institutional capacities and improved infrastructure, particularly in developing, least developed and small island developing states; and

Priority VII. WMO Governance: Continue to conduct a strategic review of WMO structures, operating arrangements and budgeting practices focusing on the effectiveness of constituent body activities and the Secretariat arrangements

Focus on capacity development

12. The proposed budget 2016-2019 places clear focus on capacity development in response to WMO Members requirements to enhance the capacity of NMHSs to deliver on their mission by assisting with human resource development, technical and institutional capacities and improve infrastructure, particularly in developing, least developed and small island developing states. Capacity development activities and components are included not only in the Education and Training Programme and in Expected Result 6, but also in the other WMO Scientific and Technical Programmes and supporting the other Expected Results.

Efficiency measures

13. The continued drive to improve efficiency contributes to financial returns that can help to accommodate new activities and cost increases within approved resources. During the sixteenth financial period, continued efforts have been made for efficiency gains focusing on the following actions and similar efforts are anticipated for 2016-2019:

(a) Further outsourcing and modernization of IT, including an effective and extensive use of ICT (e.g. messaging services, video/web/audio conference, document preparation, paperless meetings and document management);

(b) Process simplification aimed at more rapid and timely provision of administrative services and programme implementation;

(c) Further improved travel and procurement processes;

(d) Further reduction in the duration and volume of documentation of constituent body meetings;

(e) Reduction in costs of constituent body meetings through dynamic and pro-active planning of sessions and rigorous selection of venues for meetings; and

(f) Cross-departmental and matrix approaches for more effective and cost-efficient programme implementation.

Resources trend for 1996-2019

14. Resource trends over the five financial periods spanning 1996–2015 and the proposed resources for 2016-2019 are shown in Table 3 in nominal and real terms (at 1995 prices). Additional details on the income estimates for 2016-2019 are given in Section IV Income Estimates. Regular resources include assessed contributions, which have been maintained at zero nominal growth from 1996 to 2011, and the other resources such as rental income and programme support cost income. Voluntary contributions amount to approximately 30 per cent of the WMO resources and indicate by and large a slight upward trend during the financial periods 2008–2013.

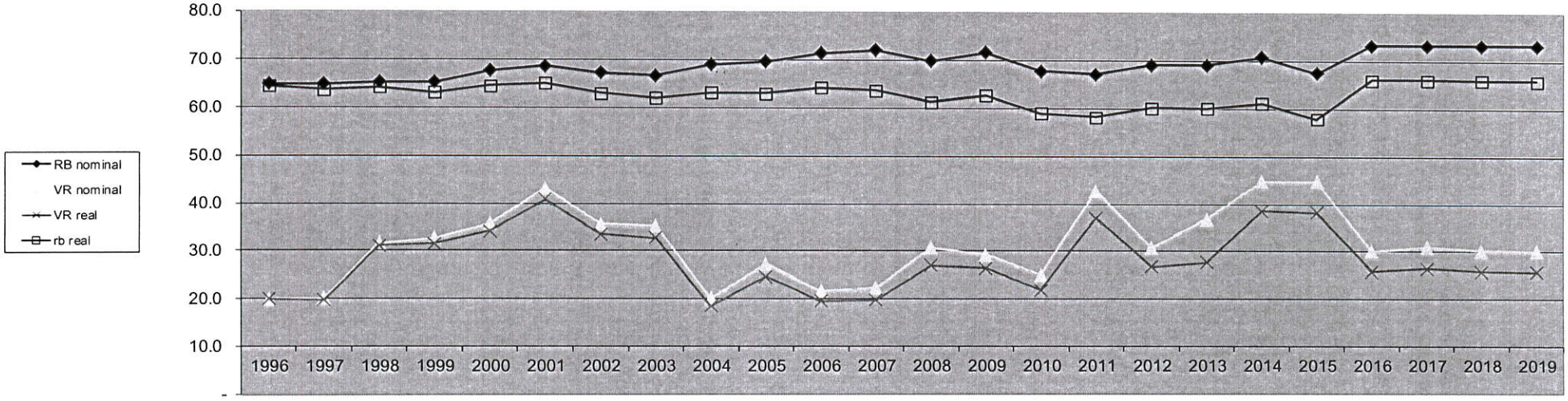
15. However, in the context of the regular budget, WMO was able to cope with this adverse resource trend over the last 20 years through increasing efficiency, and this made it possible to accommodate new initiatives, such as the Disaster Risk Reduction (DDR) Programme, the LDC Programme, strengthening the oversight function with the new Internal Oversight Office and the Audit Committee, and the extension of the use of Arabic and Chinese as official and working WMO languages. Budget surpluses at the end of each financial period were also provided to the Organization to implement priority activities, with oversight provided by the Executive Council; however, the level of surpluses has decreased over time. It is expected that the same approach will be followed with respect to the surplus arising from the fifteenth and sixteenth financial periods. In summary, this trend resulted in a reduction in the purchasing power of the budget during the period 1996-2019 which is estimated at 17.1 per cent. This reduction in purchasing power has had a major adverse effect on programmes.

16. The approved budget for the sixteenth financial period (2012–2015), with its modest increase, somewhat halted the downward trend of the purchasing power of the budget and partially reversed the resource deterioration trend that had occurred at least over the four previous financial periods without fully addressing the loss of the purchasing power of the WMO budget. The budget proposal for 2016-2019 would restore the accumulated loss of the purchasing power in order for WMO to be able to fully address its priorities and perform its mandate. In this perspective, the regular resources for 2016-2019 aim at restoring an adequate resource level for the WMO basic programme activities, e.g. WIGOS/WIS, and providing seed money for new initiatives. It also intends to cover infrastructure costs, in particular, those associated with maintaining the aging building and IT infrastructure.

17. The consequences for Members of continued resource deterioration trend in the context of the regular budget are further reduced or weakened contribution to national socioeconomic development including disaster risk reduction in the face of extremes in climate, weather and water. The gap in capability and competence between NMHSs in LDCs, economies in transition and developing countries and those in developed countries would continue to widen, in particular in those critical WMO competencies of service delivery underpinned by observations, research, predictions and forecasting. Negative impacts may also be felt at national level in allocations of budget to NMHSs and investments. This would put at risk the translation of investments made to date in building resilience and optimizing Member contribution to national, regional and global development efforts at a time when global efforts are required to ensure a strong WMO role in sustainable development and in contributing sound science for policy decision-making.

Table 3: Annual Resources 1996-2015 and Proposed Resources 2016-2019
(in thousands of Swiss francs)

Regular Resources \ Year	Actual																		Budget		Proposal			
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nominal	64.8	64.8	65.2	65.2	67.6	68.6	67.1	66.6	68.9	69.6	71.4	72.0	69.8	71.5	67.7	67.1	69.0	69.0	70.7	67.3	73.1	73.1	73.1	73.1
Real (at 1995 prices)	64.3	63.6	64.1	63.0	64.5	64.9	62.9	61.9	63.0	62.9	64.0	63.6	61.2	62.5	58.8	58.1	60.0	60.0	61.0	57.7	66.0	65.9	65.9	65.8



Voluntary Resources \ Year	Actual Contributions																		Budget		Proposal			
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nominal	20.0	20.1	31.5	32.6	35.7	43.0	35.6	35.1	20.2	27.2	21.7	22.4	30.7	29.2	25.1	42.6	30.7	36.7	44.7	44.7	30.0	30.9	30.2	30.0
Real (at 1995 prices) *	19.9	19.8	31.0	31.5	34.1	40.7	33.3	32.6	18.5	24.6	19.5	19.8	26.9	26.4	21.8	36.9	26.7	27.6	38.4	38.1	25.7	26.4	25.8	25.6

*) For 2016-2019: Jointly-funded voluntary contributions and anticipated voluntary contributions

18. Table 4 below indicates the eight Expected Results for 2016-2019 and a comparison of regular resources between 2012-2015 and 2016-2019 by Expected Results and presents an allocation of regular resources for 2016-2019 by Expected Result.

Table 4: Regular Resources: Comparison 2012-2015 and 2016-2019
(in thousands of Swiss francs)

Expected Results	2012-2015*		2016-2019		Change	
	Amount	Share in %	Amount	Share in %	Amount	Share in %
1 Improved service quality and service delivery	25 011.1	9.1	26 405.5	9.0	1 394.4	(0.0)
2 Reduced Disaster Risk	10 845.8	3.9	10 421.3	3.6	(424.5)	(0.4)
3 Improved Data Processing, Modelling and Forecasting	24 431.0	8.9	25 715.4	8.8	1 284.4	(0.1)
4 Improved Observations and Data Exchange	36 194.5	13.1	42 048.7	14.4	5 854.2	1.3
5 Advance Targeted Research	23 136.0	8.4	27 043.7	9.2	3 907.7	0.9
6 Strengthened Capacity Development	59 264.6	21.5	62 410.0	21.3	3 145.4	(0.1)
7 Strengthened Partnerships	22 291.0	8.1	23 413.6	8.0	1 122.6	(0.1)
8 Improved Efficiency and Effectiveness	74 826.0	27.1	75 091.8	25.7	265.8	(1.4)
Total	**276 000.0**	**100.0**	**292 550.0**	**100.0**	**16 550.0**	-

II. SAVING MEASURES AND INVESTMENT MEASURES

19. The Executive Council, in particular at its sixty-sixth session, noted that many WMO Members are facing funding pressures and therefore requested detailed budget proposals relating to the priorities as set out in the revised Strategic Plan to support any request for budget supplementation in the next financial period starting with a baseline budget of existing spending levels.

20. The Council also recommended that:

(a) The revised budget proposal should be accompanied by a series of proposed: (i) non-controllable cost increases; (ii) savings measures; and (iii) investment measures;

(b) For each measure, component activities, their costs, some justification and the risk of action or inaction should be briefly formulated;

(c) The revised budget proposal should identify and quantify possible savings measures so that corresponding resources can be reallocated to priority activities, prior to consideration of bids for additional funding; and

(d) Savings could be either efficiencies in internal processes, or could arise from proposed reductions in work programmes.

21. In accordance with this guidance of EC-66, this Section contains proposed: (i) savings measures; and (ii) investment measures. The financial implications of these measures are summarized in Table 5 below.

Table 5: Summary of Savings Measures and Investment Measures
(in thousands of Swiss francs)

Financial Implications of Savings and Investment Measures for 2016-2019		Amount	Variance to ZNG (%)
Approved Resources 2012-2015 (ZNG base)		261 000.0	-
Savings		(3 045.7)	(1.2)
Investment Measures			
Expected Result 1	Improved service quality and service delivery	835.0	0.3
Expected Result 2	Reduced Disaster Risk	558.8	0.2
Expected Result 3	Improved Data Processing, Modelling and Forecasting	2 026.6	0.8
Expected Result 4	Improved Observations and Data Exchange	3 410.5	1.3
Expected Result 5	Advance Targeted Research	1 516.8	0.6
Expected Result 6	Strengthened Capacity Development	5 535.2	2.1
Expected Result 7	Strengthened Partnerships	1 042.7	0.4
Expected Result 8	Improved Efficiency and Effectiveness	1 547.5	0.6
Support budgets apportioned to Expected Results		5 922.6	2.3
Sub-total Investment Measures		22 395.7	8.6
Proposed Resources (2016-2019)		**280 350.0**	**7.4**

SAVINGS MEASURES

Savings deriving from new travel policy and arrangements: CHF 750,000

22. At its sixty-sixth session, the Executive Council requested the Secretary-General to submit a status of the review of the WMO travel policy and a revised policy, as appropriate, to EC-67. The new travel policy will introduce measures resulting in substantive savings in travel costs mainly deriving from a more extensive use of economy class for staff travel.

23. The travel service is provided through the on-site implant platform located in the WMO building. A new travel arrangement is being developed and will be adopted by 2016. The new arrangement consists of a balanced mix of: (i) service delivery arrangement through an existing implant platform; (ii) service delivery arrangement through an out-plant platform; and (iii) an online booking travel management tool solution. Both the out-plant service delivery arrangement and the online booking tool will enable users to make worldwide travel arrangements, and will have access to the best available airfares, including local market fares and UN negotiated fares, at reduced booking fees in comparison to in-plant services.

24. The implementation of the new travel policy and the new travel arrangements is expected to generate savings estimated at CHF 750,000 for 2016-2019.

Decreased staff costs resulting from lower standard staff costs for 2016-2019: CHF 2,295,700

25. Due to recent high staff turnover, the standard staff costs used for planning purposes have decreased, in particular, those costs for Professional staff and Directors. Usually, WMO staff retire with high range of steps in the grades of the Professional and Director categories, and newly appointed staff start usually at Step 1 of each of the grades concerned. In addition, common staff costs (i.e. costs of WMO staff's personal entitlements, including home leave and education grant) indicate a slight decrease in the historical costs since two years. Lastly, the estimated inflation rate for 2016-2019 has been revised downwards. The revised standard staff costs for 2016 will entail a decrease in the estimated staff cost requirements by nearly CHF 2.3 million.

INVESTMENT MEASURES

26. In the tables below, each of the Investment Measures correspond with the most relevant Priority which are taken from the seven Priorities of the Strategic Plan for 2016-2019 referred to in paragraph 11.

Investment Measures: Expected Result 1: Improved service quality and service delivery
Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate, water and related environmental predictions, information, warnings and services in response to users' needs and to enable their use in decision-making by relevant societal sectors

Table 6: Summary of Investment Measures under Expected Result 1
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 1	PRIORITY	INVESTMENTS (CHF)
Meteorological Services in Support of Agriculture	II	319,000
Public Weather Service, including support to CBS OPAG on PWS activities, Regional PWS activities, and to NMHSs' Assessment and Demonstration of SEB of Hydrometeorological Services	II	81,000
Support activities for the Commission for Aeronautical Meteorology and strengthening sub-regional cooperation in AeM aspects	IV	99,200
Support activities for JCOMM	I	85,700
Support review & implementation of technical regulations and practices on marine meteorology services	I	60,200
Support to implementation of WMO Strategy for Service Delivery	I	123,600
Global Framework for Climate Services	II	66,300
Total		**835,000**

Meteorological Services in Support of Agriculture: CHF 319,000

27. Changes in the activities concerning the Agricultural Meteorological Programme are primarily a refocusing of the existing activities to meet the growing demands of users for more targeted weather and climate services (see ER 3). They would lead to improvements in the development and application of weather and climate services in the fields of direct interest to WMO, in particular an improved basis for the delivery of agricultural weather and climate services at national, regional and global levels. This effort will be delivered through CAgM, the RAs and as a major contribution to the Services Delivery activities and the GFCS (see ER 3).

Public Weather Services, including support to CBS OPAG on PWS activities, Regional PWS activities, and to NMHSs' Assessment and Demonstration of SEB of Hydrometeorological Services: CHF 81,000

28. The new area of "Competency requirements for personnel engaged in service delivery" requires training of staff of as many NMHSs as possible, especially in the developing and Least Developed Countries (LDCs), since the competencies will be included in the Technical Regulations as recommended practices. These competencies have been approved by CBS, to be forwarded to Cg-17 for adoption. In view of the emerging areas that the PWS programme will be assisting NMHSs implement, there is increased demand for publication of guidelines as well as their translation into other languages.

29. The CBS Open Programme Area Group (OPAG) on PWS Expert Teams and its Implementation Coordination Team (ICT) are the key underpinning structures for the delivery of all areas of PWS to Members, through provision of expertise, guidance and advice in particular relating to service delivery such as impact forecasting, Social Economic Benefits (SEB) of hydrometeorological services and mobile technology based communication channels. These emerging and new areas of public weather services delivery to Members require additional resources to enable access to expertise from different disciplines such as social science, economics, latest communication technologies, in addition to the traditional PWS areas of expertise.

30. There are increasing requests for enhanced participation of the PWS programme at the regional level, especially in areas such as enhancing capacities of Regional Specialized

Meteorological Centres (RSMCs) in supporting NMHSs' warning services, SEB and the implementation of WMO Strategy for Service Delivery (SSD).

31. Increasing number of NMHSs are requesting assistance in the area of assessing and demonstrating the benefits of hydrometeorological services as a tool to justify continued or enhanced investment in their activities by their respective governments and partners. Through PWS, WMO, in collaboration with the Word Bank, has produced a book publication containing authoritative guidelines and methodologies to assist NMHSs in this area. WMO will assist Members with the implementation of the methods contained in the book. It should be noted that this is a new area of activity and therefore requires additional resources.

Support activities for the Commission for Aeronautical Meteorology and strengthening sub-regional cooperation in AeM aspects: CHF 99,200

32. Programmatic activities of CAeM should be implemented, e.g. CAeM sessions and technical conferences, in particular, responding to the requirements by ICAO.

33. The CAeM and its Management Group and Expert Teams are the key underpinning structures for the delivery of AeM to Members, through provision of expertise, guidance and advice in particular relating to service delivery to aviation sector, in coordination with ICAO. These emerging issues and new areas of AeM to Members require additional resources to enable access to the required expertise and coordination with ICAO for the development of joint standards and procedures, and guidance on meteorological service for other types of transport. The investment will be used to increase resources for the following activities: (i) ET/TT Team-building meetings, reporting and production meetings, several Teleconferences; (ii) developing joint standards and procedures with ICAO; (iii) support to the president of CAeM; (iv) CAeM Management Group meeting; (v) targeted implementation support on request, gap analyses; (vi) development of guidance on meteorological service for other types of transport; and (vii) implementation support to Members developing ATM support and WXXM-based products.

34. Support to strengthening sub-regional cooperation in AeM aspects is a new activity aligned with the ICAO requirements. Additional funds are required to implement new activities to strengthening sub-regional cooperation in AeM aspects.

Support activities for JCOMM: CHF 85,700

35. Programmatic activities of JCOMM should be implemented, e.g. JCOMM sessions, in particular, responding to the strategic priorities for services, DRR, CD and Partnership. Investment is required, considering the institutional responsibility of JCOMM and the Secretariat, in particular, in order to organize scientific and technical conferences.

36. Investment is also used to provide an increased support to the JCOMM Co-presidents and experts representing JCOMM/WMO to cope with increased requirements. Without this investment, it would be necessary that the JCOMM Co-presidents and experts would need to identify national resources for required activities and to coordinate with other Commissions and programmes to consolidate activities with similar purposes and goals.

Support review & implementation of technical regulations and practices on marine meteorology services: CHF 60,200

37. New activities will need to be implemented pursuant to the decisions made at the Congress (Cg-XVI) and Executive Council (EC-64 to EC-66) regarding the implementation of

standard competence framework, as well as the activities for regular review and update of technical regulations and guidance on marine meteorological services as part of the principle duties of NMHSs. These directly address all the strategic priorities of WMO, by concretizing the fundamental work of WMO. The investment is required for a new set of activities, to assist both global expert guidance and national applications. A few activities of MMOP from the previous FP (2012-2015) were discontinued to support these new activities (e.g. support for JCOMM Coordination Group on Services Forecasting Systems, Support for global observing system), however, there is a need to identify substantial amount of financial and in-kind resources to meet the requirements at regional and national levels.

38. The *Manual on Marine Meteorological Services* (WMO-No. 558) and *Guide to Marine Meteorological Services* (WMO-No. 471), were published nearly two decades ago, and there is an urgent need for the publications to be updated taking into account the latest developments, and pursuant to Resolution 45 (Cg-XVI) and Resolution 26 (EC-64). The investment is required for the issuance of these publications. As efficiency measures against the limited availability of resources, and following the established procedure, the publications will only be made available electronically.

Support to implementation of the WMO Strategy for Service Delivery: CHF 123,600

39. Support to implementation of the WMO Strategy for Service Delivery is a new area of activity. The Implementation Plan (IP) for the SSD was published in 2014 (approved by EC-65). This will require additional resources for totally new activities as indicated for assisting Members to implement the Strategy and enhancement of ongoing activities in the delivery of public weather services to Members e.g. the PWS component of the Severe Weather Forecasting Demonstration Project (SWFDP).

Global Framework for Climate Services: CHF 66,300

40. Initial implementation of the GFCS has highlighted the need for additional support for Members and Partners in terms of guidelines and assistance in establishing effective frameworks for climate services at the national level. Activities include coordination mechanisms that ensure effective dialogue among the key stakeholders involved in all the stages of the production and application of climate services. These coordination mechanisms are critical to ensure that gaps and priorities are addressed in a systematic manner with the full participation of the relevant stakeholders.

Investment Measures: Expected Result 2: Reduced Disaster Risk
Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements

Table 7: Summary of Investment Measures under Expected Result 2
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 2	PRIORITY	INVESTMENTS (CHF)
Water Related Disasters (Floods and Droughts)	I	87,100
Support to implementation of cross-programmatic DRR activities, including Support to United Nations system organizations and ERA	I	68,000
Support review & implementation of marine technical regulations and practices, and for strengthened marine meteorological services & impact-based forecasting	I	77,400
Capacity Development in TC Forecasting and Warnings in NMHSs, and Support to implementation of the Storm Surge Watch Scheme, and strengthening two new TCP websites	I	62,300
Support to global coordination and standardization of tropical cyclone forecasting, to regional coordination of TC Committees with integrated approach, and to implementation of regionally coordinated tropical cyclone forecasting and early warning system through the Panel's established Operational Plan and the established Operational Mannual of TCP regional bodies	I	110,700
Support to implementation of WMO Strategy for Service Delivery and the Post-2015 Framework on DRR	I	153,300
Total		**558,800**

Water-Related Disasters (Floods and Droughts): CHF 87,100

41. Water-related disasters (floods, droughts and storms) account for more than 90 per cent of the people affected by disasters since 1990, disproportionately affecting vulnerable populations. 2015 will see the adoption of the Hyogo-2 framework that will strengthen resilience to water-related disasters, and the actions will translate into improving the way we manage water. Integrated water resources management is a primary means for the world's efforts in disaster risk reduction and adaptation to climate variability and change to be effective. For this reason, climate change adaptation, water resources management, and disaster risk reduction should be addressed in a more holistic and integrated way instead of being considered as separate topics. Additional resources would be used to get greater uptake of integrated flood, management and integrated drought management approaches at the national level. Again, failure to do so will mean a slower uptake of these approaches and thus lost opportunities. In particular, in transboundary basins, cooperation in water management and disaster risk reduction helps to improve early warning, but also to increase the effectiveness of disaster risk reduction and prevention by locating measures where they have the optimum effect.

Support to implementation of cross-programmatic DRR activities, including Support to United Nations system organizations and ERA: CHF 68,000

42. Support to implementation of cross-programmatic DRR activities is a new area of activity. Additional resources are needed for new activities to assist Members in further integrating disaster risk reduction activities into the various service delivery applications (such as aeronautical, marine, and public weather services) and supporting data-processing and forecasting systems;

and in further developing and extending the emergency response capability of Members to address weather, climate, water and environmental hazards.

43. Additional resources will be required for this activity to ensure close coordination with the United Nations System for the implementation of the Post-2015 Framework on DRR. This includes servicing the International Strategy for Disaster Risk Reduction System (UN-ISDR) and UNFCCC at the global and regional levels in areas such as loss and damage, Global Risk Assessment Report (GAR), expansion of WMO Atlas, guidance on early warning systems and servicing the Global Platform on DRR and to promote the role and operation of NMHSs contribution to DRR within the Post-2015 framework.

44. Following the Fukushima NPP accident (in 2011), the designated RSMCs with Activity Specialization in Environmental Emergency Response Activities and the International Atomic Energy Agency (IAEA) recognized the need for the development of new products and services based on the users' requirements from the WMO Members, and international organizations such as IAEA, CTBTO, and WHO. Moreover, the lessons learnt from the Fukushima NPP accident show that to maintain the level of readiness and be operationally prepared to provide atmospheric transport and dispersion modelling products for nuclear environmental emergency response and/or backtracking, there is a need for regular review of the activities and also to carry out exercises. In addition, standard procedures (including products and services) for the provision of non-nuclear environmental emergency response need to be developed and implemented.

Support review & implementation of marine technical regulations and practices, and for strengthened marine meteorological services & impact-based forecasting: CHF 77,400

45. Investment will allow WMO to provide the minimum level of organizational assistance for the formal procedure of review and revision of the relevant technical regulations related to JCOMM coordination for improved metocean services for Marine Environmental Emergency Responses. Given the limited availability of resources, the Members and experts will still need to provide contributions through national resources.

46. Support activities for the strengthened marine meteorological services & impact-based forecasting are a combination of pre-existing and new activities. These activities will be implemented pursuant to the decisions made at the Congress (Cg-XVI) and Executive Council (EC-64 to EC-66), addressing emerging priority of service delivery and strengthening impact-based forecasting/warning. The activities directly address, in particular, strategic priorities of Services, DRR and CD. Additional resources are required, particularly for a new set of activities. Due to budgetary constraints in 2012-2015, a few MMOP activities were discontinued in the above area. It is however required to reinstate these activities to meet increased requirements. This being said, in order to deliver the activities at a required level, extrabudgetary resources will be necessary in support of the global coordination and guidance of the CIFDP implementation. CIFDP is under careful review to extend its cross-cutting activities in coordination with the FFI/APFM, SWFDP and other relevant programmes.

Capacity Development in TC Forecasting and Warnings in NMHSs, and Support to implementation of the Storm Surge Watch Scheme, and strengthening two new TCP websites: CHF 62,300

47. Activities for capacity development in TC Forecasting and Warnings in NMHSs will mainly focus on development of capacities of NMHSs on tropical cyclone forecasting and warning capabilities. Forecasters engaged in tropical cyclone forecasting and warnings from countries with less advanced technology shall be provided with opportunities for training on operational tropical

cyclone forecasting and warning technology and competencies. The investment will be used for this purpose.

48. Activities aimed at support to capacity development in TC Forecasting and Warnings in NMHSs mainly focus on transfer of research results on tropical cyclones into operational applications. Tropical cyclone forecasters from developing, and least developed countries, and Small Islands Developing States shall be given opportunities to be exposed to state-of-the-art science and technology in tropical cyclones. The investment is required for this purpose.

49. EC-60 decided to establish a Storm Surge Watch Scheme (SSWS) in all tropical cyclone regional bodies in response to severe devastations after the cyclone Nargis that hit Myanmar in 2008. So far, the Typhoon Committee and the Panel on Tropical Cyclones have established the SSWS, and Members of the two bodies have benefitted tremendously from it. The RA IV Hurricane Committee and the Tropical Cyclone Committees in RAs I and V are still in progress to implement the SSWS.

50. Technical support to operational TC forecasting will be consolidated through reinforcement of the two new websites of TCP - WMO TC Forecaster Website (TCFW) and the website for WMO Global Guide to TC Forecasting which are hosted by Hong Kong, China and Australia, respectively. Reciprocal complementation between the two websites will be achieved through developing close links with a view to maximizing their synergized effects. Increase of the utility of these websites to trainings will also be promoted.

Support to global coordination and standardization of tropical cyclone forecasting, to regional coordination of TC Committees with integrated approach, and to implementation of regionally coordinated tropical cyclone forecasting and early warning system through the Panel's established Operational Plan and the established Operational Manual of TCP regional bodies: CHF 110,700

51. Endeavours for global coordination and standardization of TC forecasting, which have been pursued by the RSMCs/TCWCs Technical Coordination Meeting (TCM), will be enhanced through the TCP's new project which is tentatively entitled WMO Global Initiative for Tropical Cyclone Forecasting (WMO-GIFT). GIFT will be driven by the steering group composed of RSMCs and TCWCs as core members and relevant agencies and experts as observers. It will focus on: (i) homogenization/coordination of regional TC warning services; (ii) development of linkage with stakeholders; and (iii) increase of the public awareness of WMO's global TC warning system. To this end, GIFT will materialize the standardization in various operational procedures including implementation of CAP, and will establish better communication and coordination with users, through: (i) biennial session; (ii) quadrennial technical workshop; and (iii) publicity about TC warnings.

52. The Panel on Tropical Cyclones is one of the five important TCP regional bodies. WMO is the main sponsoring body, and has the responsibility to get involved in the Panel's activities to be in compliance with the WMO Strategic Plan. The tropical cyclone regional body in RAs I, IV and V, respectively, is one of the important Working Groups of the respective RAs. WMO has the responsibility to get involved in the regional bodies' activities to be in compliance with the WMO Strategic Plan.

53. Regional coordination is essential for reduction of risks of disasters by tropical cyclones. It requires integration of meteorology, hydrology and DRR sectors to deal with tropical cyclone hazards. Support to regional coordination of tropical cyclone committees will help improve forecasting and warning of tropical cyclones.

Support to implementation of the WMO Strategy for Service Delivery and the Post-2015 Framework on DRR: CHF 153,300

54. Support to implementation of the WMO Strategy for Service Delivery and the Post-2015 Framework on DRR is a reformulated area of activity. Additional resources are needed to augment the development of these DRR knowledge products to ensure their alignment with the post-2015 framework. This activity will require the utilization of the DRR Expert Advisory Groups for the: (i) development of a comprehensive set of education and training modules in risk analysis, multi-hazard early warning systems, hazard risk financing, and humanitarian planning and response; and (ii) development and delivery of web-based helpdesks providing a comprehensive set of guidelines, recommended practices and standards. Additional resources are also required to support WMO Members to be in alignment with the post-2015 framework through implementation of DRR knowledge products through holistic integrated DRR and adaptation demonstration projects with national capacity development and regional cooperation components.

Investment Measures: Expected Result 3: Improved Data Processing, Modelling and Forecasting
Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support, in particular, reduced disaster risk and climate impact and adaptation strategies

Table 8: Summary of Investment Measures under Expected Result 3
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 3	PRIORITY	INVESTMENTS (CHF)
Technical publications in ERA and GDPFS (WDS)	I	169,900
Support to CBS OPAG on DPFS activities, including Capacity Development in ERA, Support to strengthening operational (GDPFS) centres and to the Operational Implementation of the GFCS/CSIS	II	121,100
Support to implementation of SWFDP	I	219,500
Support to Technical Commissions' activities	II	898,800
Support to regional activities	II	449,300
Climate data management	III	168,000
Total		**2,026,600**

Technical publications in ERA and GDPFS: CHF 169,900

55. During the sixteenth financial period, the WMO Technical Note 170 (TN170), entitled "Meteorological and Hydrological Aspects of Siting and Operations of Nuclear Power Plants" (Volumes I and II), has been reviewed, and a new Technical Note will be published during the seventeenth financial period. Additional resources are required to publish the new TN170. The *Manual on the GDPFS* (WMO-No. 485) has also been reviewed during the same financial period, following Quality Management Principles, and a new Manual will be published during the seventeenth financial period. Additional resources are required for the publication of the new Manual in the four official languages for technical publications. Investment is required to fully cover the costs of the publications.

Support to CBS OPAG on DPFS activities, including Capacity Development in ERA, Support to strengthening operational (GDPFS) centres and to the Operational Implementation of the GFCS/CSIS: CHF 121,100

56. The CBS Open Programme Area Group (OPAG) on DPFS Expert Teams and its Implementation Coordination Team (ICT) are the key underpinning structures for the delivery of all areas of DPFS (including GDPFS and ERA) to Members, through provision of expertise, guidance and advice in particular relating to further development and global extension of the Data Processing and Forecasting Systems (DPFS) of WMO Members, covering all time-scales from the very short-range to seasonal forecasting, in support to emergency planning, preparedness and response, including on nuclear and non-nuclear ERA; tailoring products and services for various service delivery applications/economic sectors (such as the general public, agriculture, aviation and marine transportation, etc.); and on the transition of post-THORPEX and other research results (i.e. Polar Prediction, Subseasonal to Seasonal Prediction, High-Impact Weather, Sand and Dust Storm) into operations. These emerging and new areas of DPFS delivery to Members require additional resources to enable access to expertise from different disciplines, in addition to the

traditional DPFS areas of expertise. Should there be no additional resources the activity may be significantly reduced during the FP 2016-2019.

57. Capacity development in WWW/ERA will contribute to strengthening core skills and competences of NMHSs in service delivery in case of nuclear emergencies. Workshops on the use and interpretation of products from RSMCs for Environmental Emergency Response (EER) will be organized with an adequate level of participation from Least Developed and Developing Countries, but also in developed countries in areas where they may need expertise and advice. Additional funds are required for these activities. Should there be no additional resources the activity may not be carried out during the FP 2016-2019.

58. Support to strengthening operational (GDPFS) centres, especially regional centres, is a reformulated activity. The new *Manual on the GDPFS*, which is being developed in accordance to quality management principles, would facilitate the review of compliance of GDPFS Centres against the designation criteria. Some GDPFS centres may report temporary non-compliance with regard to some of the requirements, mainly because of resource constraints during system development or adaptation, therefore there will be a transition period (from 2016 to 2019) for the implementation of the new Manual (which will replace the current version) to manage the technical changes and the initial designation of the GDPFS centres as defined in the new Manual, including WMCs and RSMCs. This will require additional resources for assisting Members hosting GDPFS centres, especially RSMCs, to update their systems.

59. The CBS Open Programme Area Group (OPAG) on DPFS Expert Team on Operational Prediction from Sub-seasonal to Longer-time Scales is the key underpinning structure for the delivery of operational long-range forecast area to Members, through provision of expertise, guidance and advice in operational prediction from sub-seasonal to longer-time scales, and the transition of the result of the research projects in these areas into operations. These emerging and new areas require additional resources to enable access to the required expertise, in addition to the traditional DPFS areas of expertise.

Support to implementation of SWFDP: CHF 219,500

60. Support to implementation of SWFDP is a new activity. Additional resources are required to expand SWFDP areas from five to nine (i.e. to expand the service towards global coverage). Global Products Centres and RSMCs will see an increase of workload and pressure on their resources. It is necessary to assist them with training and development of new tools, especially automation, to help them assist NMHSs in their geographical region. In addition, resources are required to ensure sustainable operations after the initial development and demonstration period of the SWFDP regional projects, and to manage and coordinate the work of many regional services including maintenance of a database.

Support to Technical Commissions' activities: CHF 898,800

61. Service delivery in the context of water resources management encompasses the entire suite of WMO thematic responsibilities; weather services, climate services, and hydrological services. Effective water resources management is critically dependent upon extensive and widely available data and products from all three sectors. There is also a growing need for such information as comprehensive water resource and related assessments, statistics of precipitation, flood and drought events, as well as meaningful assessments of spatial and/or temporal trends in surface water quantity and quality. Given the specific needs of water resources management, weather, climate and hydrological services should ensure that the uncertainties intrinsic to their data and forecasts are understood and quantified. Additional resources would be focussed on the delivery of services in a manner and with content that would enable improved decision-making in

water resources management. The additional funds required are spread across the other Expected Result areas. Failure to do this will see slower implementation of the service delivery ethic and thus lost opportunities.

62. Activities of WMO in the area of climate and water will focus on generating results in accordance with the priority areas identified by EC-66, among others, the support for GFCS and WIGOS implementation, and the reduction of disaster risks associated with weather, water and climate extreme events. Increased costs (investment) for support in these areas are associated with: (i) intensified engagement by technical commissions and programmes in support of GFCS implementation including at country-level in selected countries; (ii) increased coordination and achievement of synergies across the technical commissions and programmes to obtain higher-level results in the identified priority areas; and (iii) stepped-up support for the post-2015 policy agenda in the areas of achievement of development goals involving climate-sensitive sectors, climate change mitigation and adaptation and disaster risk reduction.

63. Specifically, the additional funds sought would allow WMO to provide more targeted support to the WMO Technical Commissions in undertaking their work programmes in the priority areas identified, particularly focused on meeting the challenges of a changing climate (increased frequency in extremes of floods and droughts). This includes improved data management systems (integrated observing systems (WIGOS)), improved delivery of climate services (Climate Services Information System (CSIS), GFCS), applications of climate services in agriculture and water (GFCS User Interface Platform) and building community resilience to climate extremes for adaptation and disaster risk reduction. These, in the main, represent an expansion of current activities to meet the growing demands of the technical commissions for support in undertaking their activities. They would lead to improvements in the development and application of climate services in the fields of direct interest to WMO, namely agriculture and water as well as an improved basis for the delivery of climate services at national, regional and global levels. Support to the technical commissions could be segmented into: (i) governance; (ii) data management system (WIS/WIGOS); (iii) Climate Services Activities (GFCS); and (iv) Applications (agriculture and water) Activities (GFCS).

64. The expected benefits of the additional resources include ensuring that WMO is able to get a wider group of inputs into its activities such that all levels of NMHSs can contribute to the deliverables. This will ensure that the guidance on products and services produced through WMO Members address all provider and user group capabilities and requirements. Technical commissions are now expected to contribute to GFCS implementation, DRR, achievement of the SDGs and the UNFCCC agenda. Failure to meet these increased expectations may result in a loss of confidence and trust from within the Members as well as from the larger development and policy community. The technical commissions are important in that they are the quality managers of the services being developed by the Member NMHSs and as such their credibility and status need to be supported through adequate funding of their activities. At stake is the credibility of the Organization and its products.

Support to regional activities: CHF 449,300

65. Additional funds sought would allow WMO to provide support to the regional associations in the development of regional capabilities, based on the demands from the Regions, in support of implementation of the GFCS CSIS and UIP. In particular this would focus on improved operations of the Regional Climate Centres and Regional Climate Outlook Forums. Again, in the main, this would be an expansion of existing activities which are currently hampered by a lack of resources. The demands from the growing network of RCCs and RCOFs, greatly exceed the available resources and whilst mainly of a seed funding nature, these resources help establish and stabilize the operations of the RCCs and RCOFs, enabling them to build into a more

self-reliant funding model over time and thus represent an investment in future operations. Additional activities relate to increasing the user interface activities at the regional and local levels in the areas of agriculture and water.

66. As indicated above, WMO undertakes its activities to address the needs of all of its Members. There are regional differences and an avenue to enable these regional differences is essential. Failure to do so may alienate some Members, but also result in WMO not achieving its goals and objectives in terms of its priority areas such as the GFCS and DRR at the regional level.

Climate data management: CHF 168,000

67. Investment will be required for the provision of support for additional expert meetings in carrying out new tasks decided by CCl-16, including one meeting on the use of satellite data for operational climate monitoring and one meeting on data analysis and homogenization, and in development of CCl-CBS technical guidance for the generation of National Climate Monitoring Products and Climate Watches, which will help strengthen Members capacity to provide basic climate service products. Additional resources will also be needed to organize an international workshop on High Quality Global Data Management Framework for Climate in support of GFCS with consideration of WIGOS Data integration concepts, which will help Members to develop standardized climate data management systems, and cut down the recurrent cost of maintaining these systems.

68. The additional funds will be required to finalize a Five Years climate report. The publications should be finalized in 2016/ 2017 and will cover climate assessment over 2011-2015. WMO official climate assessment reports help to raise the visibility of NMHSs and to strengthen WMO's role as the UN system's authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.

Investment Measures: Expected Result 4: Improved Observations and Data Exchange
Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable Earth- and space-based observation systems for weather, climate and hydrological observations, as well as related environmental and space weather observations, based on world standards set by WMO

Table 9: Summary of Investment Measures under Expected Result 4
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 4	PRIORITY	INVESTMENTS (CHF)
Support to CBS & CIMO	III	899,800
Implementation of WIGOS – Global perspective	III	780,000
Support to regional activities	V	163,000
Global Cryosphere Watch (GCW)	V	261,600
Instruments and Methods of Observation Programme (IMOP)	III	257,700
WMO Space Programme	III	148,700
WMO Information System, (WIS)	III	483,300
WIGOS core metadata maintenance and WIS monitoring system development	III	128,500
Support to quality monitoring and data-processing in coordination with WIGOS	III	11,300
GCOS	III	276,600
Total		**3,410,500**

Support to CBS & CIMO: CHF 899,800

69. The scope of activities of CBS and CIMO have been focused on the World Weather Watch (WWW) Programme, but have now been extended well beyond that, as due to the requirements, more application requirements from various programmes are to be considered, and joint efforts with other technical commissions are becoming more and more necessary. Therefore the continuation of the effective and efficient mechanisms for collaboration with other technical commissions is needed, for example, the mechanism of Inter-Commission Coordination on WIGOS (ICG-WIGOS, with the CBS vice-president as Chairperson and the CIMO president as the Co-chairperson) and its Task Teams. Additional effective joint Commission activities e.g. CBS & CCl, CIMO & CCl, CBS & JCOMM, and more Inter-Programme Expert Teams (IPET) activities, like IPET-WIGOS Implementation (IPET-WIFI), IPET-Satellite Utilizations (IPET-SUP), etc. will be organized to reflect the working level collaborations between technical commissions. These types of joint meetings would lead to an increase of cost-effectiveness and partnership for implementing global WIGOS phase II activities.

70. The sizes of participation at CBS and CIMO are expected to increase due to potential interest of Members in new CBS and CIMO strategies and implementations; WIGOS, WIS, Instruments intercomparisons and quality management, in particular. Both Commissions played, and will continue to play, important roles in WMO priority areas, with leading roles in some areas or activities. If the additional funds are not allocated we may face a deficit in balancing the costs which would lead to covering through other activities. Independent activities were combined, which include temporary staff to support the preparation and conducting of CIMO-17.

71. Additional meetings, conferences and workshops involving expertise across both internal boundaries between technical commissions and boundaries between WMO and its

external partners are needed to help implement important elements of WIGOS at the global level. One such initiative is the new WIGOS data availability and data quality monitoring system which, when implemented, will lead to improved forecast guidance products, and will enable the WMO community as a whole to make better use of their investment in observing systems via rapid fault mitigation procedures, which includes joint Commission expert meetings and workshops, as well as support to joint meetings with WIGOS partners

72. The role of CBS and CIMO will increase in the next financial period including additional activities of the president and MG in dealing with cross-cuttings issues such as GFCS implementation, Global WIGOS/WIS implementation, coordination with other technical commissions and regional associations through PTC/PRA (presidents of technical commissions/ presidents of regional associations) meetings.

Implementation of WIGOS – Global perspective: CHF 780,000

73. The phase II of WIGOS regulatory material development will focus on the standardized and best practices of WMO on quality assurance of all WIGOS observing components, including the co-sponsored systems. The development will engage all relevant technical commissions, working groups and expert teams, and some needed pilot projects will be designed to test these new practices before being accepted by Members. This activity will contribute to "better quality of observations", which is of critical importance to WMO Members, for their ever-increasing accuracy requirements on services.

74. Full translation of the phase II WIGOS regulatory material into all WMO official languages is the mandatory requirement. Members will benefit from the new regulatory material prepared in multilingual versions, by fully understanding the standard practices and therefore, being able to easily implement them.

75. In addition to the mandatory practices, WIGOS need to develop some best practices as WIGOS guidance, reference material and publications for some new observing technologies before they mature enough to fully become mandatory practices. This activity will clearly reflect the evolving nature of technological development on observations. Some of these new systems will be naturally transformed in the future into Members' new operational capabilities. This will enable the Members to implement important WIGOS initiatives such as the new Station IDs, quality assurance systems and the registration of all observational assets in the WIGOS Observing Systems Capability Analysis and Review Tool (OSCAR) database, and this will in turn enable Members to fully exploit the additional observations made available in WIGOS via national partnerships.

76. The WIGOS Operational Information Resource (WIR) is a network platform and tool designed to provide WIGOS stakeholders with all relevant information on the operational status and evolution of WIGOS and its component observing systems, the operational requirements of WIGOS, including standard and recommended practices and procedures used in the WIGOS framework, and their capabilities to meet observational user requirements of all WMO Application Areas. The 2016-2019 financial period will be the key full development phase, including integration of OSCAR, space and surface integration, with the aim of the system being fully functional by 2019. The activity will also include consolidation of observing systems information from Members, all technical commissions and inputs from partner organizations. The WIR will provide a one-stop shop of WIGOS information on all the WIGOS observing components, observation gaps analysis, as well as widely used best standards, and all WMO Members will benefit from this full development and full operation in around 2019.

77. Consultancy and secretariat support is expected to increase, in particular, due to an increased responsibility of managing the observing systems database, monitoring the data

availability and quality of all WIGOS components, and coordinating with Members for keeping update of their information and contributing to the WIGOS Information Resource (WIR). Equipment and other office charges are also expected to increase in parallel. Without the additional funds, the additional support of the implementation of WIGOS might face a delay and Joint CAS, CBS, CCl, CIMO, JCOMM collaboration might be critically impacted.

78. The development of the space component of WIGOS needs to go through the new process to review WMO new requirements, and also review space agencies planning and development for identifying critical gaps and guidance to the space agencies' future programmes and projects development. Regular meetings will be critically important to incorporate new GFCS and environmental monitoring requirements. Members will benefit from the WIGOS space component development with enhanced and integrated capabilities of observing weather, water, climate and environmental variables from satellites.

79. CCl was requested by EC-65 to establish a High Quality Global Data Management Framework for Climate (HQ-GDMFC), and it agreed that there is a need for practical, coordinated and consolidated guidance for Members on data management to support the WIGOS implementation; This new data management area development need the expansion of existing WMO Information System (WIS) scope to handle broad data management technologies, standard and best practices, etc. This is clear major contribution of WIS to WIGOS, GFCS and overall WMO priorities and Members.

80. JCOMM is substantially and increasingly contributing to WIGOS implementation through all Key Activity Areas (e.g. implementation and evolution of observing systems, metadata and contribution to WIGOS Observing Systems Capability Analysis and Review Tool (OSCAR), data exchange and sharing, integration of in situ and satellite observations, capacity development, etc.). Enhanced coordination and funding is required in order to allow partner organizations contributing ocean observations to voluntarily comply with WIGOS and WIS requirements.

81. Radio frequency protection for meteorology and climatology is essential and challenges become more and more serious than ever before. Consultancy on radio frequency protection and working with the International Telecommunication Union (ITU) and radio authority must be carried out for avoiding or minimizing the radio interferences to meteorological observations and telecommunications. Members will benefit from global solutions of radio frequency interference, and the recommendations will help Members to coordinate with their national radio frequency authority.

Support to regional activities: CHF 163,000

82. WIGOS implementation at regional and national level with focus on LDCs, SIDCs and DCs will also require additional resources. The amount of support for regional and national implementation activities requested by Members from the Secretariat is increasing and is expected to increase further. Guidance and training in the development of national partnerships, integrated network design for LDCs, life cycle of AWS networks, development of lightning detection networks, regional data sharing, calibration etc., is requested by all Regions, and this will need better designed observing networks that can then be exploited more effectively by the Members and their respective neighbours in the Regions.

83. A complete WIGOS implementation package (the WIGOS toolkit that contains, among others, examples of socioeconomic benefits of WIGOS and other supportive material for implementation of WIGOS at regional and national levels) is required, accompanied by examples/ demonstration of success stories, case studies, and other communications, outreach and CD

materials for an effective communications and outreach effort. This will greatly facilitate Members to understand WIGOS benefits and complexities to setup implementation priorities.

84. There is a need to cover all WMO Regions through additional regional coordination meetings to help accelerate WIGOS implementation at regional and national levels. This financial period is the WIGOS pre-operational phase, and all the WMO Regions need to take actions and implement the regional WIGOS Projects identified in all the Regional WIGOS Implementation Plans, with the coordination support from technical commission experts and staff of the Secretariat. It is expected that more joint meetings between regional Working Groups and Expert Teams from relevant technical commissions will lead to better support and guidance to regional and national WIGOS implementation activities.

85. A significant effort is needed to coordinate regional observing networks (GOS, GAW, Hydrological Observing Systems, CryoNet) developed under the auspices of different technical commissions and steering committees (CBS, CAS, CIMO, JCOMM and GCW) as well as under the different programmes (RBON, GRUAN, regional radar and wind profiler networks, etc.) so that WMO Members can fully benefit from them in terms of using compatible and interoperable data. A new design of the Regional Basic Observing Networks (RBONs) is needed to assist Regions in their implementation.

Global Cryosphere Watch (GCW): CHF 261,600

86. Cg-XVI adopted a resolution regarding the development of a Global Cryosphere Watch (GCW) with a view towards achieving an operational GCW. GCW will provide, directly or indirectly, data, information, products and analyses that will help Members and partners provide needed services to the wider user community. It will help us understand, assess, predict, mitigate, and adapt to climate variability and change and improve weather forecasting and hazard warnings, thus helping reduce the risk of loss of life and property from natural and human-induced disasters. It will contribute to improved management of energy and water resources, including flood forecasting and hydropower production, help support sustainable agriculture, and improve our ability to monitor and conserve biodiversity. Cryosphere information is required for infrastructure design in cold climates, improved management and protection of terrestrial, coastal and marine ecosystems, and an improved understanding of environmental factors affecting human health and well-being. The cryosphere impacts all nations, their people and their economy. The implementation of GCW requires significant effort and additional resources in building the GCW Observing Network and associated information system.

87. A GCW Project Office is to support all GCW activities, including coordination with partners, monitoring of implementation, reporting and follow-up actions. It will provide support to national focal points and activities and will liaise with WMO and external programmes and groups. The Secretariat should coordinate GCW inclusion in existing observing activities at the international and national levels and align its processes with their activities and frameworks. The Secretariat shall also pursue active linkages with WMO Programmes and with relevant international organizations.

88. Cg-XVI adopted a resolution regarding the development of a Global Integrated Polar Prediction System (GIPPS) that should be capable of providing information to meet user needs for decision-making on timescales from hours to centuries. The Antarctic Observing Network (AntON) and a standardized GCW observing network (CryoNet) are prerequisites for a successful implementation of GIPPS in terms of enabling service delivery and developing observing strategies in Polar Regions, and in addressing key uncertainties in weather, climate, water and related environmental variability and change, thereby improving global prediction. This initiative would

contribute to all WMO high priorities, in particular Disaster Risk Reduction, WIGOS and the Global Framework for Climate Services (GFCS).

Instruments and Methods of Observation Programme (IMOP): CHF 257,700

89. WIGOS expects that IMOP addresses issues related to quality of data and compatibility of instrument systems. This requires new approaches to how data are quality controlled, preferably through dedicated WIGOS global or regional centres, similar to WMO Regional Instrument Centers (RICs) and Regional Marine Instrument Centers (RMICs), which will be expanded and re-scoped during this financial period and which require additional resources. This will lead to improved data quality, better integration of data and enable savings at national level due to the availability of regional facilities. Investment will also be required as a result of an increased demand from the technical commissions for CIMO to organize instrument intercomparisons, leading to information on the performances of new instrumentation, including for aerosol/volcanic ash detection and enabling Members to make informed decisions for the modernization and development of their observing systems.

90. Due to increasing demand for frequent updates and the development of new chapters in the CIMO Guide, for example, new chapters on new observing technologies and systems, a new chapter to address instruments and observations in harsh environments, a major update of the CIMO Guide will be required, and additional resources will be required for editing and translations. Investment will be required for the organization of additional face-to-face CIMO-MG coordination meetings in addition to the several WebEx meetings. The resulting guidance will allow the Members to optimize their investment in observations.

91. Increased effort for standardization will also require additional resources, including joint standards with ISO, coordination activities to support CIMO Expert Teams and Task Teams to support WIGOS development/implementation, in particular for the provision of guidance to Members related to remote sensing instrumentation, and adaptation to new international regulations affecting Members, such as the Minamata convention on mercury. This will ensure that modern observing systems meet the emerging requirements of Members (for example. in the context of renewable energy generation, aviation safety, climate and environmental monitoring, etc.) and that they have the needed guidance to select and operate appropriate instrumentation for their applications.

92. Additional resources will be required to finance the Technical Conference on Instruments and Methods of Observations (TECO) which is the biggest IMOP capacity development event impacting NMHSs in building their instrument systems and networks, to enable the support of participants from LDCs, SIDCS and developing countries who will attend and benefit from the CIMO TECO meetings. Without these resources, there will be no qualified national recipient to help guide, for instance, donor-funded observing system development projects. WMO Members will benefit through the implementation of regional and national WIGOS plans and CIMO practices for a most cost-effective approach to develop, maintain and integrate their observing systems through building the synergies among these observing components into a powerful integrated and quality observing system supporting all the observing requirements of services (weather, climate, water and environment).

WMO Space Programme: CHF 148,700

93. Additional funds will be required to facilitate the access and use by WMO Members of the new generation of meteorological satellites, i.e. to receive, process and utilize the meteorological satellites, including training activities and promotion workshops for that purpose at the national, sub-regional and regional levels. Furthermore, it will be necessary to demonstrate

socioeconomic benefits of satellite programmes using end-to-end user case studies to WMO Members. Satellite data access and exchange is most effectively coordinated by the Regions, therefore Region-based user groups to define requirements need support.

94. For satellite data and product requirements for climate services, additional resources are required to ensure better articulation of observing requirements that underpin climate services. For inter-regional data exchange support through NAEDEX and APSDEU meetings, satellite data access and exchange for global expert users must be organized in an inter-regional way. To provide support for the Expert Team on Satellite Utilization and Products (ET-SUP) activities, global coordination of satellite utilization issues through ET-SUP needs to be fully funded, especially facing the new generation of Met satellites (e.g., development of community software tools; of a global data dissemination strategy). For advancing SCOPE efforts for Nowcasting, Clime Monitoring (SCOPE-CM), more support is required to coordinate standardized product generation in applications climate, hydrology and nowcasting. To ensure fostering application and product developments through international science groups, international science groups (currently five supported by WMO) should be the engines to drive improvement and standardization of satellite data and products, and require support for their activities, which requires additional funding. Cross-cutting coordination with satellite operators and international bodies requires improved integration and interoperability, and a more comprehensive observing system for climate monitoring.

95. For a space-based observing system vision, optimization and integration, WMO will need to ensure the future Space Missions and to address the requirements of all the WIGOS components (GOS, GAW, GCW and WHYCOS) for meeting and benefiting the Members needs of weather, water, climate and environmental services. Space Weather is a new requirement from ICAO to be funded from the additional resources. This activity is required for the implementation of WIGOS, aviation support and DRR. Additional resources will also be necessary for improved integration and interoperability, and a more comprehensive observing system for climate monitoring, which is required for the WIGOS and GFCS implementation.

WMO Information System, (WIS): CHF 483,300

96. The Implementation Coordination Team of CBS-ISS consists of expert team chairpersons. Additional funds will be needed to ensure that each Region is represented in the coordination team. Additional resources will also be required to ensure: (i) increased size of IPET-DRMM and support to two JCOMM expert teams. More requirements from other Programmes and technical commissions for data representation will also need to be addressed; (ii) increased workload to support the GFCS, aviation meteorology. With the implementation of GFCS, more climate system data will need to be standardized, which is crucial for delivering operational climate services; (iii) WIS representation at relevant UN, ITU meetings, involvement in UN-wide data management activities, in ITU activities related to ICT development in developing and least developed countries; (iv) WIS training module development; (v) increased coordination among Global Information Systems Centres, between GISCs and associated Data Collection or Production Centres, and National Centres; auditing of centres on WIS standard compliance; and contractor support to WIS centre operational management; (vi) contractors support to WISC; (vii) increased support for SATellite COMmunication user forum (SATCOM) meetings, and contractor support; (viii) consultant for operational information service web and database maintenance and development; (ix) more frequent updates to the Manuals as more data is being standardized and WIS is becoming operational; and (x) increased use of consultancy services for radio frequency coordination. Protecting Radio Frequency bands for meteorological use requires continuous involvement in ITU-R meetings and conferences at global and regional level.

WIGOS core metadata maintenance and WIS monitoring system development: CHF 128,500

97. For the maintenance of WIGOS Core Metadata representation, additional resources will be required to support WIGOS core metadata representation expert teams. For the implementation of WIS monitoring systems, expert team meetings will need to be held and specialized support to be provided in order to specify and assess WIS monitoring applications. If an effective performance monitoring system is not in place, performance of WIS centres will degrade, and Members will find it difficult to benefit from WIS.

98. JCOMM is currently undertaking the modernization of the Marine Climatological Summaries Scheme (MCSS) through the development of the Marine Climate Data System (MCDS), taking into account availability of new types of marine observing systems, new data management and quality control techniques, data rescue, and existing capacities of Members, which are un-coordinated for the time being. The goal is to allow enhanced flow in delayed mode of high quality marine climate data to end users such as the GFCS. Increased funding is needed to address the JCOMM strategy with regard to the MCDS.

Support to quality monitoring and data-processing in coordination with WIGOS: CHF 11,300

99. Procedures and practices associated with NWP observational data quality monitoring are described in the *Manual on the GDPFS* (WMO-No. 485) for upper-air sounding data and one basic surface parameter (i.e. surface pressure). Lead Centres for NWP observational data quality monitoring shall be compliant with the defined standard procedures, which are outdated (status at the FP16). Additional resources are required to update observational data monitoring procedures and further development of requirements and gap analysis for improving the Basic Systems to strengthen warning services, within the context of the Rolling Review of Requirements (RRR), and in coordination with WIGOS. Should there be no additional resources the activity may not be carried out during the FP 2016-2019.

GCOS: CHF 276,600

100. Activities of particular relevance for WMO Members will need increased investments in the years 2016 to 2019, such as: (i) GCOS's contribution to the Observation & Monitoring pillar of the GFCS; (ii) GCOS to develop a new plan, to be implemented in 2016-2019; (iii) GCOS collaboration with WIGOS activities; (iv) continuation and follow-up of GCOS regional implementation plans; and (v) cooperation with WMO on cross-calibration requirements and reference networks.

101. At EC-66, the WMO Executive Council emphasized the role of GCOS in the development of Climate Services as the main basis of the GFCS for information about the status of the climate system. The evolving GFCS requires that the new GCOS Implementation Plan will consider new developments, systems and frameworks, such as the Global Earth Observation System of Systems (GEOSS), the WMO Integrated Global Observing System (WIGOS), the findings of the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, Future Earth, Blue Planet, and the Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA). The new Implementation Plan will be finalized in the summer of 2016, and published at the end of 2016. The Council further requested that the GCOS panels shall continue to advise on the climate observing elements of the WMO Integrated Global Observing System (WIGOS) and to ensure that GCOS cooperates fully with WIGOS and WIS. The Council also recalled the positive role of the regional GCOS plans in improving the functionality of GCOS as well as in identifying the observational gaps. The Council encouraged to continue to work on cross-calibration requirements and supported future discussions on a reference network for surface observations.

102. The implementation of the Plan and the activities related to WIGOS and regional implementation will need to be monitored throughout the next budget cycle, and activities will have to be closely coordinated within the relevant WMO Technical Commissions and Programmes. The GCOS programme will need sufficient and reliable resources to support activities which will need more seniority with regard to the professional expertise and qualifications, which is the reason why additional staff resources will be required.

Investment Measures: Expected Result 5: Advance Targeted Research
Enhanced capabilities of Members to contribute to and draw benefits from the global research capability for weather, climate, water and related environmental science and technology development

Table 10: Summary of Investment Measures under Expected Result 5
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 5	PRIORITY	INVESTMENTS (CHF)
Advancing research/science	All	387,900
Crosscutting activities and joint research	All	198,500
Improving scientific governance, oversight and evaluation	All	268,500
Scientific Exchange and Capacity Development, and Awards	All	326,900
Transition of research into applications and services	All	182,300
WCRP	All	152,700
Total		**1,516,800**

Advancing research/science: CHF 387,900

103. Expected Result 5 has suffered from inadequate funding, affecting WMO's ability to properly address the research requirements of Members. The 2016-2019 Strategic Plan places a strong focus on scientific research. *The investment in research is essential to develop new and enhanced services and the scientific understanding required by an expanding and urbanizing population facing growing vulnerabilities due to resource constraints, extreme weather and a changing climate.* The new investments reflect: (i) the importance assigned to promoting the underlying science through the global research and observation efforts of GAW and WWRP; (ii) capacity development; (iii) a balanced approach between issues related to oversight, cross cutting activities and the transition of mature research into operations; and (iv) the regular budget resources required to manage and support a growing number of research activities funded by voluntary resources.

GAW

104. GAW focal areas are aerosols, greenhouse gases, selected reactive gases, ozone, UV radiation and precipitation chemistry (or atmospheric deposition). GAW supports the WMO GAW Urban Research Meteorology and Environment (GURME) project and cooperates with the Group of Experts on Scientific Aspects of Marine Environmental Protection (GESAMP). Congress and EC noted that, in spite of the GAW network development, substantial gaps still exist in the observing system that has to be addressed. Those gaps prevent Members from an improved understanding now required of the processes controlling atmospheric composition changes on especially a regional level.

105. Integration with other components of the observing system needs additional efforts, e.g. to align GAW with WIGOS in terms of the harmonization of the requirements, network management, use and sharing of metadata etc. This requires the intense involvement of GAW experts and more regular interactions amongst them. Successful implementation of WIGOS requires fundamental investments in GAW as it constitutes one of the core components of WIGOS.

106. GAW observations and analyses support GFCS and GCOS and there is a growing requirement for the quality assurance of observations (as recommended by Cg-XVI, Resolution 26). Many Members contributing to GAW have difficulties in implementing WMO QMF (WMO-No. 1100) and additional funding is required for intercomparison campaigns and round robin exercises.

107. Development of the observational techniques in different focal areas occurs at a fast pace and more efforts are needed to evaluate new measurement techniques and analyzing their applicability to the GAW observations. Thematic meetings that address measurement techniques involving more Members, especially from countries embarking on atmospheric composition observations, will require additional funding.

108. Greenhouse gases (GHG) are recognized as the main drivers of climate change and GAW plays a crucial role in providing high-quality, science-based information on changes in atmospheric GHG to inform policy and the public. The current GAW observing system is only appropriate for the analysis of long-term trends and the estimation of ***global*** radiative forcing. As has been noted by CAS-16, ***regional*** decision-making need more actionable information on regional fluxes and their attribution. This requires the development of an Integrated Global Greenhouse Gas Information System (IG^3IS). CAS indicated that IG^3IS needs a clear implementation plan and involvement of the broader community which will need fundamental investment.

109. Atmospheric aerosols affect human health and influence climate and weather. Current knowledge of impacts of atmospheric aerosols is limited due to the limited observation network and in some cases, the outdated measurement techniques used. New observational techniques allow a better response to the needs for aerosol observations from the weather, climate and health communities. CAS-16 recommended to plan and implement an integrated global aerosol observation system. This will need further investment in the assessment of observational methods, development of an appropriate quality assurance system and performance of process based studies, within the context of WIGOS and WIS.

110. In the view of the increased requirement to atmospheric composition data, the work of the GAW Scientific Advisory Groups requires constant review (as requested by the CAS MG in 2014), and the involvement of a broader range of experts to advise on how to advance GAW research. This will require additional funding.

WWRP

111. EC-66 decided that the Working Group on Data Assimilation and Observing Systems, and the Working Group on Predictability, Dynamics and Ensemble Forecasting be established under the umbrella of WWRP, supported from the regular budget (Resolution 11 (EC-66)).

112. The activities on data assimilation and observing strategy and on improving the understanding of the sources and growth of errors in analyses and forecasts, developing and implementing new assimilation methods (i.e. coupled assimilation systems), and increasing the capacity to use new observations (conventional and non-conventional) need strong additional efforts and increased funding. These activities support the data processing and forecasting capacity of Members.

113. The development of the ensemble prediction system played a crucial role in improving the understanding of the atmospheric predictability. The improvement and further exploitation of ensemble techniques, research on the dynamics and the predictability of the (coupled) atmosphere will increase the forecast skill from global to local scale, and from short to sub-seasonal and seasonal timescales. It will therefore provide a unique support to the GFCS for developing user-oriented products in addition to the improvement on weather timescales. An additional investment at an adequate level is crucial to ensure this development.

114. Nowcasting and mesoscale meteorology are research building blocks for better understanding local-to-mesoscale processes and for promoting several key applications (i.e., aviation meteorology, high-impact weather events, urban meteorology). These local scales are where people experience the impact of weather events, also in the context of a changing climate. This working group supports the integration of several ongoing and proposed RDPs and FDPs (i.e. Lake Victoria Watershed, Aviation Demonstration Project) aimed at addressing specific weather-related research needs identified by Members. Additional funding is required to involve more Members and better integrate the different tasks.

115. Forecast verification has a key role in providing guidance to improve the knowledge of the modelling and assimilation system errors and to improve the forecast system, as it is essential to evaluate forecast performance in order to identify areas of improvement. The increasing complexity of numerical weather prediction models and the needs of a user-oriented verification approach are two important elements for future directions. Additional funding is required to develop new verification techniques focusing on the needs of users across the time scales and spatial scales applicable to both the weather climate communities (this working group is an initiative between WWRP and WGNE).

Crosscutting activities and joint research: CHF 198,500

116. There are a growing number of joint activities with other Commissions, Programmes and activities as well as with external bodies and institutions. As the atmospheric research community extends beyond NMHSs, additional funding is required for WMO to interact with research institutions, to be visible in relevant bodies (e.g. the ECMWF SAC as formal WMO representative, IGAC, EGU etc.) and to facilitate the participation of experts in strategically important events that will promote the work of CAS and WMO. Several regional initiatives (e.g. PISAC) need more central coordination to ensure that best practices developed in GAW are properly disseminated and used.

117. The Working Group on Numerical Experimentation (WGNE) is important in its role of bridging the weather and climate modelling and research communities, by addressing a growing number of common challenges, and by promoting model development to improve weather, climate, hydrological and environmental predictions. (http://www.wmo.int/pages/about/sec/rescrosscut/resdept_wgne.html). It requires investment to maintain the activities of this group, reward excellence in model development and to build on its success towards seamless prediction across weather and climate timescales. EC-66 noted that CAS agreed to contribute to a comprehensive assessment of the state of knowledge, science capacity and understanding of information gaps related to climate engineering and to identify appropriate research to address these gaps. Resources are required to move this ahead.

118. WMO activities on the assessment of biomass burning need further investment to improve collaboration with the biosphere, emission inventories and health/socioeconomic analysis communities. Similarly, poor air quality, a multi-facetted problem, needs better collaboration between the meteorological, emission inventory, urban planning and health communities. Furthermore, urbanization is considered as one of the research priorities by CAS-16, and the development of proper urban services catering for the bulk of the global population would need substantial investments by WMO.

119. Changes in atmospheric composition lead to the changes in the compounds that deposit in the ocean and also on the chemistry of the ocean. Links to the ocean community have to be established in relation to CO_2 uptake by the ocean to better understand the full consequences of the increasing atmospheric emissions of CO_2 and to develop common observational references. Both activities require improved collaboration on the level of research and on a more technical

level within GESAMP, with UNESCO IOC and other relevant organizations. A specific effort will be dedicated to underpinning research for user-relevant services and applications, featuring megacities, seasonal to sub-seasonal forecasts and polar weather and climate predictions as main topics. In this perspective, CAS has individuated emerging challenges and opportunities and has already launched international projects (S2S, PPP) in cooperation with WCRP and on its own (HIWeather). Although, these projects are supported by trust-funds, the WWR division and structures have to supervise their implementation. These projects require the scientific input by the various WWRP Working Groups requiring investment.

Improving scientific governance, oversight and evaluation: CHF 268,500

120. In order to optimally implement the scientific governance, oversight and evaluation during intersessional periods, the CAS Management Group was established. In 2016-2019, the CAS MG will have the additional responsibility to oversee and assess, on behalf of contributors to the trust funds, and based on input from the WWRP Scientific Steering Committee (SSC), the three major WWRP projects – S2S, PPP and HIWeather.

121. The CAS president attends and participates in Congress, EC, selected task teams and panels of EC and in ad hoc tasks when requested to represent WMO (e.g. the new initiative related to the protection of the atmosphere by ILC). Adequate funding is required to ensure this role.

122. Both WWRP and GAW have a SSC, each one a group of independent experts tasked to guide the science and research in WWRP and GAW. These SSCs have been strengthened during CAS-16 to promote excellence in science and research. The growing user needs, rapid evolving science environment, the increase in the number of joint science and research activities and the requirement to ensure a clear pathway from research to operations require a much more hands-on involvement by the SSCs on an annual basis and additional funding is required to support this important function.

Scientific Exchange and Capacity Development, and Awards: CHF 326,900

123. The CAS Technical Conference (TECO) is an essential activity related to scientific exchange and capacity development held in conjunction with the CAS session. TECO sets the stage for an effective and efficient Commission session and provides the members of CAS with the opportunity to share expertise and knowledge on the state-of-the-art in atmospheric sciences. Additional funding will be used to ensure the active participation of developing countries including LDCs.

124. Capacity development in research is crucial to reduce the research capacity gap between Members and may take on many forms. GAW and WWRP arrange and provide support for the participation and exposure of scientists with limited financial means and especially young scientists in relevant international meetings, symposia and workshops arranged along the thematic research areas of WWRP and GAW. The GAW 30th anniversary in 2019 would be a typical event of this nature to foster further international support and cooperation in the Programme.

125. To ensure knowledge and technology transfer related to observations, GAW supports training sessions at the GAW Training and Educations Centre (GAWTEC) in Germany. Between its establishment (in 2001) and 2014, more than 280 persons from 58 countries were trained at GAWTEC. Increased funding is required to train more station operators as GAW networks expand and become more complex.

126. WMO is strongly involved in developing regional scientific networks supporting research activities especially in developing countries and promoting the knowledge transfer from

research to operations. In this context, the cooperation and coordination between the WWRP and the CBS OPAG on Data-processing and Forecasting Systems (CBS/OPAG-DPFS), DRR and SWFDP have been recognized as important for the transfer of mature research outcomes to operations. Additional funding is needed to ensure to support this transfer through regional workshops and symposia.

127. WMO administers the several research awards including the WMO Research Award for Young Scientists, an annual award, including a cash prize of USD 1000, decided on during sessions of the Executive Council and a new WCRP-WWRP joint award on model development. On occasion, a senior member of the Secretariat is invited to represent the Secretary-General at the award ceremony in the country of the winner. Further funding will be required to promote research activities carried out by young scientists and recognize excellence in research.

Transition of research into applications and services: CHF 182,300

128. Effective data exchange is one of the key aspects of the reliable services. Requirements for chemical data assimilation in weather and climate models and verifications of the processes with observations are essential for the forecasts improvement. Further work is needed to re-organize/adjust GAW data centers, in line with WIS, to deliver useful data products.

129. WWRP and GAW are supporting SDS activities and WWRP also oversees several FDPs/RDPs which have been recognized by CAS to be an excellent framework for transferring knowledge and skills to NMHSs in responding to regional needs. The support to coordination activities, workshops and training events guarantees the consolidation of this technological transfer.

130. The linkage between CAS and CBS is of particular importance to effectively translate mature research results to operations. In terms of weather services and products the WWR division therefore needs to work closely with branches and divisions under the Weather and Disaster Risk Reduction Services Department (e.g. PWS, DRR, DPFS, MAP, TCP). Moreover, WWRP is managing the SERA group in assessing the socioeconomic benefits of meteorological and hydrological services. CAS-16 has recommended transition of SERA to a broader context considering most of WWRP activities, and recognizing the relevance of these activities in assessing the socioeconomic benefits of meteorological and hydrological services and the value of the research contribution.

WCRP: CHF 152,700

131. As the WCRP workload increases, external unrestricted funding has decreased. To meet expectations and requirements of the climate research community, WCRP requests an increase of WMO contribution funding by CHF 152,700.

132. WCRP has instituted six grand challenge activities over and above existing core projects and working groups. The WCRP Joint Science Committee has requested that WCRP JPS administer and support the grand challenge activities. WCRP has added a new international project office to coordinate international activities in regional downscaling. Acting on the advice of the JSC and reacting to urgent requests from external projects, WCRP will take on two new formal science partnerships, with the international paleoclimate and atmospheric chemistry communities. At the same time, for budget reasons itemized below, WCRP administers an increasing number of one-off bilateral agreements with diverse partners.

133. External unrestricted funding for WCRP has declined. Several countries have ended their annual contributions based on national funding declines. One of those countries has even cut its previously substantial annual allocation by half. At the same time, WCRP has increased its

amount of event-based funding: contributions ranging from CHF 5k to 50k targeted at and monitored for specific conferences, workshops or summer training schools. Each of these event-specific contributions requires a substantial administrative effort.

134. WCRP needs to substantially increase and enhance its communication and outreach activities, particularly through websites and social media, in part as a normal requirement of scientific communication and in part to promote WCRP's identity and programmes as part of the sponsors activities.

Investment Measures: Expected Result 6: Strengthened Capacity Development
Enhanced capabilities of Members' NMHSs, in particular, in developing and least developed countries and Small Island Developing States, to fulfil their mandates

Table 11: Summary of Investment Measures under Expected Result 6
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 6	PRIORITY	INVESTMENTS (CHF)
Training and fellowships on observing and information system	VI	85,400
Training and fellowships on climate and hydrology	VI	538,800
Capacity Development in AeM and support to CAeM activities	VI	131,200
Capacity Development in ERA, GDPFS and SWFDP, and Support to Regional DPFS Activities	VI	68,200
Capacity Development in TC Forecasting and Warnings in NMHSs	VI	101,000
Capacity Development in PWS, Support for the strengthening of marine meteorological services & impact-based forecasting and for the review & implementation of technical regulations and practices	VI	67,500
Global Framework for Climate Services	VI	1,228,600
WMO Capacity Development Strategy - Objective 1: Define required capacities and identify deficiencies; Objective 2: Increase visibility and national ownership; Objective 3: Optimize knowledge management; Reinforce resource mobilization and project management	VI	236,000
WMO Capacity Development Strategy - Objective 5: Strengthen global, regional and sub-regional mechanisms	VI	742,000
WMO Capacity Development Strategy - Objective 6: Increase education and research opportunities	VI	2,336,500
Total		**5,535,200**

Training and fellowships on observing and information system: CHF 85,400

135. To enable utilization of satellite data by broad user communities, training events and technical support should be provided for Vlab. JCOMM is promoting the Partnership for New GEOSS Applications (PANGEA), whose goal is to develop partnerships between developed and developing countries to realize the socioeconomic benefits of ocean observing systems at global and regional scales. A series of courses will be organized in this regard to provide training on: (i) ocean data use; and (ii) implementation of ocean observing systems, which will require additional funding. Additional funds will also be required for country onsite trainings for NMHSs on climate monitoring and climate watches. Ten selected LDCs in Africa and Asia will benefit from the training.

136. To enable Members to implement WIGOS at national level, training material needs to be developed and training events and technical support should be provided, including training on the implementation on the new WMO Technical Regulations, WIGOS Manual and Guides, WIGOS Quality management, etc. WMO Regional Training Centers, with the support of the WIGOS Project Office and Regional Centers, will be the key player for hosting and supporting these events.

Training and fellowships on climate and hydrology: CHF 538,800

137. Additional funds sought will allow WMO to implement capacity development activities through training and fellowships at the national, regional and global levels, and to provide support to Regional Training Centres and Distance Learning programmes and courses supporting all CLWD activity areas and the GFCS CSIS including the Quality Management Framework for Hydrology. WMO will twin NMHSs for long-term capacity development and strengthen agrometeorological services including support for Roving Seminars. This would build on existing activities and initiatives, but transform to meet the specific requirements of Members identified through the WMO Strategy for Education and Training as it relates to climate, agrometeorology and hydrology. In particular, activities are targeted to meet the requirements of the capacity development component of the GFCS through targeted training on the use of climate products in the relevant application areas.

138. WMO, through its Technical Commissions and Regional Associations can develop guidance materials, technical documentation and manuals, but at the end of the day the uptake of this material at regional and national levels will be the true test of achievement of its mission. Therefore adequate resources must be applied to the capacity development of Members in the priority areas of delivery and use of climate services (GFCS) and the use of services to improve resilience to disasters. Failure to do so will mean that Members NMHSs will not have the capacity to implement the practices, procedures and tools required for managing in a variable and changing climate and disaster risk reduction.

Capacity Development in AeM and support to CAeM activities: CHF 131,200

139. Competency requirements for personnel engaged in service delivery for aviation requires training of staff of as many NMHSs as possible, especially in the developing and Least Developed Countries (LDCs), since the competencies are included in the Technical Regulations and follows ICAO standards. These activities require additional resources.

140. The CAeM and its Management Group and Expert Teams are the key underpinning structures for the delivery of AeM to Members, through provision of expertise, guidance and advice in particular relating to service delivery to the aviation sector, in coordination with ICAO. These emerging issues and new areas of AeM to Members require additional resources to enable access to the required expertise and coordination with ICAO for the development of joint standards and procedures, and guidance on meteorological service for other types of transport.

Capacity Development in ERA, GDPFS and SWFDP, and Support to Regional DPFS Activities: CHF 68,200

141. Following the Fukushima NPP accident (in 2011), it was recognized that the increasing sophistication of the atmospheric transport models used in the RSMCs, and the importance of full and correct interpretation of this information by forecasters in NMHSs, CBS and subsequently RAs II, IV and VI requested capacity development activities, including training courses, in the use and interpretation of WWW/ERA guidance and products. Capacity development in WWW/ERA will contribute to strengthening core skills and competences of NMHSs in service delivery in case of nuclear emergencies. In collaboration with ETR, training courses will be conducted in the various RAs. These will not only focus on Least Developed and Developing Countries, but also on developed countries in areas where they may need expertise and advice. Additional funds are required for these activities.

142. The activities for capacity development in GDPFS and SWFDP focus mainly on transfer of research results on data-processing and forecasting into operational applications. New areas of

training will be in the use and interpretation of advanced products from the GDPFS operational centres, including the propagation of NWP/EPS into High-Impact Weather (HIW) forecasting, and hazard risk management. Forecasters from developing, and least developed countries, and Small Islands Developing States shall be given opportunities to be exposed to state-of-the-art science and technology in data-processing and forecasting, with a special focus on severe weather.

143. Support to regional DPFS activities is a new activity. There are increasing requests for enhanced participation of the GDPFS programme at the sub-regional initiatives, especially in areas such as enhancing capacities of Regional Specialized Meteorological Centres (RSMCs) in supporting NMHSs' forecasting systems.

Capacity Development in TC Forecasting and Warnings in NMHSs: CHF 101,000

144. Activities for capacity development in TC Forecasting and Warnings in NMHSs include the development of capacities of NMHSs in tropical cyclone forecasting and warning capabilities, as well as the transfer of research results on tropical cyclones into operational applications transfer of research results on tropical cyclones into operational applications. Forecasters engaged in tropical cyclone forecasting and warnings from countries with less advanced technology (i.e. developing and least developed countries, and Small Islands Developing States) shall be provided with opportunities for training on operational tropical cyclone forecasting and warning technology and competencies, and to be exposed to state-of-the-art science and technology in tropical cyclones.

Capacity Development in PWS, Support for the strengthening of marine meteorological services & impact-based forecasting and for the review & implementation of technical regulations and practices: CHF 67,500

145. The new area of "Competency requirements for personnel engaged in service delivery" requires training of staff of as many NMHSs as possible, especially in the developing and Least Developed Countries (LDCs), since the competencies will be included in Technical Regulations as recommended practices. These competencies have been approved by CBS, to be forwarded to Cg-17 for adoption. These activities require additional resources.

146. Training on marine meteorology will assist Members in need of uptaking skills for marine meteorological forecasting, underpinned by the activities under "Support review & implementation of technical regulations and practices". There are increased requests for training opportunities for Members on marine meteorological forecasting, particularly for warning and delivery of service to end-users. For measures to ensure efficiency and effective use of resources, activities will be closely coordinated with the RMTCs and related training activities of partners.

147. For the review and implementation of technical regulations and practices, as efficiency measures against the limited availability of resources, the Members and experts are strongly encouraged to provide contributions through national resources, while the assigned WMO regular budget would support the minimum level of organizational assistance for the formal procedure of review and revision of the relevant technical regulations. Should there be no additional resources, the activity may not be carried out during the FP 2016-2019.

Global Framework for Climate Services: CHF 1,228,600

148. Members and partners require technical support for initiating and implementing specific activities contained in the Implementation Plan of the GFCS, particularly in Least Developing Countries and Small Island Developing States (SIDS). The additional resources, targeted at regional and national workshops and associated guidance materials, will enable the GFCS Office

to address, in a more proactive fashion, the needs of a greater proportion of the 70 countries identified by the High-Level Taskforce that require assistance in the establishment and development of climate services at the national level, as well as providing much needed technical support for initiating and implementing specific activities contained in the Implementation Plan of the GFCS, particularly in Least Developing Countries and Small Island Developing States (SIDS).

149. Additional resources would also serve as a catalyst to enable the initiation of the activities contained in the implementation plan, which will result in a "proof of concept" that will build the case for the need of climate services and more investments for the GFCS.

WMO Capacity Development Strategy: CHF 236,000 for Objectives 1, 2, 3 and 4; CHF 742,000 for Objective 5; and CHF 2,236,500 for Objective 6

150. The WMO Capacity Development Strategy identifies six key objectives, namely: (i) define required capacities and identify deficiencies; (ii) increase visibility and national ownership; (iii) optimize knowledge management; (iv) reinforce resource mobilization and project management; (v) strengthen global, regional and sub-regional mechanisms; and (vi) increase education and research opportunities. These objectives are used to describe the non-post budget proposed for the 2016-2019 financial period. As people are the key element in implementation of capacity development actions, full staffing of the Development and Regional Activities Department is foreseen under all budget scenarios.

151. As stated in Section III, the resources requested under Expected Result 6 for the 2016–2019 financial period relate to general capacity development activities to be undertaken by the DRA Department with some specific capacity development actions identified in the other expected results. The key associated Programmes of the WMO Capacity Development Strategy are: (i) Technical Cooperation Programme (TCOP); (ii) Regional Programme; (iii) Least Developed Countries Programme; and (iv) Education and Training Programme.

Objective 1: Define required capacities and identify deficiencies

152. This objective deals with the Regional Programme. The actions addressing this objective are shared across the WMO. Standard setting (or defining minimum capacities/ capabilities) is typically undertaken by the WMO Technical Commissions with support from EC or Congress. The Country Profile Database addressed in a subsequent objective is one mechanism for capturing compliance with these requirements and the Members reported capabilities. Identification of deficiencies is carried out on multiple levels such as through the regular surveying of Members by the WMO Secretariat and working groups of technical commissions and regional associations and through more sub-regional or country specific initiatives either associated with disaster recovery or projects. The support actions for this initiative are primarily staffing of positions to coordinate and work with the Members on regional, sub-regional and national levels. The requested investment above ZNG will allow the possibility of improving the current rate of reporting through missions, improvements in collation of survey material and interaction with the Members.

Objective 2: Increase visibility and national ownership

153. This objective deals with the Regional Programme. The Regional Programme and Regional Office network play a key role in addressing actions under this objective. The staffing of the field offices and a move to shift the Regional Offices back to the Regions are part of the actions designed to assist Members address this objective. The activities proposed for ZNG funding in 2016-2019 include limited support for missions from Geneva and the field offices to individual countries plus some support for Members, particularly Least Developed Countries and Small Island Developing States, to attend meetings, conferences and training events aimed at increasing

visibility and national ownership. The requested investment above ZNG will provide flexibility to increase the support for missions to individual Member countries or for Members to participate in capacity development workshops and meetings.

Objective 3: Optimize knowledge management

154. This objective deals with the Regional Programme. The WMO Country Profile database is an example of the infrastructure required to provide WMO and its Members with the tools required for knowledge management of the capabilities of Members. Without tools of this type it is extremely difficult to collect, use and provide information and data for Members, constituent bodies and the WMO Secretariat. Such data and information are key sources for planning, evaluation and reporting. To ensure that this data is available to WMO and its Members in the 2016-2019 financial period a 50% staff position was created within DRA in the current financial period to maintain and improve the Country Profile Database. The staffing position is continued in the 2016-2019 financial period. Over time it is expected that data and information held in systems such as the Country Profile Database, PUB 5, the WIGOS Information Resource (WIR) and information collected by the WMO Strategic Planning Office and individual Departments will become more integrated as the systems used to collect and hold the data become more interoperable. The requested investment above ZNG will provide flexibility to increase the capabilities of the Country Profile Database and interoperability with the other systems within the WMO Secretariat.

Objective 4: Reinforce resource mobilization and project management

155. This objective deals with the Voluntary Contribution Programme and the Regional Programme (including resource mobilization and development partner activities). As the funding available for capacity development of individual Members under the regular budget is extremely limited, a resource mobilization office was created and staffed in 2007 and renamed in 2013 to the Resource Mobilization and Development Partnership Office. As a result of the success of the Office in identifying funds and funding mechanisms for WMO and its Members to access, it has been necessary to hire staff for a new Project Coordination Unit during 2012-2015. This level of staffing support will be maintained for 2016-2019. The Project Coordination Unit is necessary to oversee project implementation, management and reporting is carried out to the donor standards. The Project Coordination Unit is part of the risk management actions to ensure the WMO brand is not compromised by poor or negligent project performance in the eyes of the donor community.

156. The requested investment above ZNG will support increased interactions with the donor community and increased development of project proposals. Once a project is approved the project support costs will cover the project management and implementation activities through temporary staffing measures.

Objective 5: Strengthen global, regional and sub-regional mechanisms

157. This objective deals with the Regional Programme and the Education and Training Programme. A significant part of the base workload of the staff in the Development and Regional Activities Department is directed towards actions addressing this objective. The support and resources for regional association sessions, technical conferences, seminars and working groups, and regional training institutions are all directed to improving the governance, planning and monitoring of regional and sub-regional mechanisms and input into global mechanisms. To accommodate the range of capacity Ddevelopment activities under ZNG it will be necessary to further shorten constituent body sessions and reduce the number of Members supported by WMO to attend regional conferences, seminars, workshops and working groups. This reduced ability to support Members comes at a time when there are more requirements for coordination and collaboration across WMO and its Members at global, regional and sub-regional levels and

between the regional associations and the technical commissions thus putting more pressure on Members to use national funds to support participation of their experts in such meetings. Unfortunately this also comes at a time when all WMO Members, particularly LDCs, are experiencing difficulties in being able to fund participation by their staff from institutional and national budgets.

158. The requested investment above ZNG would enable increased support for Members to participate in activities such as Regional Conferences, seminars, workshops and working groups. Increased participation in these events could be expected to allow shorter, more effective constituent body sessions and improve the coordination among regional associations and technical commissions.

159. Mechanisms initiated by WMO, such as the Africa Ministerial Conference on Meteorology (AMCOMET), show promise in improving regional and sub-regional institutions and their programmes. Initiatives developed within the AMCOMET process, and in particular through the implementation of the Integrated African Strategy on Meteorology (Weather and Climate Services) should be funded through contributions by the AMCOMET Member States and Development Partners (DPs). The WMO support for such mechanisms through the regular budget is extremely limited, particularly if other regions follow the AMCOMET example. Whilst WMO may be able to play a small role under ZNG in initiating such mechanisms, their ongoing development and support must be via extrabudgetary sources.

Objective 6: Increase education and research opportunities

160. This objective deals with the Education and Training Programme. The capacity development actions for 2016-2019 to increase research opportunities have been extensively detailed in Expected Result 5. The actions to support capacity development through education and training are primarily orientated around: provisions of fellowships; support for and to training institutions, particularly WMO Regional Training Centres; oversight and governance; and, support for online and face-to-face training opportunities, particularly in the WMO high priority areas. Under ZNG the funding available for fellowships and support for training opportunities is very limited. The requested investment above ZNG will be directed towards fellowships and increasing the number of participants and the type and number of training courses. A fellowship cost is around CHF 20,000 and costs for training courses are approximately CHF 3,000 per participant. The ZNG funding would allow approximately 104 fellowships and 180 trainees over the 2016-2019 financial period, representing a real decrease in current support. Many WMO Members rely on WMO Fellowships and training opportunities to educate and keep their staff up-to-date. Reductions in the fellowships and training opportunities has significant long- and short-term impacts upon the ability of WMO to meet the needs of the global community for weather, water and climate services.

Investment Measures: Expected Result 7: Strengthened Partnerships
New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to demonstrate the value of WMO contributions within the United Nations system, relevant regional organizations, international conventions and national strategies

Table 12: Summary of Investment Measures under Expected Result 7
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 7	PRIORITY	INVESTMENTS (CHF)
Communications and Public Affairs Programme	VII	134,800
Madrid+10 Conference 2017	II	200,000
Cooperation and coordination with UN-system and other international organizations	VII	491,200
Support for the strengthening JCOMM and CAeM activities	IV	20,400
IPCC	II	22,300
Total		**868,700**

Communications and Public Affairs Programme: CHF 134,800

161. The WMO Bulletin is one of general information publications approved by Congress (Annex to Resolution 35 (Cg-XVI)) and should be published twice a year in English, French, Russian and Spanish. MeteoWorld is a publication expected to be issued on a quarterly basis in English and French. Due to increased production costs, investment is required for the outsourced translation of the WMO Bulletin in Russian and Spanish. New branding of MeteoWorld is planned for 2016-2019 for its issuance four times a year with at least one issue of eight pages instead of four pages, which also necessitates additional investments. A number of WMO publications would also have to be discontinued and shortened, and the remaining publications could be issued only in a limited number of WMO official languages.

162. Resolution 35 (Cg-XVI) requires the celebration of World Meteorological Day (WMD), while sufficient resources have not been provided in the budget. To cope with the budgetary constraints, the sixteenth financial period has seen a significant decrease in actual expenses related to the WMD associated publications, due to the cancellation of a long brochure and the use of e-distribution and e-access of more targeted and useful information. On the other hand, WMO Members have appreciated that the theme of the WMD is promoted all year long. The investment will be used to provide adequate funding for WMD and other events, as well as to contribute to United Nations system-wide opportunities to promote the WMO themes.

163. Implementation of IPA Strategy approved by Congress Resolution 27 (Cg-XVI) requires organization of press conferences, promotional events, exhibits, fairs, and training sessions and also production and dissemination of press materials, brochures, information kits, and audio-visual materials. The purpose of these activities is to ensure that WMO visibility continues to rise, especially with respect to climate. Investment should be made to strengthen traditional and digital media outreach, pursue innovative outreach activities, and directly support Members' communications work.

164. The growing scientific and policy relevance of WMO and its programmes on weather, climate and water places greater demands on WMO's outreach activities. Additional staff at P-3

level will be required to exploit more fully opportunities to communicate the benefits that the WMO community provides to society, and also to cope with significant increase in communication and public affairs activities through the WMO website and social media. Based on a benchmarking of communication programme activities versus staff in WMO with other United Nations system organizations, additional staff resources are required to cope with the increased need for the communication and public affairs activities.

Madrid+10 Conference 2017: CHF 200,000

165. The Madrid+10 Conference, tentatively planned for 2017, is expected to be a major international event organized by the WMO. It is planned as a follow-up to the "Madrid Conference on Social and economic benefits of weather-, climate- and water-related information and services (Madrid, Spain, 19-22 March 2007)" Investment is required to organize this Conference. The sixty-sixth session of the Executive Council (EC-66, 18–27 June 2014) had agreed that a Madrid+10 Conference would focus on: The economic value of climate services; Offering NMHSs an opportunity to demonstrate the benefits of their services; Methodologies for analysing socioeconomic benefits; Access to services to support development; Progress on studies on socioeconomic benefits; and The benefits of government investment in the infrastructure and human resources of NMHSs. A regular budget that does not foresee any provisions for the Madrid+10 Conference will result in a risk for the WMO community to weaken the momentum behind WMO's contributions to NMHSs' capacities to assess and demonstrate the value of the services they provide to their respective governments and other users, which would make NMHSs loose the opportunity for increased national financial and institutional support.

Cooperation and coordination with UN system and other international organizations: CHF 491,200

166. WMO, as a Specialized Agency of the United Nations with 191 Member States and Territories, is the UN system's authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the weather and climate it produces and the resulting distribution of water resources. With the requested investment, WMO participation in the United Nations system-wide activities will be maintained at an adequate level. WMO has always participated in UN system-wide initiatives such as CEB and its subsidiary bodies; UN-Water; UN-Oceans, UN-Energy, with the general principle that any agency bears its own cost. This is valid especially for participation in the UNDG (UN Development Group), which organizes the deployment of Regional and National UN coordinators in charge of ensuring "UN Delivering as one". CEB has requested an increased contribution from WMO to CHF 100,000 per annum. WMO must also be able to take initiatives, and assume its proper role in coordination with UNESCO, UNEP, UNFCCC, FAO, IFAD and other organizations concerned with hydrology and water resources, climate, and agricultural meteorology. WMO participation and contribution to meetings of the United Nations Convention to Combat Desertification (UNCCD) and Convention on Biodiversity (CBD) need to be maintained. WMO needs also to be able to participate in major regional coordination activities. The active involvement of WMO in initiatives such as Future Earth and potentially the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES) should be made possible.

167. Recent years have shown that through improved placement in the UN system, WMO has been able to leverage greater access to resources and through partnerships with other agencies raise the profile of NMHSs in a wide range of areas from disaster risk reduction, to food security, water resources management and managing for the impacts of climate variability and change. However, maintaining this presence comes at a cost and if WMO is to keep a high profile and gain through these relationships, it must be in a position to make the linkages and provide its contributions. Failure to do so will be a loss of opportunities and potentially a loss of relevance in

the UN system and in the post-2015 policy agenda the UN system supports, which may impact on the status of NMHSs at national and regional levels.

168. Additional funds sought will allow WMO to position in the wider UN Framework post-2015 as we move from the MDGs to the SDGs, the successor framework to the Hyogo Framework for Action and the on-going UNFCCC processes, which involves increasing engagement through the establishment and development of partnerships with relevant UN entities and beyond through such mechanisms as UN-Water, UN-Energy, UN-Oceans and strategic partnerships with co-sponsors entities of WMO Programmes and GFCS partners. Through the establishment and maintenance of these partnerships and the development of joint initiatives, WMO can leverage access to additional resources of direct benefit to the Members in meeting their goals and objectives, including DRR and the GFCS.

169. The presence of WMO at the United Nations Headquarters is more important than ever with the implementation of the post-2015 development agenda and WMO participation in relevant Climate and Water strategies and diplomatic actions of Member States at the global level. Enhanced investment is required for the WMO Liaison Office at United Nations Headquarters in New York to be consistent with the increasing high-level representational responsibilities in connection with WMO external relations activities, partnership development with Intergovernmental organizations in North America and logistics/rental costs of the Office in New York.

170. Increased financial resources are required to at least maintain the WMO share in the co-financed WMO Joint Office in Brussels due to increase in logistic costs, in line with the terms of the agreement signed with EUMETNET, ECMWF and EUMETSAT.

Support for the strengthening JCOMM and CAeM activities: CH 20,400

171. The activities are re-scoped and extended to comprise collaboration with organizations representing users of marine meteorological services (including the UN agencies like IMO, IHO and IAEA; as well as scientific and technical communities) - therefore this also addresses the defined area of "UN system-wide coordination". As efficiency measures against the limited availability of resources, the Members and experts are strongly encouraged to provide contributions through national resources, while the assigned WMO regular budget would support the minimum level of organizational assistance for the formal procedure of review and revision of the relevant technical regulations.

172. The CAeM and its Management Group and Expert Teams are the key underpinning structures for the delivery of AeM to Members, through provision of expertise, guidance and advice in particular relating to service delivery to the aviation sector, in coordination with ICAO. These emerging issues and new areas of AeM to Members require additional resources to enable access to the required expertise and coordination with ICAO for the development of joint standards and procedures, and guidance on meteorological service for other types of transport.

IPCC: CHF 22,300

173. The launching of the IPCC Synthesis Report of the 5th Assessment Report at the end of October 2014 marks the culmination of seven years of intensive work of the world`s climate science community. This sovereign report confirms more clearly than ever the responsibility of humanity in the ongoing changing of planet Earth's climate, analyses the Physical Science Basis of Climate Change, and addresses also with a higher level of detail than ever, key issues regarding Impacts, Adaptation and Vulnerability as well Mitigation to Climate Change. The full support of WMO has been instrumental for the production of the 5th Assessment Report, from hosting the Secretariat of the IPCC to contributing to its operations. In return WMO also benefits from the

information generated by the IPCC in shaping many of its own programmes. But the task of the last years will only be completed if the information gathered by IPCC reaches appropriate key external audiences, including in particular the 21st Conference of the Parties to the UNFCCC. The IPCC therefore needs to make a very important effort on communications and outreach during 2015. Furthermore, at the same time, during 2015 the IPCC needs to reflect on lessons learned and plan for the next assessment needs. The period 2016-2019 is crucial as the work of the IPCC will need to contribute to the follow-up on the agreements made by governments at the 21st Conference of the Parties to the UNFCCC by the end of 2015 in Paris. Increased support from WMO is necessary to: (i) help on communication and outreach initiatives in particular during 2015; (ii) planning for the future work of IPCC during 2015; and (iii) contributing during 2016-2019 to the following up to agreements to be reached at UNFCCC COP 21. Furthermore, increased support from WMO would send the clear message on the need to step up our commitment to addressing climate change.

Investment Measures: Expected Result 8: Improved Efficiency and Effectiveness
Promote Quality Management Systems in NMHSs and within the WMO Secretariat for efficient and effective use of resources

Table 13: Summary of Investment Measures under Expected Result 8
(in thousands of Swiss francs)

INVESTMENT MEASURES - EXPECTED RESULT 8	PRIORITY	INVESTMENTS (CHF)
Policy-making organs	VII	737,600
Executive Management of the Secretariat	VII	101,100
IMO Prize	VII	128,000
Gender mainstreaming	VII	174,000
Strategic planning, monitoring and evaluation, risk management	VII	105,500
IOO	VII	128,200
Language, conference and publishing services	VII	347,100
Total		**1,721,500**

Policy-making organs: CHF 737,600

174. In spite of the cost saving measures already introduced, such as shorter sessions (resulting in reduced cost of interpretation), the use of electronic management and distribution of documentation resulting in paperless sessions, as well as video-conferencing when appropriate and feasible, the overall costs of sessions of Congress, the Executive Council, FINAC, the Bureau, the Audit Committee and the meetings of the Presidents of the Technical Commissions and the Regional Associations have increased, and the trend is expected to continue. Increased resources may be required to enhance recognition and relevance of the WMO on the international arena. A sustained budgetary resource is thus still required.

175. It should be noted that further cost-cutting measures would seriously hamper the good functioning of WMO policy-making organs and negatively impact their decision-making process. The cost-cutting measures implemented so far have reached the limit of what they can achieve. Should further cost-cutting measures be implemented, WMO Members would need to consider reducing the membership for EC, the number of Regions, the duration of meetings, and the use of interpretation, translation, and other conference services. A number of WMO publications would also have to be discontinued and shortened, and the remaining publications could be issued only in a limited number of WMO official languages.

176. WMO has developed exemplary ways to carry out elections both during sessions and through correspondence in a cost-efficient way. This allows WMO to reduce the duration of not only Congress and EC but also RA and TC sessions, to achieve savings in postage in the case of elections by correspondence, and to ensure the required quorum. Maintaining these practices will require sustained funding for providing the underlying services.

Executive Management of the Secretariat: CHF 101,100

177. As recognition of WMO and its value increases, including WMO's leading role in implementing WMO Scientific and Technical Programme activities, the Executive Management

needs to increase its support for advocacy meetings and to represent WMO at a high level in many more forums. This increase is consistent with the request of EC.

IMO Prize: CHF 128,000

178. Notwithstanding the measures taken to decrease the costs of each successive IMO Prize ceremony, such as having the scientific lecture delivered by the award recipient at EC and/or Congress, the IMO Prize Trust Fund will be exhausted in 2016/2017. EC recommended maintaining not only the prize itself but also the level of prestige (monetary award, gold medal, scroll diploma), and asked for the IMO Prize to be funded by the regular budget when the Trust Fund is exhausted. Investment is therefore required to ensure the continuation of the IMO Prize. It should be noted that the IMO Prize is WMO's primary way of recognizing the most important lifelong contributions that individuals make to the fields of meteorology, climatology, hydrology and related science. No other organization in the world offers such a highly valued award for these fields. The discontinuation of the prize would reduce the visibility and prestige of WMO, its Members, and the issues of weather, climate and water.

Gender mainstreaming: CHF 174,000

179. Investment is required to implement the following gender mainstreaming activities in support of the WMO Gender policy: (i) organization of two face-to-face meetings of the EC Advisory Panel of Experts on Gender Mainstreaming; (ii) training of two trainers on gender equality and the empowerment of women to support the implementation of the WMO Gender policy; (iii) four training sessions for Secretariat staff on gender equality and the empowerment of women; and (iv) development of training materials and tools on gender equality and the empowerment of women, none of which are foreseen in the ZNG budget, following the recommendations of the Gender Mainstreaming Conference 2014. Through this investment, WMO will be able to participate in major gender capacity development advocacy and coordination activities related to weather, climate and water within the UN system and will be able to maintain this momentum through increased visibility. WMO's active participation in key activities will also result in increased attractiveness for resource mobilization.

Strategic planning, monitoring and evaluation, risk management: CHF 105,500

180. Adequate resources are required to facilitate the meetings of EC WG/SOP and to support the operations of the strategic planning office. In the results-based budget for 2012-2015 resources were provided for only two meetings of EC WG/SOP, which proved to be inadequate and the WG/SOP had to hold a total of three meetings. The three meetings enabled the group to have adequate discussions on the preparations of the WMO Strategic and Operating Plans 2016-2019. Three meetings are considered adequate for the WG/SOP to discharge its responsibility and ensure that it prepares well-informed Strategic and Operating Plans that reflect a collective view of all WMO constituent bodies, and helps in focusing resource utilization on priorities for the benefit of the Organization.

181. The WMO Operating Plan and M&E System require regular review to reflect the most current situation and approaches, and improve their relevance to the interests of the Organization. The increased investment is intended to finance such reviews to ensure that the relevant documents reflected the most current situations and approaches for further improvement, particularly with regard to the M&E System. The increased investment will also support the improvements in M&E performance metrics to ensure that useful and relevant data is gathered to inform decision-making on necessary actions to improve service quality and service delivery.

182. Cg-XVI requested the Secretary-General to ensure that all staff are well trained in the M&E methodology and have ownership of the M&E System. It was not possible to train all relevant staff in M&E during the current financial period due to limited resources. The increased investment is intended to be used to train more staff to enable them effectively contribute to the implementation of the M&E system and have a feeling of ownership. Effective contribution of staff to M&E will improve the relevance and quality of M&E data to support decision-making by management and constituent bodies for further improvement of performance.

183. Significant progress has been made to implement ERM at the Secretariat. Risk Management Policy and Risk Management Framework require regular review to reflect the most current situation and approaches, and improve their relevance to the interests of the Organization. The Secretariat has been requested to enhance the capacity of staff in risk management to enable them to contribute adequately to the management of risks involving the Organization. The slight increase is intended to support the reviews of the documents and capacity development workshops in ERM. Enhanced capacity in risk management will assist in furthering the embedment of ERM in the management processes to enhance effectiveness in service delivery and systems of internal controls.

184. A majority of NMHSs of developing and least developed countries have limited capacity in strategic planning. These limitations influence their contribution to processes to develop and implement the WMO Strategic Plan. These limitations also influence their abilities to develop clearly defined and costed needs to attract investments in essential meteorological and hydrological infrastructure. The increased investment will be used to enhance support to facilitate capacity development of developing and least developed countries in strategic planning.

Internal Oversight: CHF 128,200

185. The Internal Oversight Office was established in 2006 with a complement of five staff and was responsible for Internal Audit, Investigation, Evaluations and Performance Audit Services. Gradually the number of staff in IOO has declined to three and there the "Evaluation and Performance Audit Service" is not staffed for over four years. With WMO undertaking a number of new projects, there is a need to strengthen evaluation and performance audit so as to provide the Members increased assurance on achievement of results and mark a shift from regularity and compliance based oversight. Voluntary income in WMO is increasing and is used to finance projects and to supplement the regular budget resources in priority areas. The donors and stakeholders need assurance that governance, controls and risk management processes in management of voluntary resources are adequate and desired results are achieved. Regular assurance by IOO on the M&E framework in WMO is also foreseen in the seventeenth financial period. Presently, the evaluations and performance audits are managed by hiring consultants in the absence of dedicated staff.

Language, conference and publishing services: CHF 347,100

186. Additional resources are needed to meet the requirements generated by the GFCS. Its emerging activities generate new language, conference and publishing requirements, which have repercussions for other WMO Programmes and thus also for LCP. New requirements for support of not only constituent but also subsidiary bodies, coupled with the shift toward greater reliance on outsourcing services, inevitably lead to the need to strengthen the core business activities of LCP. Besides that, with the introduction of the Quality Management System in all LCP activities, its in-house teams will continue focusing on the quality check of the work done by external collaborators. This will further improve the overall quality of LCP services, while at the same time facilitating the review and decision-making by WMO constituent bodies.

187. The migration to the new WMO website will entail a massive additional need for translation of all the pages in six languages. This will be a recurrent activity for the WMO Secretariat, as the new website should be dynamic, thus regularly generating large quantities of texts that must be translated and posted immediately. Without additional funding, the WMO website would be updated in English only, thus leaving a great number of WMO Members and external audience without access to the relevant information in the other five WMO official languages. This may reorient readers towards other, non-authoritative websites.

188. The production of additional new publications will require increased temporary assistance for editing and layout in all six languages, because of the small size of in-house teams in the WMO Secretariat and the demand to work simultaneously on several publications. In view of the approved policy of producing e-publications, WMO will have to invest additional resources in its development and implementation so as to acquire the new expertise and tools. This will enable WMO to provide new types of publications with interactive and dynamic content, particularly appreciated for education and training activities.

189. Leases for print shop equipment and consumables necessitate additional investment for keeping up with the trends in technology development. These result in easier on-demand production of publications and other materials. Annual fees for the e-payment of purchased publications need to be funded from the investment. They have become a necessary working online tool in the multilingual production. A new database for the management of sales and subscriptions needs to be developed as with the transition to Windows 7 and MSWord 2013 the old database became obsolete and unusable. Outsourcing of design and layout of an increased number of high-profile publications will result in savings that can be used for the reinforcement of core activities of translation and editing of publications. Acquisition of a cloud-based publishing software will be necessary for efficient production of publications in all languages and in all required formats. This will enable Members to easily access publications in different formats, such as HTML on the web, e-publications or in printable form.

190. Additional investment for externalized conference services such as web-streaming in different languages is required for an even more efficient running of WMO meetings and for the proper management of the WMO Conference Centre. This will enable Members to follow events in real time on the WMO website, even when they are not able to physically attend them. Additional funds for maintaining the newly installed equipment will also ensure a sustainable management of the WMO Conference Centre through increased life-cycle of facilities while keeping up with the technological development.

Investment Measures: Support budgets apportioned to Expected Results (CHF 5,922,600)

Table 14: Summary of Investment Measures: Support budgets
(in thousands of Swiss francs)

INVESTMENT MEASURES - SUPPORT BUDGETS	INVESTMENTS (CHF)
Unforeseen actuarial penalties enforced by the United Nations Joint Staff Pension Fund	200,000
Maintenance of the WMO Headquarters building	4,173,000
IT projects	886,100
Mediation and staff training	342,500
United Nations system-wide administrative cooperation costs and other administrative costs	321,000
Total	**5,922,600**

Unforeseen actuarial penalties enforced by the United Nations Joint Staff Pension Fund: CHF 200,000

191. The United Nations Joint Staff Pension Fund (UNJSPF) held consultations with the Staff Pension Committees (SPC) and SPC Secretaries of its member organizations with the view to update the SPC Terms of Reference (ToR). The UNJSPF Secretariat requested the United Nations Pension Board to approve the revised ToR, which would be promulgated as part of the Fund's Rules of Procedures. The Board discussed this topic extensively and in particular the widespread concern of the SPC Secretaries. The SPC Secretaries requested the Fund's secretariat to revise paragraph 7 of the ToR and Administrative Rule B.3 of the Fund's Rules of procedure, which in its existing form would significantly expose their respective organizations to actuarial penalties. The Board revised paragraph 7 of the ToR as requested by the SPC Secretaries and approved the revised Terms of Reference for the Staff Pension Committees (SPCs) and SPC Secretaries.

192. Paragraph 7 of the ToR stipulates: To the extent that any retroactive participation, recognition of additional contributory service in the Fund, or other change to the reported data relating to a participant or his/her dependents may constitute an additional liability for the Pension Fund, there will be an additional cost to the Fund; Furthermore, where there is a failure (omission or mistake) to report correct data that is attributable to the member organization and where the cost of this liability is identifiable, specific and actuarially quantifiable, it shall have to be paid to the Fund, before any related and ensuing change in a UNJSPF benefit could be certified for payment.

193. To avoid possible unexpected financial hardship for the WMO, provisions in the amount of CHF 200,000 for unforeseen actuarial penalties have been incorporated into the budget.

Maintenance of the WMO headquarters building: CHF 4,173,000

194. Relevant building maintenance standards (e.g. ISO/DIS 15686-5) recommend that an amount of 1.9% of the building replacement value is invested annually in the maintenance of the building. In the case of the WMO, the application of this standard requires an annual investment of ca. CHF 2 million. Due to budget constraints, the WMO has invested so far an average of less than CHF 1 million per year since the completion of its building, thus accumulating a maintenance deficit in the order of CHF 15 million. The proposed increase of ca. CHF 1 million per year will allow to

comply with the quoted maintenance standard, without addressing the accumulated shortfall. In practice, the proposed investment will allow WMO to carry out not only the strict minimum level ordinary maintenance of the current headquarters building and IT infrastructure, but also to address building infrastructure lifecycle obsolescence and to cope with future technological developments of the infrastructure facilities, such as, replacement of elevators, heating/cooling & electrical systems). These investments are needed for the WMO to avoid deterioration of the building and related negative impact to the balance sheet of the Organization. Additional new investment is also required to address enhanced security needs (access control, fencing and electronic surveillance). The timely renovation will also allow WMO to keep the maintenance costs at an optimal level in a cost-efficient way. Efficient and up-to-date WMO infrastructure will facilitate programme implementation, resulting in improved efficiency.

IT projects: CHF 886,100

195. The proposed investment is required to address inadequacies, functionality, security and other risks inherent in the current WMO information technology infrastructure. In addition to stabilizing the enterprise IT environment the objective here will also be that of improved communication, focus and services provided to the WMO Member community. Key initiatives will include the consolidation, improved operation & governance of the WMO Internet / Extranet sites and the delivery of an organizational-wide document management solution (ECM). Efficient and up-to-date WMO IT infrastructure will facilitate programme implementation, resulting in improved efficiency. The requirements will be partly met through the increased operating expenses below.

Mediation and staff training: CHF 342,500

196. The proposed investment covers mediation and staff training services previously not properly budgeted for, with a view to strengthening the capacity development and good governance aimed at improving the service quality and service delivery of the Secretariat. The mediation service aims at mitigating conflict among Secretariat staff and the staff training will foster increased productivity of the Secretariat.

United Nations system-wide cooperation costs and other administrative costs: CHF 321,000

197. The United Nations system-wide coordination and cooperation are required to update the administrative practice and techniques of the WMO Secretariat to international standards through interaction with other United Nations system organizations and participation to meetings organized by CEB. Such coordination and cooperation will allow the WMO administration to improve its economy, efficiency and effectiveness in the areas of support services, such as IPSAS. Provisions for the coordination and cooperation were reduced arbitrarily in the 2012-2015 budget.

198. The proposed investment covers areas requiring adjustments to market price and others requiring adequate budget provisions to improve the service quality and service delivery. Due to the inadequate reduction in the budgetary provisions for 2012-2015, sufficient resources are not included to cover the cost of Willis insurance and malicious act insurance, fees for electronic payment, maintenance of human resources management software, and for Fitch Ratings services. The insurance premiums are expected to increase. Other provisions will be needed to fully meet the requirements for staff compensation in case of injuries or death, support for the Staff Association and post classification consultancy services, and office support. Additional resources will be used to reinstate the provisions for these requirements to an adequate level.

III. PROPOSED PROGRAMME ACTIVITIES FOR 2016-2019 BY EXPECTED RESULT

Expected Result 1: Improved service quality and service delivery
Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate, water and related environmental predictions, information, warnings and services in response to users' needs and to enable their use in decision-making by relevant societal sectors

Applications of Meteorology Programme

199. WMO will enhance cross-programme / cross-Commission activities to identify those with shared priorities and objectives, as well as common targets / users of meteorological services for various sectors. Results from rigorous analyses on common activities will be the basis of establishing new working mechanisms to maximize synergies and to avoid duplications among different programme activities. To help achieve this, WMO will initiate regular consultations among programmes and technical commissions, to discuss common user requirements and associated work plans as well as to develop future strategies and cross-sectional activities. Efforts to support Members in establishing end-to-end service delivery systems and multi-hazard early warning systems will be extended to cover meteorological (weather and climate) services in a seamless approach. In addition, service delivery applications (such as aeronautical, marine, and public weather services) will assess the requirements, including those for strengthening Basic Systems, and address aviation, marine and road transportation. Quality management principles will guide the implementation of all Service Delivery areas. A new focus will be placed on "integration" and "extension of the emergency programme and emergency assistance to NMHSs", and "seamless service delivery".

Aeronautical Meteorology Programme, Quality Management Framework

200. AeMP will continue implementation support to Members for establishment and maintenance of quality management systems and competence assessment of aeronautical meteorological personnel (AMP) (2016-2017). The new WMO standard on required qualifications for AMP will come into force in December 2016 and respective implementation guidance will need to be provided to Members. Access to web-based training material to help Members meet AMP competency and qualifications standards and to prepare a draft implementation Guide to supplement the provisions in the WMO Technical Regulations (WMO-No. 49) will be enhanced. WMO will play an important role in the planned Aviation System Block Upgrade (ASBU) by ICAO (with horizon 2028 and beyond) through development and staged operational implementation of meteorological support to Air Traffic Management systems, focusing on scientific and technical aspects. Planned enhancements of aeronautical meteorological services will take place during the first stage of Block Upgrades between now and 2018. WMO will support the transition to new Weather Exchange Models based on XML/GML in cooperation with ICAO and assist Members in this process through a collaborative process between CAeM and CBS. The programme activities will be at a main implementation phase, and it is therefore expected to receive requests for guidance and implementation support from many Members, including regional awareness events.

201. WMO will continue the cooperation with ICAO and IUGG to improve the International Airways Volcano Watch by harmonizing best practices, developing regional service models and coordinating observing networks. Guidance materials will be developed and will provide targeted assistance to Members contributing to regional service delivery systems focusing on governance and cost recovery aspects. Programme activities will be intensified to enhance SIGMET services, and services in support to Air Traffic Management. There will be a need for close cooperation with ICAO structures to achieve the planned restructuring of the regulatory material (Standards,

Recommended Practices and Procedures) for meteorological services to civil aviation. WMO, in cooperation with ICAO, will conduct a review of the Working Arrangements between the two Organizations, included in WMO-No. 60.

202. Targeted support will be required to WMO programmatic areas in establishing Quality Management System, implementation guidance and documentation. New activity will be implemented in support of QMS Focal points of Technical Commissions and EC WG/Expert Teams, GFCS. A cross-cutting subsidiary body on QMS Implementation will need to be re-established with broad scope and responsibility, based on cooperation with nominated focal points, and a new activity will be implemented in support of organization-wide Quality focus.

Marine Meteorology and Oceanography Programme

203. JCOMM priority, Strategy, Operating Plan and intersessional workplan will be adopted through the regular session (JCOMM-5). Training will be conducted on marine forecasting. Regular sessions of JCOMM; JCOMM Management Committee meetings and nine JCOMM Expert Team meetings on priority issues will be organized. WMO will organize four meetings to coordinate implementation of the Coastal Inundation Forecasting Demonstration Project (CIFDP), four joint-programme meetings on cross-sectional services, two meetings on marine service competence requirements, and related production/development, and two training workshops on marine forecasting. Support will be provided for the JCOMM co-presidents. As a result, the required budget for this part increased to realize new initiatives. Meanwhile, the overall budget will be efficiently managed through suppressing duplicated activities within the department and among programmes.

204. Advisory services will be provided for national implementation of CIFDP User Requirements Plan (URP), and training will be conducted on competence requirements for marine services. A new strategy will be prepared on improved global coordination of metocean services for marine environmental emergency responses.

Public Weather Services Programme

205. WMO will focus on the implementation of the Organization-wide WMO Strategy for Service Delivery that serves as a foundation for improving services provided by Members' NMHSs. Using this tool, Members will be assisted in the delivery of comprehensive meteorological and related environmental services, with a particular emphasis on public safety and welfare.

206. The goals of these major areas will be achieved through the work of the CBS expert teams. The expected outcomes will be to enhance the capabilities of NMHSs for the following purposes: (i) to have improved media, communication and public outreach skills; (ii) to keep abreast of innovations and improvements in techniques and technologies for service delivery; establishment of socioeconomic benefits operational platforms; and (iii) delivery of warnings to remote and rural areas. There will also be emphasis on the organization of training on the role of the future forecaster in the interpretation, communication and delivery of warnings and forecast services: The 'last mile' delivery of warnings to the end-users through the wide implementation of CAP standard, made possible by the CAP Jump Start initiative; and country-level missions to support the implementation of activities, will form the broad elements of the implementation of the PWS Programme.

207. Focus will be put on up-scaling existing pilot and demonstration projects, new activities such as demonstration projects and training seminars to assist Members in the delivery of the expected short-, medium- and long-term results as described in the Implementation Plan of the WMO Strategy for Service Delivery. Similar activities will be implemented to help Members with the application of methodologies for socioeconomic benefits assessments. A major new activity will be

in the development of impact-based decision support tools and transfer of this knowledge to NMHSs.

Tropical Cyclone Programme

208. Regional Tropical Cyclone Committees will play the key role in the institutional arrangements for improvement and establishment of the national and regionally coordinated forecasting/warning systems with multi-hazard approaches. The Committees' annual/biennial sessions also serve as venues for monitoring and sharing information on outcomes of the WMO's cross-cutting projects with particular relevance to tropical cyclones. Sessions will be streamlined through prioritization of agenda and relevant working groups of the respective regional associations.

209. From global perspectives, coordination and standardization of tropical cyclone forecasting have been pursued by the RSMCs/TCWCs Technical Coordination Meeting (TCM). These will be driven primarily by RSMCs and TCWCs, and will focus on: (i) homogenization/ coordination of regional tropical cyclone warning services; (ii) development of linkage with stakeholders; and (iii) increase of the public awareness of WMO's global tropical cyclone warning system. Major outcomes should be to materialize the standardization in various operational procedures, and establish better communication and coordination with users, in particular.

210. Technical support to operational tropical cyclone forecasting will be consolidated through: (i) reinforcement of the two new websites of TCP-WMO Tropical Cyclone Forecaster website (TCFW) and the website for WMO Global Guide to Tropical Cyclone Forecast; (ii) cooperation between operational forecasters and researchers on tropical cyclones to facilitate more effective R&D activities and timely application of their outcomes to operational tropical cyclone forecasting; and (iii) development of tropical cyclone competencies by the regional Tropical Cyclone Committees to improve the services provided by NMHSs, and to make the best use of the limited education and training resources.

Agricultural Meteorology

211. The Agricultural Meteorology Programme will focus on assisting NMHSs in the provision of improved agrometeorological services for the agricultural community. There will also be more interactions with UN partner agencies with regards to GFCS and Integrated Drought Management Programme (IDMP). Guidance material will be updated and new guidance material on recommended processes and procedures for user interactions and development, operational use and dissemination of agrometeorological products will be developed. The Next Generation of the WAMIS project will be underway and there will be a focus on working with Members to put more agrometeorological data and products on the WIS. The seventeenth financial period will see implementation of the change in the structure of the Commission for Agricultural Meteorology (CAgM) based on the decisions of CAgM-16 in April 2014. There are 4 major focus areas (Open Panels of CAgM Experts): (i) Operational Agricultural Meteorology; (ii) Science and Technology for Agricultural Meteorology; (iii) Natural Hazards and Climate/Variability Change in Agriculture; and (iv) Capacity Development in Agricultural Meteorology. Outside of the CAgM workplan, there will be no major changes except for an increased emphasis on capacity development including more funds for roving seminars, support to NMHS participants to training courses, especially in RTCs and interaction with other WMO and partner-based capacity development initiatives.

212. The major change will be the restructuring of CAgM with one additional focus area on Capacity Development, facilitating increased emphasis on this key requirement.

Expected Result 2: Reduced Disaster Risk
Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements

Applications of Meteorology Programme

213. A strategic focus for the WDS in 2016-2019 will be on further integration of disaster risk reduction activities into the various service delivery applications (such as aeronautical, marine, and public weather services) and supporting programmes such as the GDPFS. It will also focus on further developing and extending the emergency response capability to address: (i) weather, climate, water and environmental hazards in support of WMO Members, other international organizations and humanitarian agencies; (ii) severe weather and impact-based forecast to meet the requirements for risk-based warnings and multi-hazard EWS (integration and seamless approach); and (iii) integrated urban weather and climate service (integration and seamless approach). A new focus will be placed on "integration", "extension of the emergency programme and emergency assistance to NMHSs", and "seamless service delivery".

WMO Disaster Risk Reduction Programme

214. WMO will complete the development and delivery of a comprehensive set of guidelines, recommended practices and standards on Meteorological, Hydrological and Climate Services for: (i) Hazard Definition, Monitoring, Detection, databases and mapping and analysis techniques; (ii) Governance, Institutional and Operational Aspects of Multi-Hazard Early Warning Systems and support for pre-, during- and post-events; and (iii) requirements to support Disaster Risk Financing and Insurance Markets. This work, initiated in 2013, will be completed in 2016-2019 and will account for cross-cutting activities which will be a contribution to the further implementation of the GFCS.

215. WMO will implement Integrated DRR and Adaptation Projects with National Capacity Development and Regional Cooperation components. These Integrated Projects will focus on policy and institutional aspects, and will establish synergies with other relevant WMO initiatives, projects and activities.

216. WMO will further strengthen the cooperation of NMHS with DRR community (particularly engagement with socioeconomic sectors both in the public and private sectors domains) at the national and regional levels, through facilitation of national policy forums, regional workshops, etc. This work engages close cooperation with regional associations and Members. This involves missions and facilitation of and/or participation in national and regional DRR policy forums and workshops.

217. WMO will service the International Strategy for Disaster Risk Reduction System (UN-ISDR) and the UNFCCC at the global and regional levels in areas such as loss and damage, Global Risk Assessment Report, expansion of WMO/CRED Atlas on Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes, and servicing the Global Platform on DRR, Post HFA2, and other relevant mechanisms. This is a critical aspect of WMO engagement in the international system of UNISDR.

Marine Meteorology and Oceanography Programme

218. The Coastal Inundation Forecasting Demonstration Project has shown how integrated coastal inundation forecasting and warnings can be improved and effectively coordinated by the National Meteorological and Hydrological Services (NMHSs) supported by technical commissions, especially CHy and JCOMM. Five national sub-projects of CIFDP will be implemented, and will conduct training for national forecasters and operators in five CIFDP-implementing countries on an integrated operational coastal inundation forecasting. Successful Demonstration projects will be up scaled and introduced in different parts of the world.

Public Weather Services Programme

219. The expected outcomes will be to enhance the capabilities of NMHSs for the following purposes: (i) to produce impact-based forecasts and warnings of meteorological and hydrological hazards; (ii) to provide services in urban areas and megacities; and (iii) provide operational meteorological assistance to the work of humanitarian agencies and this will require the translation of climate and weather information into user friendly language, easily understandable by the those agencies. This is a new area of work for PWS in 2016-2019.

Tropical Cyclone Programme

220. Since EC-LX recommended the development of a Storm Surge Watch Scheme (SSWS), regional advisory arrangement for storm surges have been initiated by the regional Tropical Cyclone Committees with the joint support of TCP and JCOMM. WMO will organize storm surge workshops and trainings with a view to the establishment and further enhancement of the SSWSs in all the five Tropical Cyclone Committees as requested by EC-65. Linkage with CIFDP will be strengthened in terms of more effective implementation of SSWS as well as its support to CIFDP.

221. For a contribution to the implementation of regional multi-hazard early warning systems, WMO will enhance the cooperative relationship between the regional Tropical Cyclone Committees and the pertinent UNESCO/IOC regional tsunami working groups including those of ICGs for the SW Pacific, the Caribbean and Western Atlantic Regions, and the Indian Ocean, as part of WMO's support for the regional coordination of the Tropical Cyclone Committees.

World Weather Watch Programme/Emergency Response Activities

222. A strategic focus for the WWW/ERA programme, in coordination with the WWW/ GDPFS, in 2016-2019 will be on further development and extension of the emergency response capability to address weather, climate, water and environmental hazards in support of WMO Members, other international organizations and humanitarian agencies. The designated RSMCs with Activity Specialization in Environmental Emergency Response Activities will be maintained and operationally prepared to provide atmospheric transport and dispersion modelling products for nuclear environmental emergency response and/or backtracking, and will develop new products and services based on the users' requirements. Standard procedures (including products and services) for the provision of non-nuclear environmental emergency response will be developed and implemented.

223. Global, regional and national arrangements in support of a wide-range of emergencies will be prepared and/or further developed in support of WMO Members and humanitarian agencies, which would be part of the standard procedures in the *Manual on the GDPFS* (WMO-No. 485). These major areas of activity will be achieved through the work of the CBS OPAG on DPFS expert

teams (some jointly with other WMO Technical Commissions and Programmes). This is a new area of work for the WWW/ERA and WWW/GDPFS in 2016-2019.

Hydrological Forecasting and Water Resources Management (Programme on Hydrological Forecasting and Water Resources Management), WMO Disaster Risk Reduction Programme

224. During 2016-2019, the focus will be on the continuing implementation and showcasing of pilot projects to demonstrate that, through increased cooperation and dialogue between NMSs and NHSs, hydrological forecasting capabilities can be greatly enhanced, ranging from short-term forecasts to the development of hydrological outlooks at seasonal to interannual timescales. The HelpDesk for Integrated Flood Management (IFM HelpDesk), a facility that is providing guidance on flood management policy, strategy, and institutional development related to flood issues to countries that want to adopt the Integrated Flood Management (IFM) concept, will be maintained in line with the requirements of the Members, guided by the APFM Management Committee. Also, the recently established Flood Forecasting Initiative Advisory Group (FFI-AG) will provide guidance and advice on the future directions of these initiatives. A similar integrated approach to deal with meteorological, hydrological and agricultural aspects of droughts jointly by AgMP, HWRP and WCASP has been developed and will assist WMO in delivering on the outcomes of the High Level Meeting on National Drought Policy.

225. From a flood forecasting and warning perspective there will be limited change from 2012-2015, but the resources dedicated to projects to assist countries in implementing improved operational flood forecasting and early warning systems will be increased. A major change will be with respect to the development of seasonal to interannual timescales, targeted to meet the needs of Members. The establishment of the Integrated Drought Management Programme will be informed by the successes of the APFM in the establishment of a HelpDesk and the delivery of tools in support of IDM. There will be further review, evaluation and adoption of improved global scale forecasting capabilities into the provision of flood related hydrological services.

Expected Result 3: Improved Data Processing, Modelling and Forecasting
Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support, in particular, reduced disaster risk and climate impact and adaptation strategies

Applications of Meteorology Programme

226. A strategic focus for 2016-2019 is to enhance and strengthen the capacity of WMO operational centres in their operational data-processing and forecasting systems, which are required to provide the essential technical support to meet the ongoing and emerging requirements from the services-application programmes (i.e. the Applications of Meteorology Programme), such as aeronautical, marine, agriculture, health, and public weather services; as well as requirements from a wide-range of meteorological-related emergencies, or from implementing disaster mitigation strategies (in a seamless approach) related to weather, water, climate and environmental hazards. To achieve these results, efforts and resources will be deployed to reinforce the forecasting system, the WMO core business, and make it more agile and adaptable to respond to emerging needs, including environment-related predictions. It will also address the use and propagation of NWP/EPS into High-Impact Weather (HIW) forecasting and hazard risk management, and the transition of post-THORPEX and other research results (i.e. Polar Prediction, Sub-seasonal to Seasonal Prediction, High-Impact Weather, Sand and Dust Storm) into operations.

Marine Meteorology and Oceanography Programme

227. As a joint effort by JCOMM and CAgM, WMO will issue a synthesis report on the impact/importance of climate information and status of fish stock, a web-based catalogue on climate, weather and fisheries information (New), and a guidance material for integrated services for coastal inundation forecasting and warning.

World Weather Watch Programme/Global Data-Processing and Forecasting System

228. A strategic focus for the WWW/GDPFS programme in 2016-2019 will be on further development and global extension of the data-processing and forecasting systems (DPFS) of WMO Members, covering all time-scales from the very short-range to seasonal forecasting, in a seamless fashion, in support to emergency planning, preparedness and response; tailoring products and services for various service delivery applications/economic sectors (such as the general public, agriculture, aviation and marine transportation, etc.); and on the transition of post-THORPEX and other research results (i.e. Polar Prediction, Sub-seasonal to Seasonal Prediction, High-Impact Weather, Sand and Dust Storm) into operations (this links to ER 5).

229. Specific aims include: (i) sustain and enhance quality and reliability of existing operational services with the latest science developments and findings (best science and technology available); (ii) make core set of high quality NWP Products (including EPS) accessible to all NMHSs; (iii) consolidate SWFDP into global sustainable support by WMO operational centres; (iv) increased usage of NWP in applications of meteorology (e.g. flash floods, coastal flooding aviation, marine, agriculture and health) including usage by partner organizations and humanitarian agencies; (v) make dynamical sub-seasonal (monthly) and seasonal products well understood by Members and integrated in their production systems and services, and informing adaptation to climate variability and change and informing decisions related to water, health, agriculture and food security and disaster risk reduction; (vi) assist Members in the implementation of impact-based forecasting and risk-based warnings procedures/techniques, in collaboration with PWS; (vii) use

and interpretation of blending remote-sensing data and NWP products for very short-range forecasting, including nowcasting, in support of the Aeronautical Meteorology Programme and multi-hazard Early Warning Systems (EWS); (viii) use and propagation of NWP/EPS into High-Impact Weather (HIW) forecasting, including tropical cyclone forecasting, and hazard risk management; and (ix) establish a Quality Management Framework for maintenance and sustainability of the WWW/GDPFS (this links to ER 1 and ER 2).

230. These major areas of activity will be achieved through the work of the CBS OPAG on DPFS expert teams (some jointly with other technical commissions and programmes), who have recently being restructure to further address the evolving requirements expressed by WMO Members for expanding the WMO's Global Data-processing and Forecasting System (GDPFS). The activities in these areas will span across all technical commissions, and will contribute to the four strategic priorities. Focus will be put on new activities to extend the range of targeted application of the WWW/GDPFS, including the SWFDP, to broaden the benefits to other user sectors in society, and to consolidate SWFDP into global sustainable operations (i.e. strengthen/sustain WMO operational centres world-wide). This will be done through development of guidelines, demonstration projects, and training to assist Members in using the best science and technology available in their decision-making processes. This means the forecast system will need to embrace seamless data processing and forecasting approach in addition of being able to accommodate new science results, including environment related predictions, for efficient response to emerging needs and to improve the quality of service (link to ER 1).

Basic Systems in Hydrology (Programme on Basic Systems in Hydrology)

231. WMO will focus on assisting NHSs in the development and maintenance of their activities for the provision of data and products with an emphasis on implementing a Quality Management Framework-Hydrology (QMF-H) approach. The effective use of hydrological data and information in support of sustainable socioeconomic development will be promoted through linkages with GFCS observational requirements. The World Hydrological Cycle Observing System (WHYCOS) project will continue to be promoted focusing on the use of the hydrological data collected to meet specified purposes and the development of related hydrological products and services. The seventeenth financial period will see an increased emphasis on the application of uncertainty analysis techniques in the evaluation of streamflow/discharge measurement. Building on the guidance material and other information prepared during 2012-2015, NHSs will be given the tools and capabilities necessary to establish and provide improved hydrological information systems, including improved data exchange capabilities.

232. With the QMF-H now well established and accepted, WMO will build on the required guidance and tools to established improved quality assurance systems in the NHSs. The emphasis will move from defining the QMF-H to actual implementation through case studies and guidance material. The adoption of WaterML2 as an international standard will be finalized, subject to agreement and support by the NHSs. HYCOS projects will have more targeted deliverables, based on the data needs and requirements of the relevant regions or basins.

Capacity development in Hydrology and Water Resources Management (Programme on Capacity development in Hydrology and Water Resources Management)

233. WMO will continue to facilitate the development and operation of NHSs including staff education and training, increased public awareness of the importance of hydrological activities, and provision of support through technical cooperation activities. Guidance material to assist NHSs in implementing institutional improvements, to build their capacity to assess the economic and social benefits of the services they provide and to plan, organize and operate their activities will continue to be developed in line with the QMF-H and to meet the needs of the BSH and HFWRM. The

implementation of training events by the various regional WHYCOS components will also be used to enhance NHSs staff skills and strengthen cooperation among countries in the field of operational hydrology. Increasing use will be made of e-learning facilities and relationship with key providers of such capabilities will be promoted. The establishment of communities of practice will be pursued to provide the WMO hydrological community the possibility to share resources and experiences in areas that are fundamental pillars of its work.

Hydrology and Water Resources Programme/Programme on Hydrological Forecasting and Water Resources Management), Global Framework for Climate Services

234. The HWR will continue to provide a conduit to the operational hydrology and water sectors for the implementation of the GFCS. In particular, the areas of integrated flood management and integrated drought management will be a major focus over 2016-2019 as the Associated Programme on Flood Management and the Integrated Drought Management Programme are rolled out through their Help Desk capabilities. The impacts of climate change on the water sector will also become increasingly important at the region and river basin levels.

235. Closer relationships with the Regional Association Working Groups on Climate and Water have been built into the HWR activities to ensure that improvements to regional modelling and prediction and climate change scenarios can be more fully understood at the regional and river basin level.

World Climate Programme/World Climate Services Programme

236. The activities to be covered will be the relevant aspects of the World Climate Services Programme (WCSP), a new sub-programme in the revised structure of WCP approved by Cg-XVI, and some joint activities with the AgM and HWR Programmes. These activities will be guided by the decisions of Cg-17 and the relevant elements of the GFCS, and also the new working structure of CCl adopted by CCl-16 (2014) to better support WMO's role in the GFCS and its Implementation Plan. Inter-commission activities, particularly between CCl, CBS, CHy and CAgM, will be strengthened to develop and implement formal mechanisms for operational aspects of climate services. Relationships with WCRP on climate prediction and projection will be enhanced, particularly in the context of regionalization of climate information. A new structure for CCl, adopted in 2014, consists of five Open Panels of CCl Experts (OPACEs), more comprehensively addressing the key contributions of WMO to the GFCS.

237. As part of the overall coordination of the different components of the revised structure for WCP, interaction will be pursued with the Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA), being implemented by UNEP and included as a new component of WCP. Preparations for WMO participation in SBSTA, SBI and COP meetings of UNFCCC will be supported. WMO contributions to meet the requirements of other UN agencies and international organizations will be supported on climate science, adaptation and service delivery, as appropriate. WCP will also continue to contribute to UN CC:Learn, which is serving as a coherent UN system knowledge base to education and training of climate change science. The coordination of the various components of WCP, including through external partners, is to be explicitly addressed. WMO will also sustain and enhance its role in the climate-related activities in the UN system.

World Climate Services Programme/Global Framework for Climate Services

238. The former CLIPS projects will be integrated into GFCS implementation activities, particularly in the CSIS, UIP and Capacity Development pillars. Closer interaction will be pursued with the water and agricultural user communities through the NMHSs and other CSIS and UIP

entities, with greater focus on the production of user-targeted products for Climate Risk Management (CRM) and adaptation. Outreach into other development sectors will be largely undertaken in collaboration with external partners (e.g. with World Health Organization on climate and health aspects, with UN-Energy and the International Renewable Energy Agency (IRENA) on climate services for the renewable energy community, etc.). The activities will help provide guidance, manuals and toolkits to facilitate a regular and effective flow of climate information from global to national scales, through a GPC-RCC-RCOF-NMHS architecture that is central to the CSIS pillar of the GFCS. This structure, some of which currently exists, will be strengthened, expanded and enhanced worldwide. Operational development of global consensus products on climate monitoring and prediction will be taken up through expert assessments. This will be complemented with an enhanced capacity at the national level to produce and disseminate such products targeted to user needs for example through National Climate Outlook Forums (NCOFs) and Sectoral Outlook Forums, etc.

239. Guidance materials on best practices in the use of climate information will be developed for climate risk management and adaptation, including through the development of user-targeted products. Particular emphasis will be placed on enabling a better understanding of the impacts of climate variability and change on agriculture and water resources within the countries, through enhanced capacity at the national level to produce and disseminate products targeted to user needs that support climate risk management and adaptation. Efforts will continue to provide guidelines for the mitigation measures and adaptation strategies for agriculture, forestry and fisheries to cope with climate change in different regions. Sector-specific indices and tools for their computation have been developed, but their wider application needs to be pursued in all the regions and in collaboration with user communities.

240. The principal contribution of WMO to enhancing Members' capabilities to produce better information, predictions and warnings is the coordination of the Global Data-processing and Forecasting System (GDPFS). The overarching objective of the GDPFS is to prepare and make available to Members meteorological analyses and forecast products in the most cost-effective manner. GDPFS is largely maintained by the CBS, but aspects relevant to climate, particularly on the implementation of the CSIS, are jointly coordinated by the CCl and the CBS under the WCSP. Formal CSIS mechanisms will be defined and standardized using the GDPFS approach, along with the development of a CSIS Technical Reference Manual, and building on the experience with RCCs gained in the sixteenth financial period.

Agricultural Meteorology Programme

241. The major change for 2016-2019 is the establishment of the Integrated Drought Management Programme (IDMP) in 2013. The IDMP is joint programme with WMO and the Global Water Partnership (GWP). The Drought HelpDesk will have been established in 2014 and 2015 and there will be a need to further refine it during 2016-2019. While most of the funding for IDMP will be through extrabudgetary resources, there will be a need for WMO to support travel of staff and the production of publications. WMO will also organize meetings on the drought indices and other technical aspects of drought that would contribute to the work of IDMP. As IDMP is a newly established programme, efforts will be needed for its further refinement.

Expected Result 4: Improved Observations and Data Exchange
Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable Earth- and space-based observation systems for weather, climate and hydrological observations, as well as related environmental and space weather observations, based on world standards set by WMO

WMO Integrated Global Observing System / World Weather Watch Programme / Global Observing System

242. In 2016-2019, WMO will ensure improved quality, coverage, sustainability, interoperability and practices of surface-based observations globally, including instruments and methods of observations. This will be achieved through the following main activities: (i) management of WIGOS Implementation, including the development of WIGOS regulatory material; (ii) collaboration with the WMO co-sponsored observing systems and international partner organizations and programmes; (iii) design, planning and optimized evolution of WIGOS component observing systems; (iv) Observing System Operation and Maintenance; (v) Quality Management; (vi) Standardization, System Interoperability and Data Compatibility; (vii) the WIGOS Operational Information Resource; (viii) Data Discovery, Delivery and Archival, including metadata; (ix) Capacity Development; and (x) Communication and Outreach. These activities will be implemented through the working mechanisms established by the respective technical commissions, namely, through the various expert teams of CAS, CBS, CIMO, JCOMM and CHy.

WMO Information System/World Weather Watch Programme / Global Telecommunication System

243. WMO Information System Implementation, Operation and Improvement: WIS includes GTS and extends it to all WMO Programmes by introducing more flexible ways of exchanging information and improving the usability for NMHSs and other communities. While continuing to underpin time and operationally critical aspects of the World Weather Watch and other WMO Programmes, WIS adds new functionality that is critical to achieving the aims of WMO's high priority activities, WIGOS, GFCS and Disaster Risk Reduction, as well as being a major focus area in capacity development for the operational and development aspects of all NMHS. While the recent financial periods have focused on the development of the WIS concept and its implementation, the seventeenth financial period will concentrate on capacity development and the operational support and maintenance of WIS, consolidating its implementation in all Members, so that they can achieve the benefits offered by WIS, and extending the reach and capabilities of WIS, so it provides the evolving needs of all WMO priority areas.

244. Networks: GTS will continue to evolve as the core network of WIS and as a dedicated highly reliable network for time and operationally critical information that supports NMHSs core and priority functions. New technologies such as the latest Internet Protocol (IPv6) need to be explored and associated practices and procedures developed along with the provision of appropriate guidance for Members. Further extension of the use of the Internet and advanced International Mobile Telecommunications (IMT) infrastructure need to be addressed, including better integration with communication systems connecting to users and within national networks ensuring long term sustainable, secure and cost effective communications infrastructure connecting WMO Members.

245. Capabilities of centres: A priority activity for WIS in 2016-2019 is ensuring the efficient and effective implementation of WIS functionality in existing centres, including ensuring all National Meteorological or Hydrological Centres' are equipped with the appropriate competencies to be able

to contribute to and benefit from WIS. Additional activity will be in assisting hydrology and climate programmes incorporation of national, regional and thematic data centres into WIS and facilitating their implementation of WIS functionality. A major activity will be the continued refinement of practices and procedures on existing WIS functions along with improved documentation as well as the exploration of functionalities associated with new participating communities and changing technologies.

246. Enhancing information sharing: The needs for information sharing change constantly. This activity ensures that WMO metadata and data representations evolve to meet these requirements. The previous financial period saw the end of development of the Traditional Alphanumeric Codes, consolidation of the Table Driven Code Forms (TDCF) and the introduction of a "logical model" approach to developing new data representations based on ISO standards and that was applied initially to supporting ICAO. Further development of the TDCF will be done to meet the needs for exchanging more complex data structures than in the past and to ensure that information can be converted between the TDCF and ISO-based representations. Development of additional representations based on the ISO standards will be supported in response to the needs of WMO priority activities.

247. Monitoring the effectiveness of WIS: The Manual on WIS requires centres to monitor the WIS. The requirements for this have been defined, but have largely been implemented at individual centres. Monitoring of the WIS as a whole will be implemented so that coordinated decisions can be made on the operational management and strategic evolution of the WIS. The monitoring will be extended to assimilate the monitoring at each centre into a summary monitoring of the WIS itself. In addition, assistance will be given to WMO priority activities to help them understand their data flows.

Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology/Marine Meteorology and Oceanography Programme

248. JCOMM and WMO have closely related, but different, requirements for managing and exchanging information. This activity coordinates the activities in data management between WMO and JCOMM in order to ensure consistency of data management between WMO and JCOMM. Responsibility within the Secretariat has been transferred to the WIS team to facilitate closer cooperation.

World Climate Programme/World Climate Service Programme

249. The development of high quality climate data sets, its management and improving provision and exchange of data products for monitoring climate change and related extreme events will be one of the focuses in contributing to the implementation of GFCS. New Technical References will be developed to guide Members on the CCl proposed High Quality Global Data Management Framework for Climate (HQ-GDMFC) to support the operational activities of the GFCS/CSIS. Capacity development on data analysis for assessing climate changes and related extremes will be further enhanced to support developing countries efforts to get full benefit from HQ-GDMFC. Climate Data activities in 2016-2019 will focus on building the technical aspects of the Data Requirements for the GFCS/CSIS, based on a new and modern concept for climate Data Management introduced by CCl in 2010.

World Weather Watch Programme/WMO Integrated Global Observing System

250. Radio Frequency Coordination: The seventeenth financial period will see the next WRC cycle (WRC-18) with some ongoing activities from the WRC-15 cycle and new challenges. The work of SG-RFC will continue to use the experience and practices that successfully addressed

WRC-12. Activities will include application of the RFC strategy presented to EC-65, in particular building the ability of NMHSs to participate in national and regional RFC activities.

251. Capacity development: Although the rigorous attention to the continuous threats to the spectrum essential for WMO activities, a major focus of the seventeenth financial period will be in improving the ability of NMHSs to participate in RFC activity. Updated guides and training opportunities, working closely with ITU-R and ITU-D in shared capacity development activities, especially in less developed countries and regions, and continuing to encourage Members to actively participate and safeguard radio frequencies critical to the WMO mission, starting at national level.

World Weather Watch Programme/Global Data-processing and Forecasting System

252. Observational data quality control/quality monitoring is an integral component of operational NWP systems, which are coordinated by the WWW/GDPFS. Numerical model skill has a high dependence on observational data quality. The WWW/GDPFS programme in the seventeenth financial period will update and enhance the procedures and practices associated with NWP observational data quality monitoring, contributing to an integrated approach to Quality Management across all WIGOS component networks (one of the four strategic priorities). This uses both assimilation QC and first guess comparison information for NWP observational data monitoring purposes. Specific aims include: (i) the expansion of the monitoring of surface-based systems to include the five basic parameters; (ii) surface pressure, air temperature, wind, humidity and precipitation; and (iii) the definition and implementation of a (near) real-time quality monitoring functionality for surface parameters.

253. In the context of the Rolling Review of Requirements (RRR), the WWW/GDPFS will further define and review observations requirements, and assess the gaps between user requirements and observing system capabilities, for four application areas: (i) global NWP; (ii) high-resolution NWP; (iii) nowcasting and very short-range forecasting; and (iv) seasonal to inter-annual forecasts. This activity also contributes to improving the Basic Systems to strengthen warning programmes. Procedures and practices associated with NWP observational data quality monitoring are described in the *Manual on the GDPFS* (WMO-No. 485) for upper-air sounding data and one basic surface parameter (i.e. surface pressure). Lead Centres for NWP observational data quality monitoring shall be compliant with the defined standard procedures, which are outdated (status at the sixteenth financial period). Specific aims for 2016-2019 include: update observational data monitoring procedures and further development of requirements and gap analysis for improving the Basic Systems to strengthen warning programmes, within the context of the Rolling Review of Requirements (RRR).

WMO Space Programme

254. WMO Space Programme pursues the objective to enhance and integrate the space-based observing system, to facilitate access to and use of satellite data and products, to provide information and training to satellite data users, and to contribute to coordination and integration of space weather activities for the benefit of WMO Members.

255. WMO Space Programme's major objectives for 2016-2019 will be the development of the space-based component of WIGOS, expanding its capability to address the requirements of emerging satellite user communities, including the support to GFCS observation and monitoring component and broad climate applications (through the architecture for climate monitoring from space), atmospheric composition (including air quality), to cryosphere, hydrological and space weather applications, while continuing its enhanced support to NWP, severe weather and marine forecasting; extending its horizon of the space-based WIGOS vision to 2040 taking into account

the major advances since the adoption of the current vision for 2025 and the emerging needs and issues, and to monitor its implementation and support its optimization through relevant activities; Evaluating and communicating the socioeconomic benefits is necessary to justify the significant, long-term investments in satellite systems in a context of financial constraints.

256. These activities are supported by three expert teams working together with relevant communities : (i) Expert Team on Satellite Systems (satellite agencies) and the Space Programme support to and partnership with the Coordination Group on Meteorological Satellites (CGMS) and Committee on Earth Observation Satellites (CEOS) for fostering WMO's role in the global coordination and integration of satellite plans and activities to support all WMO Programmes; (ii) Expert Team on Satellite Utilization and Products (users) working together with international science and application groups and the WMO-CGMS VLab training activity to promote new generation satellites data and products accessibility, quality and utilization to all WMO Members and Programmes; and (iii) Inter-Programme Coordination Team on Space Weather (space weather expertise centres). The WMO Space Programme also manages the Virtual Laboratory for Education and Training in Satellite Meteorology (Vlab) and supports the Polar Space Task Group (PSTG) of the WMO Global Cryosphere Watch. Together with WIS, the Space Programme will further promote satellite data accessibility in implementing an updated Integrated Global Data Dissemination Strategy (IGDDS) taking advantage of new information and communication technology, and responding to global and regional user requirements expressed by regional satellite user requirements teams and user surveys.

Applications of Meteorology Programme

257. WMO/WDS and its service delivery applications (such as aeronautical, marine, and public weather services) and supporting programmes (such as the GDPFS), in 2016-2019, will assess the requirements for strengthening Basic Systems (including observing and information systems) in order to support Members in establishing end-to-end service delivery systems and multi-hazard EWS, which will be extended to cover meteorological (weather and climate) services in a seamless approach. WMO/WDS will also focus its work on applying quality management principles, which will guide the implementation of all Service Delivery and Forecasting system areas. New focus will be placed on "integration", "extension of the emergency programme and emergency assistance to NMHSs", and "seamless service delivery".

Public Weather Services Programme

258. The 'last mile' delivery of warnings to the end-users is a core NMHS function and an important mechanism to achieve this will be through increased implementation of all-hazards, all-media warnings dissemination networks such as the Common Alerting Protocol (CAP) standard in all countries. The CAP Jump-Start initiative driven by the PWS Programme has enabled a number of countries to implement the use of CAP as part of their warning services and will be enhanced in 2016-2019.

Global Climate Observing System (GCOS)

259. GCOS will continue to report to its sponsors and to the UNFCCC on the adequacy of global observations for climate. GCOS will submit a new implementation plan to the Conference of the Parties (COP) and its Subsidiary Body for Scientific and Technological Advice (SBSTA), at the COP in Paris, France, in 2016. Building upon this plan, the the GCOS programme will establish requirements for observations needed for climate services. Hence, GCOS will broaden its range of expertise and, in synergy with the Global Framework for Climate Services (GFCS), include experts

for adaptation and mitigation, in particular with regard to climate impacts for the health, energy, and disaster risk and food sectors.

260. Implementation of the Essential Climate Variable (ECV) Concept: GCOS has successfully developed and implemented the concept of essential climate variables (ECV) and will continue with ECVs regular reviews to review ECV products for a diverse set of in-situ, airborne and remote sensing observing systems in 2016-2019.

261. GCOS is enabling the implementation of climate observations on a national/regional scale. GCOS will strengthen draft a strategic plan on how best to re-initiate its regional workshop programme to enable the implementation of climate observations on a national/regional scale through its Cooperation Mechanism, in pursuance of the UNFCCC decisions, and in close cooperation with the relevant implementation mechanism for the GFCS to engage national/regional focal points and coordinators.

262. GCOS will enhance implementation of the GCOS review outcomes and revised MoUs to strengthen the contribution of GCOS partners and co-sponsors including their share of resource contributions to the GCOS programme. The programme will increase its emphasis on outreach and visibility; underpinned by a communication strategy GCOS will develop a communication strategy with the objective to increase the outreach and visibility of the programme.

Expected Result 5: Advance Targeted Research
Enhanced capabilities of Members to contribute to and draw benefits from the global research capability for weather, climate, water and related environmental science and technology development

Weather, Climate and Water Research

263. WMO has a responsibility to ensure that all its Members benefits from advances in science, research and evolving measurement techniques and understanding related to atmospheric composition. Workshops, conferences and the exposure of scientists to key events are of fundamental importance to ensure that such exchange of science and research results occur. WWRP and GAW make a substantial contribution to the capacity development of Members through these activities.

264. Significant changes have taken place in recent years, including the role of GAW within WIGOS and WIS, the conclusion of THORPEX at the end of 2014 and the launch of GFCS. Research is a critical foundation to the Organization and its priorities, especially considering the current rapid socioeconomic and environmental changes. The requirements to be more responsive to user needs and to ensure that Members share and can take advantage of research results in their operational services have grown substantially.

265. In 2016-2019 focus shall be maintained on research as an enabler to the Strategic Priorities (the Global Framework for Climate Services (GFCS); WMO Integrated Observing System (WIGOS) coupled with operational WIS; Disaster Risk Reduction (DRR); and Capacity Development. The ER 5 addresses improvements in the prediction of weather, climate and related environmental phenomena, the use of such predictions, and observations and assessments of atmospheric composition and related parameters to inform policy and emerging atmospheric science-related matters of interest to Members. The Commission for Atmospheric Sciences (CAS) is the technical commission that contributes to the achievement of Expected Result 5 by providing advice on matters related to atmospheric sciences and through the activities of WWRP, GAW and collaborative research with the jointly funded WCRP.

266. The seventeenth session of the Commission for Atmospheric Sciences (CAS-17) is planned in the second half of 2017. CAS-17 will assess progress and identify how best to respond to Member needs and to identify how new technologies and emerging issues will shape the future work of the Commission. One such emerging issue is related to the needs for new and enhanced weather, climate and related environmental services in megacities and large urban complexes. More than half the global population now resides in the urban environment and the number will continue to grow. Another emerging issue is related to geoengineering, and preparing the WMO contribution and role in this regard in cooperation with WCRP. The ability to interact with other international and regional research related bodies and institutions in very important for the work of the Commission. During the intersessional period the CAS Management Group, which meets on an annual basis, guides the implementation of agreed CAS-related activities and ensures that the structures of the Commission can effectively carry out the activities.

267. The joint CAS-WCRP Working Group on Numerical Experimentation (WGNE) fosters cooperation between the weather and climate modelling communities regarding model development, addressing systematic errors, prediction verification and comparisons. The work of this working group is fundamental to the global modelling effort that supports both weather and

climate services and has a strategic role in building seamless modelling systems across all time scales of the Earth system.

268. The recognition and award for excellence in research, including for young scientists, is supported through the administration of a number of research awards. A growing number of joint research activities will be implemented between WWRP, WCRP and GAW in support of new and improved seamless services aligned to the WMO Strategic Priorities in 2016-2019. Stronger links with PWS will be established to ensure that mature research results have an effective path towards operatioal use. New activities on geoengineering will be introduced.

World Weather Research Programme (WWRP)

269. The World Weather Research Programme (WWRP) builds on the research momentum related to weather science achieved though THORPEX and maintains a special focus on extreme events and high impact weather, their prediction and the utilization of such predictions. In order to address the evolving needs of users, more emphasis will be placed on Earth-system prediction systems supported by new observations, data assimilation techniques, models and verification techniques. The cooperation with GAW and WCRP will be extended in order to develop seamless prediction systems in support of weather, climate, water and related environmental services across time scales, spatial scales and applications, as also required by the GFCS. The expertise required for these advances are arranged through the working groups (WGs) and expert teams (ETs) of the WWRP and applied to a number of international research project aligned to the needs of Members. In addition, WWRP will support new workshops, seminars and conferences aimed towards increased involvement of Members in the global research effort and towards sharing of best practices.

270. The WWRP activities encompass the following four main areas whose relevance has been highlighted by CAS: (i) data assimilation and observing systems; (ii) nowcasting and mesoscale meteorology research; (iii) forecast verification research and predictability; and (iv) dynamics and ensemble prediction. Moreover, CAS-16 reviewed the progress of the WWRP including THORPEX, and identified emerging research priorities, including the post THORPEX legacy projects and activities. These research activities are essential to the improvement of forecast systems from large-scale to local-scale and to support the development of downstream services. The WWRP has an essential role to play in coordinating the global research effort and thereby ensuring that Members benefit from global advances in weather science.

271. WWRP will focus on three major projects (sub-seasonal to seasonal prediction (in cooperation with WCRP), polar prediction and high impact weather) that are supported through voluntary contributions, and a number of smaller regional Research and Development Projects (RDPs) and Forecast Demonstration Projects (FDPs) addressing specific research needs and the demonstration of new capabilities within a regional/event-based context. The emerging service needs of the urban environment and improving the prediction of the water cycle have been identified as emerging challenges and a focus will be maintained on challenges in the activities of WWRP. Stronger links with SWFDP, TCP, PWS and DRR to ensure that mature research results have an effective path towards operational use aided by stronger interaction between researchers, forecasters and users.

Global Atmosphere Watch Programme (GAW)

272. The rationale for GAW is to understand the increasing influence of human activity on the global atmosphere, based on good-quality observations. The mandate of GAW covers issues of broad socioeconomic consequences. The main challenges are stratospheric ozone depletion and UV increase; weather and climate change from greenhouse gases, ozone and aerosols; air

pollution impacts on human health and ecosystems, and man-made changes in water quality, and food production. The GAW role provides for establishing scientific integrity before knowledge is transferred to services or operations.

273. The mission of GAW is to reduce environmental risks and support environmental conventions; strengthen prediction of climate, weather and air quality; and contribute to scientific assessments in support of environmental policy through global, long-term observations of atmospheric composition, while ensuring adequate quality assurance and quality control, and the delivery of user driven products and services.

274. GAW will provide "Science for service" by strengthening its disaster risk reduction focus; contributing to the Global Integrated Polar Prediction System (GIPPS), including the Global Cryosphere Watch; address megacities' environmental health; support the build-up of the Global Framework for Climate Services (GFCS), where GAW in conjunction with GCOS can provide the information required to carry out cost-effective mitigation measures of greenhouse gases and aerosols; contribute to the WMO Integrated Global Observing System (WIGOS) through the GAW observational network, and encourage the GAW World Data Centres to adapt to the WIS standards and structures as well as to WIGOS.

275. GAW will further develop user driven products for air quality, deposition, UV, dust including volcanic ash, climate, NWP including seasonal weather forecasts and marine input; strive towards "one chain" with research driven and operational observations, model development and application, and services; foster the core GAW activity which is to do good observations; facilitate policy actions to improve air quality and to address long-range transboundary transport of air pollution; and provide the technical underpinning for climate mitigation through existing and new global/regional alliances. The storage, search and retrieval mechanisms for observations, governed by metadata following international standards, are becoming an essential element in getting adequate payback from investments in observational systems. Research, required infrastructures, education, and institutional building are essential, with a fair distribution of tasks and responsibilities geographically and in terms of gender balance.

World Climate Research Programme (WCRP)

276. WCRP's contribution to Expected Result 5 in 2016-2019 will be made in the four main areas: (i) improving regional climate information; (ii) addressing high priority and emerging research priorities in climate science that are of high societal importance in support of GFCS; (iii) development of corresponding research capacity; and (iv) joint activities with WWRP and other WMO Programmes. WCRP will coordinate the implementation of the Research, Modelling and Prediction Annex to the GFCS Implementation Plan in 2016-2019. WCRP will also expand research into the development of practical applications in all four initial GFCS priority areas and strengthen validation and verification of resulting products in partnership with stakeholders and users through the GFCS User Interface and Climate Information pillars.

277. Through the Earth System Grid Federation, WCRP will continue to enable significantly greater access to the model output and observational products to all scientists in the world. Continued coordination of approaches used in the development of modelling and observations will facilitate the validation of models against datasets and will accelerate improvements in quality and skill of climate predictions and projections. Related enhanced improvements in data assimilation will help in producing more representatives and comprehensive reanalyses describing the state of the Earth's climate system. The improvement in prediction skill and assessments of climate products uncertainty will also greatly benefit from increased cooperation with the numerical weather prediction community. WCRP and the World Weather Research Programme will continue the development of the seamless prediction systems, largely with the help of the WCRP/CAS

Working Group on Numerical Experimentation and the Sub-seasonal to Seasonal (S2S) and Polar Prediction Projects (PPP).

278. Capitalizing on the success of the CMIP5 model experiment, WCRP will focus on facilitating the development of the next generation of experimental model predictions and projections for CMIP6. The Working Groups on Coupled Modelling (WGCM) and Seasonal to Interannual Prediction (WGSIP) will conduct a new generation of experiments on the range of time scales from weeks to years and from decades to centuries, including the CMIP6 model-based experiments. The Working Group on Regional Climate (WGRC) and the Coordinate Regional Downscaling (CORDEX) project will support regional climate research of prime importance for climate services and will significantly expand the number of regions of the world that are covered by improved regional climate models and derived products based on regional climate downscaling.

279. Based on current and planned regional research networks, including those that are affiliated with CORDEX and the WGRC, WCRP will implement an extensive programme of regional capacity development. It will include training of researchers from Africa, Asia, Latin America and other regions, engagement of early career scientists and post-graduate students. Its ultimate objective is to develop the next generation of climate scientists and specialists around the world in support of climate science and services.

280. The above advances will be possible only if there is progress on critical aspects of climate science. WCRP has captured the most pressing climate research priorities in the WCRP Grand Science Challenges (GCs). The four core WCRP projects: CliC, CLIVAR, GEWEX, and SPARC, as well as WGCM, will coordinate corresponding research activities during 2016-2019. The GC *"Regional Climate Information"* will address science issues related to generation of useful climate information for climate-reliant decisions and will serve as a cornerstone in the development of regional climate services. The GC *"Clouds, Circulation and Climate Sensitivity"* will improve understanding of the climate sensitivity to an increase in greenhouse gas concentrations, which is fundamental for strengthening consensus on the pressing need for effective international regime governing the climate change. The GC *"Cryosphere in Changing Climate"* will provide urgently needed improvements in our ability to observe, model and predict cryosphere-related changes in the climate system and will address critical science issues in the Polar Regions. The GC *"Attribution and Prediction of Climate Extremes"* will strengthen the theoretical and observational foundation for characterizing climate extremes and using the resulting knowledge and information for disaster risk reduction. The GC *"Water Availability"* will help to better understand and predict precipitation and water availability in support of water resource management. The GC *"Regional Sea Level"* will comprise studies of both global-mean sea level and its regional variations, enabling assessments of the future sea level and coastal zone protection and management.

281. New activities will be carried out in support of: (i) the coordination of Research, Modelling and Prediction activities for the Global Framework for Climate Services (GFCS), in cooperation with the GFCS Office and CLW Department; (ii) the development of corresponding research capacity, especially on regional and national level, in cooperation with the DRA Department and with a focus on Early Career Scientists; (iii) the coordination of research initiatives in partnership with the ARE Branch and joint activities with the WMO OBS and WDS Departments; and (iv) addressing the recently identified Grand Science Challenges.

Applications of Meteorology Programme/World Weather Watch Programme/Global Data-processing and Forecasting System

282. A strategic focus for the WDS and its WWW/GDPFS programme, in 2016-2019 will be on identification of the requirements for the operational systems (i.e. what is feasible to implement operationally) for the effective transition of post-THORPEX and other research results (i.e. Polar

Prediction, Sub-seasonal to Seasonal Prediction, High-Impact Weather, Sand and Dust Storm) into operations. These areas of activity will be achieved through the participation of the CBS OPAG on DPFS experts into the post-THORPEX and other research projects, and through joint CBS-CAS task teams.

Expected Result 6: Strengthened Capacity Development
Enhanced capabilities of Members' NMHSs, in particular, in developing and least developed countries and Small Island Developing States, to fulfil their mandates

283. The key Programmes associated to Expected Result 6 are the following: (i) Technical Cooperation Programme (TCOP); (ii) Regional Programme; (iii) Least Developed Countries Programme; and (iv) Education and Training Programme. Cg-17 will consider whether to rename the TCOP to a Capacity Development Programme as an umbrella or container for the Regional Programme, Least Developed Countries Programme, the Education and Training Programme and the Voluntary Contribution Programme (including resource mobilization and development partnership activities).

284. Capacity Development has been included within the high priority activities for the 2016–2019 financial period. Within the WMO community, capacity development activities are guided by the WMO Capacity Development Strategy (approved by EC-64) and its implementation plan (approved by EC-65). Many of the activities carried out by WMO under regular and extrabudgetary funding have capacity development aspects. The resources requested under Expected Result 6 for the 2016–2019 financial period relate to general capacity development activities with some specific capacity development actions identified in the other Expected Results.

285. The WMO Capacity Development Strategy identifies six key objectives, namely: (i) define required capacities and identify deficiencies; (ii) increase visibility and national ownership; (iii) optimize knowledge management; (iv) reinforce resource mobilization and project management; (v) strengthen global, regional and sub-regional mechanisms; and (vi) increase education and research opportunities.

Least Developed Country (LDC) Programme

286. The LDC Programme aims to enhance the capacities of the NMHSs of the LDCs including those which are Small Island Developing States. LDCs will be supported through a mix of staffing and specific activities. Each of the budget scenarios for the LDC Programme includes a dedicated staff post as well as mainstreaming LDC activities within the Secretariat and the WMO Offices in the field. In addition to the staffing support there are increasing levels of funding support for advocacy, coordination and participation in regional and other development opportunities under the three budget scenarios. Apart from the specific funds for LDC/SIDS-related activities under this programme, further support for LDCs comes through the other programmes, particularly the Education and Training Programme. The WMO Programme for the LDCs will support outcomes from the United Nations Istanbul Programme of Action for the LDCs for the decade 2011–2020 and to outcomes arising from the Third International Conference on SIDS in Samoa in September 2014. The activities under the LDC Programme will assist the LDC NMHSs to benefit from and contribute to each of the WMO High Priority areas.

Education and Training Programme

287. The main ETR activities for 2016-2019 will be similar to the current financial period. However, there will be a stronger focus on support for the high priority areas within: (i) fellowships; (ii) support for training activities run by the Technical Departments; (iii) support for training institutions and trainers; and (iv) support for human resource development and management training activities for the Member States.

288. The global coordination of training delivery will be enhanced with more emphasis put on providing basic training to a wider range of participants using distance learning methods. In many cases face-to-face training in advanced areas will use the distance learning events as a prerequisite. The training activities will build upon and support the knowledge and skill requirements in the competence frameworks being developed within the technical commissions. A major focus will be improving coordination and cooperation between training institutes, including Regional Training Centres, to increase the range and type of training options available to Members. These activities will also include development of a global portal for education and training courses and resources most likely based around WIS capabilities. Options to assist and enhance the accreditation of training institutes and certification of trainers will continue to be pursued as part of the ETRP contribution to those programmes requiring QMS compliance. In the area of fellowships further partnerships will be sought to complement the existing offers, and through increased cost-sharing allow the limited budget to offer more opportunities.

289. A broad range of Members and all of the WMO Technical Departments contribute to ETRP. ETR activities contribute to each of the WMO high priority areas. During the current financial period a number of the technical commissions have commenced development of personnel competencies. These competencies will be more mature in 2016-2019 and thus the training events and activities will need to address the underlying knowledge and skills identified in the competencies. In the area of aeronautical meteorology, this will mean that the training institutions will need to introduce assessment of their training courses. Training courses addressing the delivery of climate services will be required in all Regions and all languages in 2016-2019.

290. A review of WMO Regional Training Centres is currently underway. Recommendations from the review will be implemented in the 2016-2019 period. A number of the ongoing training activities have been revised to allow for possible outcomes from the review.

291. Two seminars on human resource development, for middle and senior level managers in NMHSs are planned for the 2016–2019 financial period from the regular budget. These two courses plus a range of face-to-face and online courses or study tours from Members will help address some of the requests for assistance in the development of new skills by new and current managers. The EC Panel of Experts on Education and Training is drafting a management capability framework based on good practices in a number of WMO Member countries. This draft capability framework will help guide the human resource development courses.

Regional Programme

292. The Regional Programme (RP) is a key WMO Programme as it interacts on a daily basis with all Members. The RP is a corner stone of the WMO Capacity Development Implementation Plan (CDIP). Explicit funding for advocacy and regional coordination missions has been introduced into this budget to reflect the needs of the Members for advice, advocacy and assistance. Many of the capacity development projects utilizing extrabudgetary funds are coordinated via the various Regional Offices. To provide the strongest support for Members full staffing of the Regional Offices has been maintained. A number of regional associations are examining options for relocating the Regional Offices to the Regions which could release further funds for regional activities. Cg-17 will consider revising the Terms of Reference for regional associations which will assist in clarifying the various roles and responsibilities of the RAs, particularly their interactions with the technical commissions. Support for sessions of the regional associations and their working groups comprise the majority of the funds in the RP.

Capacity Development Programme

293. The Capacity Development Programme (CDP) includes activities formerly under the Technical Cooperation Programme and covers a wide spectrum of development support, including the assessment and evaluation of the status of the National Meteorological and Hydrological Services, the identification of requirements for enhancing capacity, support for institutional development, infrastructure upgrades, strengthening regional networks, the preparation of national meteorological development plans, the formulation of project proposals, as well as the mobilization of the related resources. The main beneficiaries of the CDP are LDCs and SIDS. Within WMO DRA/RMDP takes the lead on resource mobilization and partnership development. The regular budget funding for the CDP supports resource mobilization and partnership development activities which lead to the generation of extrabudgetary funds. Regular Budget funds have been allocated to provide some support for Country Profile Database activities but additional extrabudgetary funds will be required for full functionality. One of the major additions to CDP for the 2012-2015 financial period was the creation of the Project Coordination Unit (PCU) within the WMO Secretariat. The PCU acts as a coordination body for new and existing multi-partner projects, ensuring improved coordination and reporting for donors, Members and the Secretary-General.

Applications of Meteorology Programme

294. WMO/WDS and its service delivery applications (such as disaster risk reduction, aeronautical, marine, and public weather services) and supporting programmes (such as the GDPFS), in 2016-2019, will continue to address capacity development activities, but with a slightly different focus to ensure "integration" and address the emerging requirements, thereby supporting Members in establishing end-to-end service delivery systems, multi-hazard EWS, and emergency response. New focus will be placed on "integration", "extension of the emergency programme and emergency assistance to NMHSs", and "seamless service delivery".

Marine Meteorology and Oceanography Programme

295. WMO will organize two meetings to develop training courses for marine competence requirements; two regional workshops on marine QMS (New), and four associated workshops on marine-related activities.

Public Weather Services Programme

296. Capacity development in PWS will contribute to strengthening core skills and competences of NMHS personnel in service delivery with a view to integrating them into national planning, policy, programmes and strategies to more effectively meet specific national needs. Activities to attain this objective will be implemented through the following special projects to build and improve services and tools for dissemination and communication of decision support products especially through the PWS component of SWFDP: (i) demonstration and pilot projects on methodologies on socio-economic benefits, and on the delivery of warnings to remote and rural areas; guidance materials on decision support tools; (ii) the provision of services in urban areas and megacities; (iii) application of up-to-date dissemination technologies; and (iv) training on the role of the future forecaster in the interpretation, communication and the delivery of warnings and forecasts services. In collaboration with TCP and ETR, training on tropical cyclones will be conducted for RAs I, IV and V. In 2016-2019, NMHSs will be assisted to implement the range of competencies in the area of PWS as approved by CBS as part of improvement of their service delivery. Capacity development will not only focus on Least Developed and Developing Countries, but also on developed countries in areas where they may need expertise and advice. New areas of training will be in service delivery to assist Members in the implementation of the WMO Strategy for Service Delivery at their NMHSs as follows: (i) conducting of assessments of the socio-economic

benefits of meteorological and hydrological services; and (ii) impact-based decision support tools and; application of PWS competencies in NMHSs.

Tropical Cyclone Programme

297. A majority of WMO Members that are prone to tropical cyclone disasters are developing and least developed countries in the tropics including SIDSs. Hence, capacity development is a foremost priority for the Tropical Cyclone Programme. Training for the regional Tropical Cyclone Committees in RAs I, IV and V will be primary tools in this regard. The training programmes will be conducted in cooperation with PWS and ETR and built around the evolving tropical cyclone competence standards to cover total tropical cyclone operational services from the monitoring/forecasting of tropical cyclones to the delivery of warnings to end-users with a view to improving overall skills for service delivery. IT tools such as distance learning and tropical cyclone websites will be optimized. Tropical cyclone competency standards will be employed for more focussed implementation of the training.

298. On-the-job training is performed to allow experts to acquire practical and updated techniques for tropical cyclone analysis and forecasting. In the systematic operational circumstances at regional warning centers, this training method helps the work-ready staff in developing and least developed countries, strengthen their operational linkage with the regional centres. Other RSMCs and Tropical Cyclone WCs will be added as hosts in addition to RSMCs Tokyo and New Delhi which are currently hosting the on-the-job training.

World Weather Watch Programme/Emergence Response Activities

299. Following the Fukushima nuclear power plant accident (in 2011), it was recognized that the increasing sophistication of the atmospheric transport models used in the RSMCs, and the importance of full and correct interpretation of this information by forecasters in NMHSs, CBS and subsequently RAs II, IV and VI requested capacity development activities, including training courses, in the use and interpretation of World Weather Watch/Emergency Response Activities guidance and products. Capacity development in WWW/ERA will contribute to strengthening core skills and competences of NMHSs in service delivery in case of nuclear emergencies. In collaboration with ETR, training courses on will be conducted in the various RAs. These will not only focus on least developed and developing countries, but also on developed countries in areas where they may need expertise and advice.

World Weather Watch Programme/Global Data-processing and Forecasting System

300. Capacity-development in WWW/GDPFS aspects and on SWFDP will contribute to strengthening core skills and competences of NMHSs in forecasting and warning services with a view to integrating them into forecasting processes to more effectively meet specific national user requirements. Activities to attain this objective will include training on the use and interpretation of NWP/EPS products for operational forecasting in support of the various application services, such as aeronautical, marine, agricultural and public weather services; as well as on severe weather forecasting in support of multi-hazard EWS and hazard risk management. In collaboration with the PWS, TCP, MMO, AeM, AgM and ETR, training on forecasting methods and applications will be conducted based around the relevant competence standards. Capacity development activities on GDPFS will not only focus on least developed and developing countries, but also on developed countries in areas where they may need expertise and advice, while capacity development activities on SWFDP will primarily support least developed and developing countries, including Small Island Development States. New areas of training will be in the use and interpretation of advanced products from the GDPFS operational centres, including the propagation of NWP/EPS

into High-Impact Weather (HIW) forecasting, including tropical cyclone forecasting, and hazard risk management.

World Climate Service Programme

301. Efforts will be continued to migrate the CLIPS training focus to develop more sustainable mechanisms, such as RTCs and development of comprehensive climate modules based around the competence standards for use in RTCs and national training programmes. Training activities on user targeted climate product generation in key socioeconomic sectors will also be taken up. Keeping in view the requirement of raising the user awareness and facilitating a better understanding of climate products and services by the user sectors, activities will be taken up to promote the application of climate information such as seasonal outlooks for adaptation to climate change and variability. A Climate Services Toolkit will be developed and disseminated, which will also form the basis for training activities. Capacity development through RCCs, RCOFs and the associated user forums will also be encouraged. CCl has established a dedicated OPACE on capacity development, to address its various facets including infrastructure, human resources, quality management, etc. Capacity development across all the WCSP/CCl domains will be consolidated and coordinated to ensure a more effective contribution to the GFCS.

Agricultural Meteorology Programme

302. There will be continued efforts to increase support to NMHSs staff to attend training courses. In addition, there will be increased effort to work more closely with the RTCs in the development of competence standards and supporting training material for agricultural meteorology. CAgM has established an Open Panel of CAgM Experts on capacity development which will enable better coordination of agrometeorological training activities.

Agricultural Meteorology Programme, Hydrology and Water Resources Programme (Programme on Capacity development in Hydrology and Water Resources Management), Education and Training Programme

303. AGM as well as HWRP (CBHWR) will continue to focus on increasing capacity through human resources development in NMHSs to support climate change adaptation in their countries, and also to meet the specific requirements as determined by the review of competencies to be undertaken in 2014-15. This will continue to be done through providing more sustainable training mechanisms. The emphasis is now on activities of a short duration, low cost and great potential impact with regard to number of beneficiaries, with approaches such as training of trainers, roving seminars and distance and blended learning to be principally pursued, resorting to regional or global face-to-face courses only when it is proven to be the most practical, or sole solution. Closer collaboration with ETR, greater involvement of Regional Training Centres (RTCs) in capacity development in climate-related matters and joint capacity development activities with CHy, CAgM and external partners will be integral to this strategy.

304. The combination of establishing core competencies for hydrological professional and technicians and the requirement to meet the conditions of the QMF-H will provide a platform for improved delivery of appropriate education and training courses targeted to address the competencies. The WMO Strategy on Education and Training in Hydrology and Water Resources will be updated accordingly and provide guidance to WMO on how to best meet the needs of the NHSs. Lessons learnt from the roving seminars programme and e-learning initiatives will be built upon.

WIGOS and WIS

305. Capacity development activities related to WIGOS and WIS are planned for 2016–2019 with the range of activities dependent upon the final budget scenario. Within WIS the new WIS competence standards will be used to support the global training linked to the GISCs. Within WIGOS the new regulatory material and any subsequent competence standards will be used to develop the education and training resources and courses.

Expected Result 7: Strengthened Partnerships
New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to demonstrate the value of WMO contributions within the United Nations system, relevant regional organizations, international conventions and national strategies

Executive Management, World Climate Research Programme, World Weather Watch Programme, World Climate Programme

306. WMO will capitalize on its participation within the United Nations system in various forums, such as the United Nations Chief Executives Board (CEB) and its subsidiary bodies and affiliated working groups as relevant. In particular, WMO will contribute to a more efficient functioning of the UN Development Group, which serves WMO Programmes and initiatives implementation at the country level. WMO will keep on informing the United Nations Conventions (that is, UNFCCC, UNCCD and UNCBD) especially through their Conference of Parties (COPs), their SBSTA, SBI sessions and contributing to relevant programmes on adaptation and technology performed under these bodies, as well as inter-agency mechanisms of the United Nations system, such as UN-Water, UN-Energy, UNCC:Learn, UN-Oceans(TbC) and United Nations Communications Group. Furthermore, WMO will explore concrete ways of collaborating further with the economic sector through UN Global Compact, the World Economic Forum and the World Business Council for Sustainable Development, and will consolidate its relationship with its partners using the GFCS mechanisms, e.g. the Inter-Agency Coordination Group (ICG) and the Partner Advisory Committee (PAC) to the Intergovernmental Board on Climate Services (IBCS). In addition, WMO will continue to contribute to the implementation and follow-up processes of major international programmes of action, including the post-2015 development agenda and its related SDGs, on disaster risk reduction, on adaptation, on LDCs, on SIDSs (Samoa Pathway), capacity development and on Women.

307. The WMO SG chairmanship of UN-Water, the ASG chairmanship of the HLCP WG on Climate, WMO active participation in the HCLP WG on DRR, and the WMO leadership of the GFCS have significantly strengthened the recognition of WMO activities in the UN system and beyond, e.g. other international organizations (IGOs and NGOs). More resources would have to be dedicated to monitoring partnerships to guaranty their continued relevance and effectiveness.

308. WMO will continue and strengthen joint sponsorship of programmes such as IPCC, WCRP and GCOS, through specific agreements with relevant partners (i.e. UNESCO-IOC, ICSU, and UNEP). These agreements will be reviewed as necessary to ensure the long-term sustainability of those initiatives, with a fair and clear partitioning of responsibilities and contributions. WMO has participated in supporting cooperative efforts, as a strategic partner, on the Millennium Development Goals, in particular with FAO and WFP on food security, the International Labour Organization (ILO) and World Health Organization (WHO) for social and health protection, and UNEP for the green economy. These efforts will have to be adapted to the context of the implementation plan of the GFCS, the Post-2015 Hyogo Framework and the post-2015 Development Agenda decisions.

World Weather Watch Programme, Global Framework for Climate Services

309. In 2016–2019, WMO will continue to liaise closely with the International Atomic Energy Agency (IAEA) and the Preparatory Commission for the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO) so as to deliver a response capability to nuclear emergencies through its Emergency Response Activities programme.

310. WMO will continue to support the Group on Earth Observations (GEO) in order to ensure mutual benefit to WMO and GEO, as requested by Cg-XVI. WIGOS, WIS, as well as WMO co-sponsored observing systems such as GCOS, are the major contributions to GEOSS. Interactions through the GEOSS interoperable arrangements are intended to serve the needs of the global community. In doing so, WMO Members would have access to other GEO data and products. Furthermore, in engaging within national GEO coordination mechanisms, the NMHSs will reinforce their role in understanding national level needs for information and services, and delivering such services in the areas of weather, climate, water and disaster risk reduction.

311. In 2015, GEO will have decided on its strategy and goals for the post-2015 period, taking into account WMO's position. This somewhat new context will frame WMO's role in interacting with GEO. Also, the Congress will have adopted a resolution on climate data and products exchange principles to serve the GFCS, which will influence WMO's contribution to GEO. The WMO Executive Council will maintain an overview of GEO activities and WMO participation, and aim at having WMO contributions better recognized as major components of GEOSS. Effective inter-agency coordination and collaboration will be sought with other United Nations agencies participating in GEO on GEOSS matters, particularly in reference to the WMO co-sponsored programmes and global observing systems. WMO will continue providing in-kind support to GEO (office space) and administrative support at favourable conditions. WMO will promote enhanced partnerships at international, regional and national levels that contribute to the achievement of its mission.

Global Framework for Climate Services, WMO Disaster Risk Reduction Programme, World Climate Programme

312. Within most national governments, the NMSs are the authoritative agencies on the technical and scientific aspects of weather and climate information and deliver the official forecasts and warnings to the government and the population on extreme weather and climate events, often in partnership with national civil protection and hazard response agencies. In many countries they also are responsible for services related to hydrology and water resources. They often provide services to crucial socioeconomic sectors such as agriculture, energy and transport. The building-up of the User Interface Platform of the GFCS at regional, sub-regional and national levels will provide the required structured for identification and sharing of best practices within WMO Members regarding efficient cooperation mechanisms in support of national priorities, including safety of lives and goods and sustainable development. Thanks to the stimulating context created by the GFCS, many countries have taken initiatives to develop a national framework for Climate Services, strengthening and sometimes creating the required mechanisms for a constructive dialogue between users and providers of weather, water and climate information and services. This will have to be scaled up.

313. Implementing GFCS will be a vehicle for WMO to take a leading role in the United Nations Delivering as One on climate knowledge (with UNESCO) and will involve extensive collaboration with virtually all United Nations agencies and programmes, national and local governments, non-governmental organizations, civil society, the private sector, as well as universities and research institutions around the world. WMO will ensure, through proper working arrangements, that products and services serving those efforts are properly articulated under the GFCS. Through the decisions of Congress and the Executive Council, a new structure has been adopted for WCP, consisting of GCOS, WCRP, a new World Climate Services Programme (WCSP) and the UNEP's Programme on Vulnerability, Impacts and Adaptation to climate change (PROVIA). The CCl, as WMO's technical advisory body for WCSP and within its specific role in the GFCS implementation, will provide further guidance on improving regulations, guides and standards as well as capacity development to better equip Members for monitoring, predicting and projecting

climate variability and change. In particular, CCl will enhance implementation of the Climate Services Information System (CSIS) pillar of the GFCS, which is a key contribution of WMO to the GFCS and will also involve partnerships with a range of operational entities. The new structure of CCl has streamlined and improved interaction with other WMO Technical Commissions, particularly CBS, as well as climate-related co-sponsored programmes and bodies, such as GCOS, WCRP, IPCC and PROVIA.

WMO Information and Public Affairs Programme, World Climate Programme

314. WMO will continue to develop its outreach, in particular on the Internet, using collaborative platforms as well as social media to enhance weather, climate and water knowledge base in a demand-driven and user-oriented perspective. WMO will play a major role on United Nations climate knowledge along with UNESCO to enhance the role of science in the implementation of UNFCCC agreed outcomes, and will organize inter-agency coordination meetings and establish a climate knowledge based Web Portal in support of climate change adaptations in various sectors, as resources permit. WMO also contributes to the UNCC:Learn initiative on developing coherent introductory and advanced learning packages on climate change science for the use of the public and expert community. As much as possible information will be prepared and disseminated, and side-events organized, in particular in connection with COP sessions, in order to strategically position WMO in the international arena. Other materials will include information brochures, posters and other promotional items.

Intergovernmental Panel on Climate Change and the World Climate Programme

315. WMO and UNEP jointly established the IPCC in 1988 on the basis of Resolution 9 (Cg-X) - Global Climate Change and Resolution GC 14/20 of the Fourteenth Session of the UNEP Governing Council. The objectives of the IPCC are: (i) to make assessments of available scientific information on climate change; (ii) to make assessments of environmental and socioeconomic impacts of climate change; and (iii) to formulate response strategies to meet the challenge of climate change. WMO will continue its substantial information and research contribution to the IPCC assessments, as well as its financial sponsorship of IPCC and administrative and service support for the IPCC Secretariat. In the wake of the IPCC AR 5, and building on the decisions to be taken at the UNFCCC COP 21, WMO will spearhead and support IPCC's evolution needs to better serve its Members' interest, for instance special reports, strengthened communication and outreach activities, inflexion in the AR preparation and delivery. Following the InterAcademy Council (IAC) review of the IPCC processes and procedures, WMO and UNEP have decided on actions to modernize IPCC management and governance.

316. Based on the MOU signed between WMO and UNEP in May 1989, WMO agreed to financially support the IPCC Secretariat, provide office accommodation and administrative support. The WMO contribution to IPCC serves to provide support to the sessions of IPCC governing bodies (Plenary and Bureau), the Working Groups of IPCC, and the publication of assessment, methodology and special reports, including dissemination activities on the work of the IPCC.

World Climate Research Programme, World Climate Service Programme, Global Climate Observing System

317. The special Reports and the AR 5 issued during the 2012-2015 period have been delivered according to schedule. It is expected that AR5 will have a significant impact on decision-makers and negotiation process leading to COP 21 decisions will have to be re-evaluated after the COP 20 in Peru.

Aeronautical Meteorology Programme, Marine Meteorology and Oceanography Programme

318. WMO will keep strengthening partnerships and cooperation with relevant agencies as a mechanism for increasing the overall capacity of NMHSs. In this regard, AeM works extremely closely with the International Civil Aviation Organization, while MMO coordinates a WMO-UNESCO joint technical commission as well as having close links with the International Maritime Organization (IMO). The 2016-2019 period will see development and implementation of ISO quality insurance standards for the management of both air and maritime operations. WMO, especially through its Technical Commissions for Aeronautical Meteorology and Oceanography and Marine Meteorology, will assist its Members to keep up with them.

319. A strong user requirement for regionally harmonized and coordinated meteorological services to aviation will require close involvement of regional cooperation projects such as SESAR, Eurocontrol, SADC, EADC, CARICOM, and SPREP in order to facilitate regionalized models of governance and funding for such services. In particular, new methods of supporting air traffic management systems and weather exchange models require very close cooperation guided by agreements.

320. WMO will coordinate with IMO and IHO for contribution to the SOLAS implementation. WMO will finalize the definition of user requirements and certification process for marine meteorological information services. WMO will provide support to the interagency coordination mechanism for Oceans (UN-Oceans) and other marine related activities. Overall, no major change will be introduced in the budget compared to 2012-2015.

Tropical Cyclone Programme, WMO Disaster Risk Reduction Programme

321. WMO will strengthen its relationship with UNDP, including through the UNDG mechanisms to ensure that, under its projects, developing countries are provided with expert and consultancy services, equipment, fellowships and group training, which will in turn contribute directly to the improvement of the warning systems. WMO has been provided invaluable support by UNDP for inter-country projects between developing countries including those of the Typhoon Committee, the Panel on Tropical Cyclones and the RA V Tropical Cyclone Committee.

322. In 2016–2019, WMO will continue to develop and maintain an array of strategic partnerships within UN agencies such as UNDP, UNISDR, UNEP, WFP, international and regional development agencies and banks, regional and sub-regional socio-economic groupings, humanitarian community, and the private sector associations that assist NMHSs to better undertake their national roles in disaster risk reduction and to assist developing countries to build their risk reduction capability. At a national level WMO will assist NMHSs in establishing partnerships with Disaster Risk Management agencies, various socio-economic sectors affected by natural hazards such as agriculture, energy, water resource management, finance and planning, as well as statistical bureaus collecting loss and damage data so as to enable closer relationships between these organizations and the NMHSs.

323. WMO has developed critical partnerships implemented through establishment of four DRR User-Interface expert Advisory Groups supporting WMO activities with technical commissions' cooperation for development and implementation of guidelines and standards in areas of hazard/Risk Analysis, Multi-Hazard EWS, Disaster Risk Financing and insurance, and Humanitarian Preparedness. These partnerships have resulted in joint publications, implementation of coordinated national projects with regional cooperation framework, and better understanding of user requirements for meteorological, hydrological and climate services in DRR. In addition, through strong partnership with the UNISDR secretariat, WMO is a critical contributor to global activities such as preparation of the UNISDR Global Risk Assessment Reports, and planning of the Global Platform for Disaster Risk Reduction. The IAEA international cooperation in

which WMO is a leading partner, led to activation of the ERA network in support of the Japan earthquake/tsunami/Nuclear accident in 2011, proving to be a highly valuable operational network in supporting the international community and Members.

Hydrology and Water Resources Programme, Global Framework for Climate Services

324. During the seventeenth financial period, WMO will continue to be actively involved in UN-Water, the United Nations system mechanism that ensures coordination among the United Nations agencies involved in water issues, in order to support countries in the integrated management of water resources to eradicate poverty, promote public health, enable equitable economic growth and sustain the environment. WMO will capitalize on its engagement in UN-Water to continue to promote the contribution operational hydrology and water-related climate services play in integrated water resources management at the basin/catchment scale around the world. UN-Water provides the bridging mechanism between the water-related activities of WMO and those of our partners in the wider UN system and will be a key component of the User Interface Platform of the GFCS. UN-Water has established a number of Task Forces which have produced important inputs/reports to inform policy debates and processes and is increasingly proactively shaping the water agenda with the aim of improving on the ground action by the UN system. This momentum has to be capitalized on, especially in terms of the implementation of the GFCS and, to ensure that this happens UN-Water has appointed a specific focal point for interactions with the GFCS. UN-Water will also be a key player in the implementation of the water-related Sustainable Development Goals and the measurement and monitoring of the associated targets.

325. The 2016–2019 period will see the continuation of a more proactive approach in response to the needs of Member countries, particularly in their areas of interest – such as, water and climate change, water resources assessment, integrated drought management, hydrological forecasting and prediction and integrated flood management. WMO, in cooperation with the Global Water Partnership (GWP), the United Nations Convention to Combat Desertification (UNCCD) and the Food and Agricultural Organization (FAO), will continue to implement the Associated Programme on Flood Management (APFM) and the Integrated Drought Management Programme (IDMP), providing guidance material and undertaking training opportunities and pilot projects when feasible and within available resources. As climate variability and change are major drivers of water-related climate extremes (floods and droughts), these combined programmes will be a fundamental contribution to the Global Framework for Climate Services. Following on from the High-level Meeting on National Drought Policies (HMNDP), assistance will be provided to countries in the establishment and implementation of National Drought Policies, based on sound scientific understanding and guidance. The HelpDesk of the APFM will continue to support countries in the application of the Integrated Flood Management concept and provide guidance and advice on flood plain management actions.

326. Hydrological observations will become increasingly important in relation to recognizing the impacts of a changing climate and thus will make a major contribution to the GFCS in particular through the Water Exemplar. It is anticipated that 2016-2019 will see increased interest in the establishment of World Hydrological Cycle Observing System (WHYCOS) initiatives aimed at providing information to addressing the climate change implications for water resources management.

Expected Result 8: Improved Efficiency and Effectiveness
Promote Quality Management Systems in NMHSs and within the WMO Secretariat for efficient and effective use of resources

Constituent Bodies and Executive Management

327. WMO will continue to improve governance and management, including: (i) improving efficiency and effectiveness of governing and constituent bodies and the Secretariat; (ii) promoting open and transparent business processes; (iii) effective and efficient use of resources and increased accountability for use of resources and achievement of Expected Results; (iv) ensuring the integrity of management systems; and (v) improving result-based management systems and practices. In 2016-2019, WMO will focus on the following areas: (i) renewed commitment of Members to involve their experts in WMO governance, especially through technical commissions; (ii) greater use of IT infrastructure based on CRM and CMS applications, Google, and other standard applications for GIS, etc.; (iii) applying financial and human resources to programmes in a more detailed level, and linking programmes to ERs more comprehensively; and (iv) risk management, IT security, and business continuity.

328. More effective use of the Bureau, PRAs, PTCs and joint PRAs/PTCs meetings, (possibly virtual), to advance environment-friendly/eco-responsible practices, benefitting from the Environmental Management Group (EMG) peer-review mechanism.

Internal Oversight

329. The Internal Oversight Office will continue to assist WMO in achieving its objectives and support the Secretary-General and the Audit Committee in discharging their responsibilities in the areas of governance, risk management and control. The internal audit service will aim to ensure that internal controls are designed and functioning in a manner to assure that the WMO will achieve its objectives and sustain and improve its performance. The evaluation and performance audit activities will provide the management and stakeholders with impartial evidence based on assessments of achievements of outputs and outcomes for selected programmes/activities/ projects etc. The office will provide advisory services to the management in the areas of its expertise to promote economy and efficiency of operations. The office will maintain a complement of qualified staff and adhere to professional quality standards to ensure that its findings/conclusions continue be relied upon by stakeholders. The office will represent WMO in the professional networks of the internal audit, evaluation and investigation networks of the United Nations system. The internal audit activities will have an increased focus on expenditure from voluntary resources, keeping in tune with the increasing trend. The internal audit service will promote development of assurance maps to strengthen the ERM process in WMO. It will also promote the three lines of defence approach to reduce the compliance risk. The evaluation service will provide independent validation of the organizational performance reports as the M&E system takes roots.

Strategic Planning

330. The development and implementation of strategic and operating plans are a continuous process. The strategic priorities for the Organization, which represent areas of focus for the execution of Strategic Thrusts, are identified by using feedback information from Members through the M&E surveys and sessions of constituent bodies. The implementation of Results-based Management (RBM) Framework improves over years by learning from lessons in the

implementation process. The focus in the period will be on: (i) finalizing and publishing the WMO Strategic and Operating Plans 2016-2019; (ii) preparing WMO Strategic and Operating Plans 2020-2023; (iii) preparing a guide on strategic planning, enhancing the capacity of staff in strategic planning and implementation; and (iv) continuous improvement of WMO processes and practices.

331. The full implementation of the M&E System started in 2012 as agreed by Cg-XVI. The emphasis in 2016-2019 will be on further improvement of the M&E system and Guide, and ensuring that all staff are well trained in the M&E methodology and have ownership of the M&E System as requested by Cg-XVI. WMO will also conduct surveys and preparing reports on impacts of achieved results on Members, and will prepare regular six month reports on the progress on deliverables.

332. Risk Management is an integral part of the WMO system of internal control and Results-based Management. The implementation of risk management is focused on identifying, monitoring and addressing risks that may impact negatively on the Organization. The WMO has a risk management policy and framework that guide the implementation of risk management. The Risk Management Committee reviews regularly the risks involving the Organization. The focus in 2016-2019 will be on enhancing the capacity of staff at the Secretariat in risk management and reviewing the WMO Risk Management and Framework as appropriate based on risk management.

333. In view of the above, WMO will focus on the implementation of WMO RBM based on the WMO SP, WMO OP, Results-Based Budget (RBB) and WMO M&E. The focus in the period will be on: (i) finalizing and publishing the WMO Strategic and Operating Plans 2016-2019, preparing WMO Strategic and Operating Plans 2020-2023, preparing a guide on strategic planning, enhancing the capacity of staff in strategic planning and implementation, and continuous improvement of WMO processes and practices; (ii) further improvement of the M&E system and Guide, and ensuring that all staff are well trained in the M&E methodology and have ownership of the M&E System as requested by Cg-XVI; (iii) enhancing the capacity of staff at the Secretariat in risk management and reviewing the WMO Risk Management and Framework as appropriate based on any new approaches on risk management; and (iv) exploring the ways for providing guidance on strategic planning and implementation to developing and least developed countries to assist them integrate the strategic direction of WMO into their national infrastructure and human resource capacity development. These foci are essential for the successful implementation of the Strategic Plan through the Operating Plan and supported by the implementation of the monitoring and evaluation system. Enhancing the capacity of staff in risk management would contribute to improvements in WMO's system of internal control. Additional resources are required for implementation of these areas of focus.

334. It is expected that the implementation of the renewed E&M as well as the operational development of the Country Profile Database during the 2014-2015 biennium will provide a sound basis for 2016-2019. This will serve those countries with less developed weather services and capacities for basic climate services by enhancing their capacities to implement the Strategic Plan, the GFCS Implementation Plan, and improvements in public weather, climate, and water services.

Gender Mainstreaming

335. The WMO Policy on Gender Mainstreaming was to promote, encourage and facilitate gender equity across WMO. Focus in the next financial period will be on further implementation of the WMO Policy on Gender Mainstreaming and implementation of the outcomes of the Gender Conference to encourage and support the further incorporation of gender aspects in all programmes and activities. Monitoring activities will be enhanced, e.g. through collection of gender-disaggregated data. In addition, WMO will implement the requirements of the United Nations System-Wide Action Plan on Gender (UN-SWAP) which applies to all entities,

departments and offices of the UN system. WMO will organize, capacity development activities to address the needs of the Secretariat and Members, including the development of training tools and materials for the network of gender focal points.

Language, conference and publishing services

336. In the seventeenth financial period, the multilingualism and the excellence of language, conference and publishing services will remain the high priority of WMO. The efforts will be directed at optimizing the cost of constituent and subsidiary body sessions through: (i) enhancement of IT web applications that facilitate the use and processing of session documentation in all official languages; (ii) improving the online processing of documentation, correspondence and published material; (iii) further use of video-conferencing so as to reduce the cost of the meetings and enable wider participation in meetings and workshops, while reducing the carbon footprint of the Organization; and (iv) balancing the use of staff and non-staff resources, which will result in an increased flexibility during peak work periods and will streamline the delivery of services. LCP will enlarge its roster of qualified language experts (translators, editors, interpreters) who can guarantee the required professional quality standards expected by the Members. LCP will represent WMO in relevant professional networks of the international organizations and the United Nations system.

Cross-cutting Programme
Global Framework for Climate Services

GFCS priorities

337. Focus will be on facilitating access to improved climate services worldwide in the initial priority areas (Agriculture and Food Security; Water; Health and Disaster Risk Reduction) initiation of an Energy Exemplar and the incorporation of urbanization/megacities into the existing priority areas in a cross-cutting manner. For the Agriculture and Food Security sector greater use of improved and better coordinated climate services, including seasonal forecasts, will result in greater food production and reduced sensitivity to climate hazards. For Disaster Risk Reduction, better asset protection and improved planning of responses to climate-related disasters will result. In the Health area, there will be greater understanding of the linkages of diseases to climate factors resulting in better planning of disease control. Water resource management will benefit from improved infrastructure planning and better allocation of water resources. Given that the situation varies widely across the globe much more needs to be done, particularly in developing countries that suffer from shortcomings in capacity.

User Interface Platforms

338. The user-driven focus of the Framework requires a much higher level of involvement of users in all aspects of climate service production, delivery and use. This area is generally under-developed in the climate services field but there are good examples from other disciplines that can provide useful lessons.

339. WMO will support and promote effective collaboration at: (i) global level the Framework focusing on defining the global goals, needs and large-scale activities required for successfully implementing the Framework; (ii) regional level focusing on cooperation with multilateral efforts to address regional needs, for example through knowledge and data exchange, infrastructure development, research and training and by providing services regionally to meet requirements; and (iii) the national level to develop and coordinate the Framework with key actors/stakeholders to ensure that their needs and requirements for climate services are adequately considered.

340. Partnerships will be developed/strengthened involving stakeholders at global, regional and national levels through ensuring the engagement of United Nations Agencies, international organizations, existing climate service-related programmes, users, providers, donors, governments, private sector organizations and National Meteorological and Hydrological Services.

Observations and Monitoring

341. Focus under the Observations and Monitoring Pillar will be on addressing identified needs and gaps in climate observing systems, including their associated data management and data exchange infrastructures, and developing mechanisms for accessing and exchanging socio-economic, biological, and environmental data in developing and delivering effective climate services. Furthermore, attention will be placed on the inter-connection between the Observation and Monitoring Pillar with other pillars, in particular the User Interface Platform and the Research, Modelling and Prediction pillars. Particular emphasis will be placed on Developing and Least Developed Countries (LDCs) and Small Island Developing States (SIDS).

342. Partners at the global, regional, and national levels that are involved with observations will be engaged. At the global level, these include a number of UN agencies such as WMO, UNEP, UNESCO and its IOC, IMO, FAO, and WHO, as well as systems these organizations co-sponsor such as the Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS), and the Global Terrestrial Observing System (GTOS). They also include initiatives fostering integration of different observing systems such as the WMO Integrated Global Observing System (WIGOS). Equally important on national and regional levels are the contributions made by National Meteorological and Hydrological Services (NMHSs), national and regional space agencies, and national environmental, natural resources, and oceanographic agencies. The important observational contributions of non-governmental organizations and universities will receive increased attention, as will the potential for greater engagement of non-governmental and private sector observational networks.

Climate Services Information System

343. The GFCS requires an appropriate operational institutional mechanism to generate exchange and disseminate information nationally, regionally and globally. The strategy to achieve this hinges on a three-tiered structure of collaborating institutions (CSIS 'entities[1]') that will ensure climate information and products are generated, exchanged and disseminated: (i) globally through a range of Global Producing Centres; (ii) regionally through a network of Regional Climate Centres; and (iii) nationally and locally by NMHSs and, through national institutional arrangements, with partners. Particular focus will be given to the effective implementation of Regional Climate Centres; regular review and update of user requirements for climate data, products and information, as well as of the use of climate information in real-world contexts; and the implementation of formal technical reference manual articulating certain globally agreed standards and specifications for the generation of products and services across all geographical levels.

Research, Modelling and Applications

344. Focus will be on delivery of climate information for decision-making support, involving, inter alia, experimental and theoretical work aimed at improving the quality of datasets and guidance material; extending the lead time and/or range of sub-seasonal to seasonal climate predictions; exploring the potential for practical decadal predictions while improving longer-term projections; further substantiating climate models; developing techniques for observations and data assimilation, attribution and prediction of extreme events and assessment of their statistics; assessments of climate impacts on human health and its protection; food security, disaster risk reduction, and water management.

Capacity Development

345. Capacity development activities will focus on support to establishing climate services in those countries and territories in which basic climate services are lacking and the education and training needs of NMHSs in countries with shortcomings such as developing countries, Least Developed Countries and Small Island Developing States with a view to addressing specific issues such as forecaster's qualification for GFCS. Capacity development activities will include institutional, infrastructural, procedural and human capacity development.

346. Initial focus was on identifying: (i) the particular capacity development requirements under the pillars of the GFCS; and (ii) more broadly the basic requirements (national policies/legislation, institutions, infrastructure and personnel) to enable any GFCS-related activities to occur.

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[1] A CSIS entity is any institution carrying out one or more CSIS functions

IV. INCOME ESTIMATES 2016-2019

347. Income includes two main income categories, namely assessed contributions and other regular resources (rental of facilities, support cost, sales of publications, and interest earned/ miscellaneous). The total regular resource volume for the seventeenth financial period (2016-2019) is estimated at CHF 292.55 million which represents an increase of CHF 16.55 million as compared to 2012–2015, as indicated in Table 15 below. The level of the other regular resources has been determined on the basis of realistic estimates.

Table 15. Income estimates 2016-2019
(in thousands of Swiss francs)

Financial Periods and Years / Sources of Funding	Approved Resources 2012-2015	2016	2017	2018	2019	Proposed Resources 2016-2019	Variance 2012-2015 / 2016-2019
1. Regular Budget	261 000.0	70 087.5	70 087.5	70 087.5	70 087.5	280 350.0	19 350.0
2. Rental of facilities	7 500.0	1 875.0	1 875.0	1 875.0	1 875.0	7 500.0	-
3. Programme Support cost	6 900.0	1 100.0	1 100.0	1 100.0	1 100.0	4 400.0	(2 500.0)
4. Sales of publications	400.0	10.0	10.0	10.0	10.0	40.0	(360.0)
5. Interest earned / Miscellaneous	200.0	65.0	65.0	65.0	65.0	260.0	60.0
6. Total other regular resources (2 + 3 + 4 + 5)	15 000.0	3 050.0	3 050.0	3 050.0	3 050.0	12 200.0	(2 800.0)
7. Total regular resources (1 + 6)	276 000.0	73 137.5	73 137.5	73 137.5	73 137.5	292 550.0	16 550.0

Regular Budget

348. Assessed contribution is provided by WMO Members in accordance with the assessment scale set by Congress and the Executive Council. The proposed budget is based on assessed contributions of CHF 280.35 million, an increase of CHF 19.35 million or 7.4 per cent for the financial period.

Other regular resources

349. Other regular resources amount to CHF 12.2 million for 2016-2019 which reflects a decrease of CHF 2.8 million as compared to 2012-2015, which is based on more realistic income estimates. Other regular resources include income from rental of facilities, programme support cost, sales of publications and interest earned/miscellaneous. The other regular resources supplement the regular budget financed from the assessed contributions.

Rental of facilities

350. Income generated from facilities rental during the seventeenth financial period is expected to reach CHF 7.5 million, which remains at the same level as compared to the sixteenth financial period. The rental of WMO facilities (office space and conference facilities) generates two kinds of income: (i) income from renting office space to outside tenants and parking places to WMO staff and tenants; and (ii) income from in-sourced conference services by the WMO Conference Centre. Currently, rent-paying tenants occupy the second floor, the third floor and a part of the fifth floor; the increase in rents is based on the cost of living in Geneva. Income generated from the rental of office space and parking space is expected to reach CHF 6.65 million in 2016-2019. The income from the in-sourced conference services is expected to remain stable at the level of CHF 0.85 million in 2016-2019, due to the efficient, pleasant working environment offered by WMO conference facilities.

Programme support costs

351. Total support cost income for the seventeenth financial period is estimated to be CHF 4.4 million, generated from implementation of activities funded from voluntary resources. The programme support charges are determined by the WMO Programme support cost policy adopted by Resolution 20 (EC-64).

Sales of publications

352. Income generated from the sale of WMO publications, including income from advertisements, is estimated at CHF 40,000 for the seventeenth financial period, which represents a decrease over the sixteenth financial period by CHF 360,000. The reduction is essentially the result of the free distribution of WMO publications which considerably enlarged the target audience.

Interest earned/miscellaneous income

353. Interest earned and miscellaneous income is estimated to be CHF 260,000 for the seventeenth financial period, representing an increase of CHF 60,000. Cash not required for immediate use is deposited in banks so as to generate interest. Interest rates are expected to remain very low in the near future with no change predicted for the seventeenth financial period. Miscellaneous income may include proceeds from the sale of waste paper and souvenirs, royalties, unclaimed credits, and other various types of income.

Proposed change in methodology for handling other regular resources

354. The proposed budget for 2016-2019 has been prepared on the assumption that the other regular resources are set outside the regular budget appropriation process and will supplement the regular budget resources financed from assessed contributions. The consolidation of the other regular budget resources is assumed to be discontinued.

355. As a result, the Financial Regulation 10.1 shall be revised to allow the other regular resources to be set outside the appropriation process. The income from the rent of office and conference facilities of the WMO headquarters building and the programme support cost income shall not be classified as miscellaneous income credited to the General Fund, but will be kept separately in special accounts outside the appropriation process and will remain available to be used for specific purposes, i.e. the maintenance of the building including the cafeteria facilities, the maintenance of the WMO conference centre, and the programmatic and administrative backstopping of extrabudgetary projects funded from voluntary contributions. Any unspent balance of the income will constitute a reserve for these specific purposes. The revision of the Financial Regulation will be submitted to Cg-17 for approval and discussed under agenda item 13.5.

ANNEX A

SUPPORT BUDGETS APPORTIONED TO EXPECTED RESULTS (RESOURCE MANAGEMENT, COMMON SERVICES, PROCUREMENT AND TRAVEL SERVICES, CAPITAL ASSETS AND JOINT COSTS)

1. The support budgets funded from regular resources are apportioned to Expected Results. Support is provided across organizational lines for the implementation of programme activities. Resources are apportioned to Expected Results on the basis of the direct costs (staff and non-staff costs) of each of the Expected Results.

Budget Office

2. The Budget Office: (i) facilitates deliberations and decision-making by governing bodies on the issues of programming and budgeting; (ii) supports senior management in resource management issues; and (iii) ensures sound budget management in accordance with WMO Financial Regulations and Rules. During the seventeenth financial period 2016-2019, the Budget Office will focus on further refining results-based budgeting and results-based management.

3. The following support will be delivered:

Support 1.1: Servicing of policymaking organs: approximately 35 meetings including Congress, the Executive Council, the Financial Advisory Committee and their subsidiary bodies including the Programme and Budget Subcommittee.

Support 1.2: Preparation of documentation: approximately 10 reports including the proposed budget outline for 2016-2019; budget proposals for 2016-2019; budget proposals for the biennium 2018–2019; annual financial statements 2011, 2012, 2013 and 2014.

Support 1.3: Preparation of 60 reports on budgetary and financial situation, including reports to be submitted to Executive Management of the Secretariat.

Support 1.4: Preparation of allotment advices and staffing table authorization (240); certification of budget requests (4 000); review and analysis of cost plans and other proposals relating to extrabudgetary financing (200).

Support 1.5: Monitoring of expenditures; creation of standard staff and non-staff costs; communication with donors on the disposition of residual balances in trust funds.

Support 1.6: Payroll: calculation of salary and related payments to WMO regular staff in Geneva WMO headquarters and field duty stations, project personnel, conference and other short-term staff.

Support 1.7: Financial accounts: approval and review of requisitions and purchase orders; development of policies, practices and procedures on the workflow for the preparation, approval and review of requisitions and purchase orders.

Support 1.8: System support: maintenance of charts of accounts and other accounting-related reference tables in the Oracle Enterprise Resource Planning (ERP) system; development of ad hoc applications;

Support 1.9: Oversight support: respond to requests and queries of Audit Committee, External Auditor, Executive Management, department directors in the Secretariat, internal auditors.

Finance Division

4. The Finance Division: (i) facilitates deliberations and decision-making by governing bodies on issues of financial management; (ii) supports senior management in resource management issues; (iii) ensures sound financial management in accordance with WMO Financial Regulations and Rules; and (ii) accounts on the use made of financial resources of WMO. During the seventeenth financial period 2016–2019, the Finance Division will focus on improving financial management through review and improvement of internal accounting controls, improvement of treasury management, and consolidation of IPSAS.

5. The following support will be delivered:

Support 2.1: Servicing of policymaking organs: approximately 35 meetings including Congress, the Executive Council, the Financial Advisory Committee and their subsidiary bodies.

Support 2.2: Preparation of documentation: approximately 18 reports including consideration of the financial statements for the years 2015, 2016, 2017 and 2018; reports on scale of assessments and on the status of contributions.

Support 2.3: Preparation of 16 reports on the financial situation, including quarterly reports to be submitted to the Financial and Human Resources Review Committee at the Secretariat.

Support 2.4: Payroll: calculation of salary and related payments to WMO regular staff in Geneva WMO headquarters and field duty stations, project personnel, conference and other short-term staff; processing of payments to seconded experts and consultants; processing of regular payments relating to United Nations Joint Staff Pension Fund (UNJSPF) contributions, medical and group life insurance premiums; booking and controlling payroll-related financial accounting records.

Support 2.5: Financial accounts: review and processing of all receipts, payments, and obligations; analysis and reconciliation of accounts, including all receivables, payables, interoffice and bank accounts; provision of advice on accounting matters; development of accounting policies, practices and procedures.

Support 2.6: Payment and disbursement: payment of salaries and related allowances and other benefits; processing of payments to vendors and other contractors; processing of travel claims; preparation of reports and financial statements.

Support 2.7: System support: maintenance of charts of accounts and other accounting-related reference tables in the Oracle Enterprise Resource Planning (ERP) system; development of ad hoc applications;

Support 2.8: Treasury services: administration of bank accounts; reconciliation of cash balances; accounting of multi-currency investment; cash management; computation of cash position and forecast.

Support 2.9: Assessment and processing of contributions.

Support 2.10: Financial reporting: prepare financial reports for management, governing bodies and donors.

Support 2.11: Oversight support: respond to requests and queries of Audit Committee, External Auditor, and internal auditors, UN Joint Inspection Unit.

Human Resources Division

6. The Human Resources Division guides the development and implementation of a Human Resources Strategy with a view to improving organizational performance through efficient management of its human capital. The Division will focus on enhancing the Organization's commitment to improving staff performance, consolidating and institutionalizing the changes introduced to date and implementing further improvements aimed at ensuring that the Organization's human resources management policies and practices are fully in line with programmatic needs.

7. The following support will be delivered by the Division:

Support 3.1: Staffing and recruitment: coordination with departments to identify vacancies; review of evaluation criteria; issuance of vacancy notices to fill posts; organizing and participating in interviews; placement of vacancy announcements; screening of between 1 800 and 2 000 applications per year; administration of examinations and tests for recruitment of WMO staff (15 examinations per year), servicing of review bodies in the Secretariat (25 meetings per year); placement and promotion of approximately 25 staff annually; recruitment of short-term staff (approximately 400 contracts per year); oversight of the processing by departments and offices of approximately 200 special service agreements per year for consultants and individual contractors; management of the internship programme (20 interns per year) and the JPO programme (3-4 JPOs per year).

Support 3.2: Social benefits administration: managing the implementation of the Regulations and Administrative Rules of the UNJSPF within WMO; processing actions related to pension rights, such as participation, validation, restoration, break-in-service and separation; communicating and responding to the Pension Fund Secretariat on all related issues; analyzing and monitoring the requirements and the scope of insurance concerning staff compensation, group life insurance, health insurance for active staff and retirees; processing of staff compensation claims within WMO or with the insurers and securing settlement of these claims.

Support 3.3: Advice to management and staff on all aspects of human resources management policies and staff administration; monitoring of extensions of appointment (120 extensions yearly average); review of the contractual status of staff in the General Service and Professional category (30 staff on a yearly average) for conversion to career appointments (permanent contracts); review of classification requests for posts of Professional and General Service categories (30 requests on a yearly average); counselling on personnel problems and compliance with provisions governing the status, basic rights and duties of staff; briefing of retiring staff in coordination with the UNJSPF; organize and provide mediation services to both staff and managers.

Support 3.4: Staff development and training: targeted programmes to build core and managerial competencies and to support managers in effectively implementing performance management principles, including change management, WMO Code of Ethics, fraud prevention, accountability, the development of performance indicators, coaching and the provision of feedback for improved performance, performance recognition, teamwork, problem-solving and decision-making, for approximately 150 participants per year; information technology and other skills training programmes are offered to upgrade the Secretariat staff's level of skills (150 participants on a yearly average); language courses and Language Proficiency Examinations; counselling of staff on a broad range of personal, family and work-related concerns.

Support 3.5: Preparation of documentation for Congress and the Executive Council on human resources management policy issues, as required, including the introduction or amendment of Staff Regulations and Rules, policies and practices.

Support 3.6: Appeals and disciplinary matters: provision of advice to programme and line managers in the implementation of human resources policies pertaining to the administration of internal justice, including issues related to improvement of the internal justice system; handling of requests for administrative review, appeals and disciplinary matters, including representation of the Secretary-General at the Joint Appeals Board and the Joint Disciplinary Committee; introduction of a revised regulatory policy framework for human resources management issues.

Information Technology and Common Services Division

8. The Information Technology and Common Services Division provides an integrated set of support services in the area of ICT and Facility Management that meet organizational requirements in a cost-effective manner. In the area of Facility Management, it is responsible for the operations, maintenance and further development of physical facilities at the WMO premises, including the provision of a safe, secure, climate-friendly and comfortable environment and of related services for the occupants of the WMO building; the transportation and distribution of internal mail and pouch; the preservation and servicing of records and activities with regard to WMO souvenir products. In the area of Information and Communication Technology, it ensures provision of efficient ICT services by operating, maintaining and further developing a robust technical infrastructure, overseeing the interconnection of ICT systems and providing secure, reliable and cost-effective applications.

9. In particular, the following support services will be delivered by the Division:

Support 4.1: Network and infrastructure: operate and further develop a robust WMO Information and Communication Technology infrastructure to enable secure access for staff, independent of location, to WMO information, communication and application services; implement security processes and mechanisms – conduct periodic security risk assessments of infrastructure and operations, and secure the network and systems through the use of adequate technical solutions; provide technical and operational support for servers, personal computers and mobile devices connected to the WMO network; support office automation tools, storage, archiving, e-mail, Internet services.

Support 4.2: Application and systems: operate and develop corporate systems, such as the Oracle e-business suite and Portal, with the aim of simplifying, standardizing and consolidating systems; ensure integration of systems and services to ease access for users through the portal technology, ensuring the availability of standard reports for both administrative and substantive departments according to their needs; in terms of user support, ensure that access to systems (staff roles, responsibilities and privileges) and the related security setup follow the policies of the Organization and that workflows and approval mechanisms are in line with managerial responsibilities.

Support 4.3: Information management: establish a coherent framework of processes and systems for the management of WMO records, information, electronic documents and data, including polices and guidelines covering their life cycle, organizational responsibilities and accountability; assist departments with storage, archiving and retrieval of electronic documents, data and information using the corporate systems and services to enhance usability, facilitate sharing and safeguard WMO intellectual property in line with the framework; assist departments with implementation and development of electronic workflow solutions, using the corporate application and systems in an optimal manner to enhance productivity.

Support 4.4: Building management (550 occupants/persons in 18 500 square metres of office space serviced), including: utilities; insurance; cleaning services and materials; office space management; office furniture; waste management; landscaping services; preventative maintenance work; heating, air conditioning and ventilation system maintenance; elevator maintenance and repair; transport services; equipment. Ensure the functioning of the Property Survey Board.

Support 4.5: Management of external concessions (office supplies, catering, and security).

Support 4.6: Internal and external mailing and UN pouch services and WMO building identification badges.

Procurement and Travel Services Division

10. The Resource Management Department includes the Procurement and Travel Services Division whose budget is apportioned to the Expected Results.

11. The Procurement and Travel Services Division provides travel services and implements procurement actions that are transparent, promote climate-friendliness, give value for money, and meet requirements in compliance with the WMO Financial Rules and Regulations (conducts tenders for goods and services, prepares and signs all purchase orders and contracts).

12. The following support will be delivered:

Support 5.1: Procurement services: supplier searches, provision of advice on procurement procedures, verification of adherence to WMO Standing Instructions and Financial Rules; issuance of around 500 purchase orders with a total value of CHF 9 million annually; hold approximately 10 meetings of the Procurement and Contracts Committee per year.

Support 5.2: Provide travel services for the WMO for approximately 5,000 missions annually for staff and participants of meetings, including provision of advice on travel procedures; provision of tickets at lowest available fare; verification of adherence to WMO Standing Instructions and Financial Rules; issuance of Travel Authorizations; arrangement of payments of travel advances and allowances in Geneva and abroad; oversight of contract with Travel Agent; day-to-day liaison with Travel Agent; reconciliation of travel claims.

ANNEX B

CALCULATION OF INFLATION ADJUSTMENT AND GLOSSARY OF BUDGET TERMS

1. Calculation of Inflation Adjustment

The average annual inflation rate for the seventeenth financial period 2016-2019 has been revised from 0.4 per cent per annum to 0.1 per cent per annum. The inflation adjustment is based on data provided by the Geneva Cantonal Office of Statistics. For the calculation of the inflation adjustments for 2016-2019, the reference base is the approved budget for the fifteenth financial period 2012-2015. This amount corresponds to CHF 276.0 million. The inflation adjustment may be recalculated prior to finalizing the budget submission to the Seventeenth Congress session in 2015 in order to reflect the most recent inflation data available.

2. Glossary of budgetary terms

Apportioned costs: The apportionment of costs of support services aims to identify the full cost of Expected Results which includes direct and support resources. The costs of support services are apportioned to Expected Results on the basis of the direct costs (staff and non-staff costs) of each of the Expected Results.

Assessed contributions: Amounts to be paid by WMO Members towards the Organization's expenditures over a budgetary period, in accordance with a scale determined by Congress and the Executive Council.

Direct resources: Direct resources fund activities provided within an organizational entity directly associated with the implementation of Deliverables. Direct resources are budgeted by Expected Results (also see *Support resources*).

Expected Results: Expected Results describe a benefit for an end-user. There is an apparent causal link between deliverables and the Expected Results achieved. Although the impact of significant external factors is acknowledged, the achievement of a result is within the control of the Organization.

Investment: WMO budgetary and extrabudgetary resources to be spent with a view of realizing WMO Members' benefits to be actualized in the seventeenth financial period (2016-2019).

Jointly funded voluntary resources: Resources provided by partner organization to IPCC, WCRP and GCOS, in addition to the WMO regular funding.

Non-staff costs: All resources other than staff resources. Non-staff resources are fund costs, for example, for travel, equipment, institutional contracts, temporary assistance, or consultancy services.

Other regular resources: WMO income including income from rental income, programme support income, proceeds from the sale of publications, interest earned, and miscellaneous income. Assessed contributions are not included in the other regular resources.

Regular resources: Regular resources include both assessed contributions and other regular resources such as rental income, programme support income, proceeds from the sale of publications, interest earned, and miscellaneous income and cash surplus.

Staff resources: Resources fund costs associated with fixed-term and permanent staff contracts, including recruitment and separation costs, salary, common staff costs.

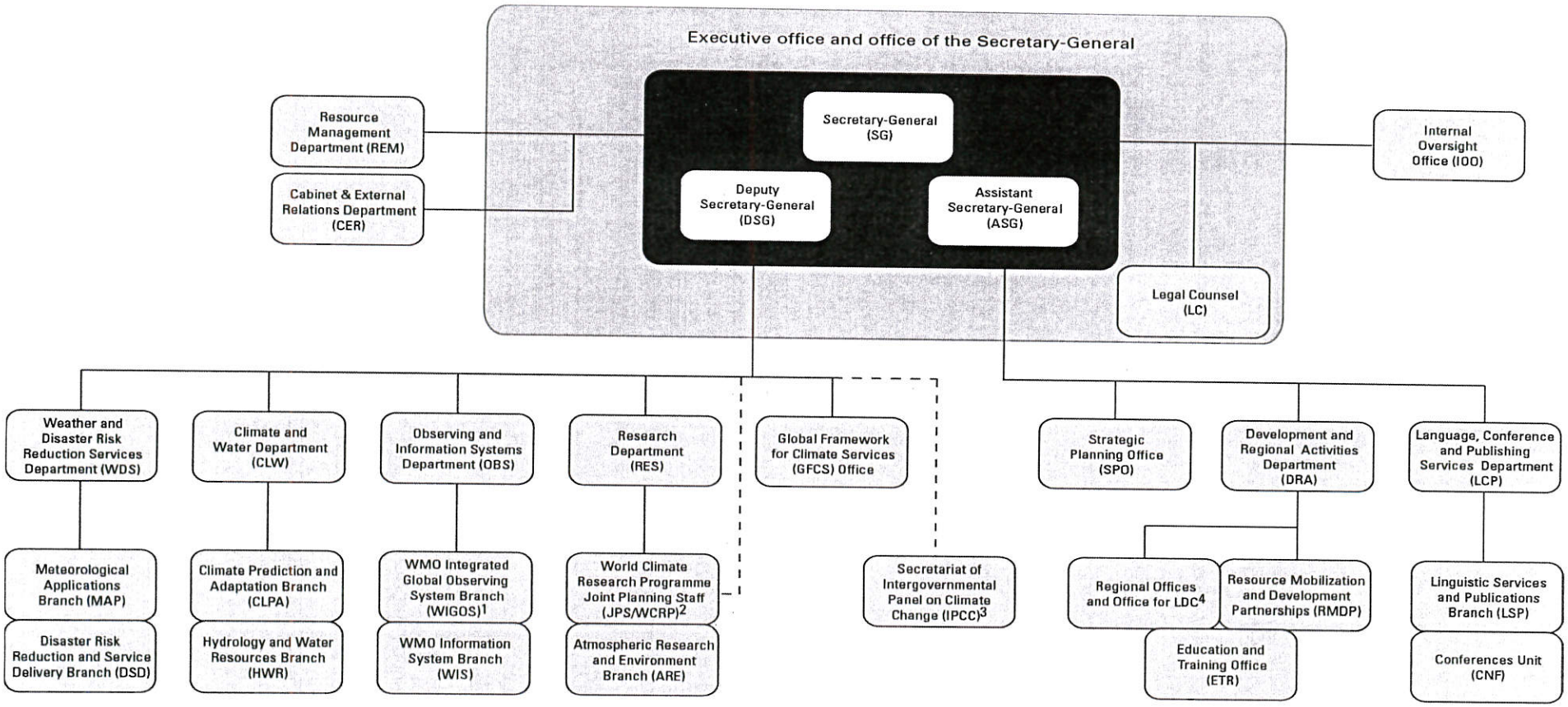
Standard costs: Amounts used for budgeting and budgetary control purposes. These represent either targeted or estimated average unit costs.

Surplus: Represents the cumulative excess of income over expenditure.

Voluntary resources: Total sum of jointly funded voluntary resources, anticipated voluntary resources and additional voluntary requirements.

Zero nominal growth (ZNG): ZNG describes the maintenance of the budget at the same level from one financial period to another.

ANNEX C
Organizational Structure



1. The Department also houses the Secretariat of the Global Climate Observing System (GCOS), a joint undertaking of WMO, the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational Scientific and Cultural Organization (UNESCO), the United Nations Environment Programme (UNEP) and the International Council for Science (ICSU)
2. WCRP joint programme of WMO, ICSU and UNESCO/IOC
3. IPCC co-sponsored by WMO and UNEP
4. Least Developed Countries

March 2014

ANNEX D

Guidance of EC-66 for the preparation of the budget proposal for 2016-2019 (Abridged final report with resolutions of EC-66)

WMO Strategic Plan

4.8.1.2 The Council considered the draft WMO Strategic Plan 2016–2019 and decided to recommend it to Congress with further improvements to:

(a) Simplify the topology of the document, making the priorities the centrepiece of the document and ensuring that they are explicitly linked to budget requests set out in the revised budget proposal;

(b) Have the following as priorities:

1. Improve the ability of NMSs to meet ICAO requirements focusing on accelerating the implementation of competency standards and QMS to: (a) meet the emerging needs of the global air navigation plan; (b) meet the emerging issues in WMO Regions; and (c) strengthen cost recovery frameworks;

2. Implement climate services under the GFCS Implementation Plan particularly for countries that lack them focusing on supporting the establishment of regional climate centres; identify user requirements for climate products; develop the Climate Services Information System (CSIS);

3. Complete the implementation of the WIGOS/WIS focusing on the implementation of all the building blocks of the framework and supporting the uptake at regional and national levels;

4. Implement operational polar weather, climate, and hydrological services focusing on operationalizing the Global Cryosphere Watch and advancing the Global Integrated Polar Prediction System (GIPPS);

5. Enhance the capacity development of NMHSs to deliver on their mission by helping them to enhance their human resources, technical capacities and their infrastructure, particularly in developing, least developed and small island developing States;

6. Improve expertise in providing high quality impact-based forecasts and, in particular, early warning of high impact weather, climate and water events, thereby contributing to international efforts on Disaster Risk Reduction and Prevention; and

7. Conduct a strategic review of WMO structures, operating arrangements and budgeting practices focusing on the effectiveness of constituent body activities and the Secretariat arrangements;

(c) Shorten and simplify the Strategic Plan, use action-oriented language and delete the appendices.

4.8.1.3 The Council requested the President to work with the Working Group on Strategic and Operational Planning to finalize the draft Strategic Plan by August 2014, in time for the preparation

of the budget and further requested the Secretary-General to submit the Strategic Plan and budget to Cg-17 for consideration.

Budget

4.8.1.4 The Executive Council considered the Secretary-General's budget proposals for the seventeenth financial period (2016–2019) prepared in accordance with Resolution 20 (EC-65). The Council noted that many WMO Members are facing funding pressures and have therefore requested detailed budget proposals relating to the priorities as set out in the revised Strategic Plan to support any request for budget supplementation in the next financial period starting with a baseline budget of existing spending levels.

4.8.1.5 The Council recommended that:

(a) The revised budget proposal should be accompanied by a series of proposed: (i) non-controllable cost increases (ii) savings measures; and (iii) investment measures;

(b) For each measure, component activities, their costs, some justification and the risk of action or inaction should be briefly formulated;

(c) The revised budget proposal should identify and quantify possible savings measures so that corresponding resources can be reallocated to priority activities, prior to consideration of bids for additional funding; and

(d) Savings could be either efficiencies in internal processes, or could arise from proposed reductions in work programmes.
