



## WMO OMM

World Meteorological Organization  
 Organisation météorologique mondiale  
 Organización Meteorológica Mundial  
 Всемирная метеорологическая организация  
 المنظمة العالمية للأرصاد الجوية  
 世界气象组织

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Our ref.: OBS/OSD/IMO/CIMO-ICA-2

GENEVA, 29 April 2016

Annex: 1 (available in English only)

Subject: Revision of the *International Cloud Atlas (ICA) - Manual on the Observation of Clouds and Other Meteors* (WMO-No. 407, Volume I and II)

- Actions required:
1. To provide the WMO Secretariat with your feedback on the proposed draft text of the new edition of Volume I of the *International Cloud Atlas (ICA) - Manual on the Observation of Clouds and Other Meteors* (WMO-No. 407) **not later than 29 July 2016**
  2. To re-advertise the call for candidate photographic images for the new edition of the ICA, to be submitted via the ICA Image Submission website (<http://wmoica.org/index.php/en/>)

Dear Sir/Madam,

You will recall that at its sixty-sixth session (EC-66), the WMO Executive Council strongly supported a proposal from the Commission for Instruments and Methods of Observation (CIMO) to carry out an extensive revision and update of the *International Cloud Atlas (ICA) - Manual on the Observation of Clouds and Other Meteors* (WMO-No. 407, Volumes I and II), to make it the undisputable, web-based, global reference standard for the classification and reporting of clouds and meteors. EC-66 requested CIMO to proceed with the update as soon as possible.

The seventeenth session of the World Meteorological Congress (Cg-17) expressed its pleasure that CIMO had commenced development of the new web-based edition of the ICA as a WIGOS-related document needed for the operation of NMHSs, particularly in developing countries. Cg-17 delegated the WMO Executive Council to approve the ICA by correspondence, to ensure its prompt publication.

I am pleased to inform you that the Management Group of CIMO has now endorsed the draft updated text of the new edition of the ICA. In recognition of the regulatory nature of parts of the text, which comprise Annex I to the WMO Technical Regulations, the sixty-eighth session of the WMO Executive Council (EC-68) will be requested to agree to approval of the proposed text by the President, subject to no objections to the draft text being received from Members by the conclusion of the mandatory three month review period (Regulation 77).

To: Permanent Representatives (or Directors of Meteorological or Hydrometeorological Services) of Members of WMO (PR-6898)

cc: Hydrological Advisers to Permanent Representatives )  
 Presidents and vice-presidents of technical commissions )  
 Presidents of regional associations )  
 Members of CIMO ) (for information)  
 Director General, ASECNA )  
 Executive Secretary, HMEI )

You are therefore kindly requested:

1. To review and provide your feedback on the draft text to Dr W. Zhang, Director of the WMO Observing and Information Systems department (wzhang@wmo.int), with a copy to Dr R. Atkinson (ratkinson@wmo.int) **at your earliest convenience but not later than 29 July 2016**. The draft text is available, in English only, on the WMO website at: <https://www.wmo.int/pages/prog/www/IMOP/IMOP-home.html>. Noting the size and technical content of the draft material, you may wish to call on relevant experts in your country to assist you in the review. Before commencing the review, it may be helpful to consult the explanatory material provided in the Annex to this letter (which is also available with the draft text on the WMO website).
2. To re-advertise widely within your service and with other meteorological institutions and societies in your country, the opportunity for professional meteorologists, weather observers and cloud photographers to submit candidate images for the new ICA, as requested in circular letter PR-6861, ref. OBS-OSD-IMO-CIMO-ICA of 31 July 2015. The special website developed for this purpose will remain open at <http://wmoica.org/index.php/en/> until all the required imagery has been gathered.

I wish to thank you for your valued contribution to WMO and its activities.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'E. Manaenkova', with a stylized flourish at the end.

(E. Manaenkova)  
for the Secretary-General

**GUIDELINES FOR TEXT REVIEWERS OF THE 2016  
DRAFT INTERNATIONAL CLOUD ATLAS**

The current edition of the *International Cloud Atlas (ICA) - Manual on the Observation of Clouds and Other Meteors* (WMO-No. 407) comprises two volumes. The first volume contains text and diagrams only, of which parts comprise Annex I to the WMO Technical Regulations. Volume II contains photographic images and captions only, to illustrate the many cloud types defined and described in Volume I. Volume II and its contents do not comprise WMO regulatory material, so are not subject to this review.

The new edition of the ICA is to be web-based, so Volumes I and II will be integrated into one.

The proposed draft text of the 2016 edition of the International Cloud Atlas is now ready for review by WMO Members. It can be downloaded from the WMO website at:

<https://www.wmo.int/pages/prog/www/IMOP/IMOP-home.html>

The draft text is contained in three separate files:

- The first file includes all text from the Preface to the 1939 edition up to and including Chapter II.3;
- The second file includes Chapters II.4 up to and including II.8;
- The third and final file includes Chapter III plus the Appendices and proposed Glossary.

A description is provided below of the main differences between the old edition of the text and the draft new edition.

On completion of your review, please e-mail your feedback on the new version to Dr W. Zhang ([wzhang@wmo.int](mailto:wzhang@wmo.int)), Director of the WMO Observations and Information Systems Department, with a copy to Dr R. Atkinson ([ratkinson@wmo.int](mailto:ratkinson@wmo.int)) under the title "Review of the 2016 Draft International Cloud Atlas". Should you wish to include comments or suggestions on the draft text, you are requested to cut the relevant part of the text from the draft material, paste it into a new Word file, add your comments or suggestions to that and attach it to your e-mail.

Thank you for reviewing the draft text of the new edition of the ICA.

## **Summary of Changes from the 1975 Edition of Volume I to the Current Draft Edition**

### **General**

The language used in the new draft has been modernized throughout: the use of obsolete or archaic words has been eliminated, with modern equivalents substituted, and the general style has been modernized. The order of sentences in the text has in some cases been changed to enhance logical flow. Because the new edition is to be primarily web-based, the text format has in many places been converted from simple text to tabular format. While changes to content are generally small, the appearance (layout and/or format) of existing tables has been modernized in many cases.

### **Part I**

Apart from those general changes noted above, very few changes of substance have been proposed for Part I.

### **Part II**

Chapter II.1.3.5 includes a description of the Special Clouds, each of which is now proposed for formal recognition in the classification scheme.

The table of Chapter II.1.4 includes a number of new, formal classifications (1 new species, several new supplementary features and special clouds). These are described in more detail under Definitions of Clouds.

In Chapter II.2.1.2, it has been proposed that, for the English version of the ICA, the use of the French term "étage" be discontinued and the English equivalent "level" be used, since in all other languages the same practice is followed.

Chapter II.2.2 "Observational conditions to which definitions of clouds apply" has been moved to II.7.1, where it more appropriately belongs.

Chapter II.2.3, Definitions of Clouds, becomes II.2.2. Much of the contents have been tabulated and there is more use of dot points, but apart from the inclusion of the new classifications (highlighted in yellow), little change has been made.

Chapter II.3, Descriptions of Clouds, has many changes from the 1975 edition, but very few of substance. The first four subsections of each section contain regulatory text. Where small changes have been made to this regulatory text (modernization) all have been checked to ensure that interpretation will not change (to maintain traceability with time).

Chapter II.4, Orographic Influences: The chapter contains no regulatory text. It has been extensively rewritten and the perspective has been changed. It now considers influences on the windward and leeward sides of orographic features, sequentially.

Chapter II.5, Observations from Aircraft: This chapter contains no regulatory text. It has been rewritten to enhance clarity, but no significant changes have been made.

Chapter II.6, Special Clouds: This chapter contains no regulatory text. It has been extensively rewritten and the title changed to 'Upper Atmospheric Clouds'. Previously this chapter included all the special clouds, but now most have been formally classified and all that remains in this

category are the noctilucent and nacreous clouds. It has been rewritten to reflect the significant increases in knowledge that have occurred in this area since the 1975 edition.

Chapter II.7, Observation of Clouds from the Earth's Surface. This chapter contains no regulatory text. The introduction has been rearranged, uses dot points, and includes the material relocated from the previous Chapter II.2.2. A completely new feature of the new edition is the simple pictorial identification aid for the 10 Genera, which has been added in II.7.2.

Chapter II.8, Coding of Clouds in the CL, CM and CH and Corresponding Symbols. II.8.2 and II.8.4 currently contain regulatory material. The technical and non-technical specifications for each cloud type in II.8.2 have been merged, and the commentary and further remarks for each cloud type have been included under an Explanation sub-heading for each. The detailed coding instructions for each cloud code have been moved to new sections of regulatory text: II.8.3.1-3.

The three pictorial decision aids and guidance on their use (II.8.3.1-4) have been revised and improved in appearance and now appear together as non-regulatory text in II.8.3.4.

Not all of the cloud symbols in II.8.4 have yet been sourced in visually appealing electronic format but will be added prior to publication, without change from the 1975 edition.

### **Part III**

Chapter III.1 comprises regulatory material. The tables have been replaced and all subsections have been merged into one but only editorial changes have been made to the text to reach a wider audience.

In Chapter III.2 all definitions in italics comprise regulatory material. The remainder of the text is non-regulatory. Significant expansion of explanatory text has been proposed throughout Part III where scientific knowledge has advanced greatly since 1975 and the section has been rewritten to simplify sentence structure and modernize the language.

In Chapter III.2.1, Hydrometeors other than clouds, a new paragraph has been added on freezing fog, and there is new commentary on the various types of fog. New entries, including proposed definitions, appear for Snow Devil and Steam Devil. The title of Section III.2.1.5 Spout has been changed to Hydrometeors Consisting of a Vortex of Particles, and includes mention of the various types of spout and a table of tornado intensities.

Chapter III.2.2 Lithometeors includes an enhanced section on dust/sand whirl/devil.

Chapters III.2.3 Photometeors and III.2.4 Electrometeors have been extensively changed to include more descriptive explanations to reflect the large advances in understanding since 1975.

In Chapter III.3 very little has been changed.

Each of the three Appendices has been simply updated.

A new Glossary has been added and the Index has been removed, to be replaced by an on-line search engine.