World Meteorological Organization
Organisation météorologique mondiale

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Наш исх.: № DRA-AP/RAII/OBS (Survey) ЖЕНЕВА, 12 декабря 2011 г.

Приложение: 1 (имеется только на английском языке)

Вопрос: Вопросник по метеорологическим приборам, калибровке и подготовке кадров в Региональной ассоциации II (Азия)

Предлагаемые меры: Возвратить заполненный вопросник в Региональный центр по приборам Цукуба (Япония) не позднее **31 января 2012 г.**

Уважаемый господин/Уважаемая госпожа,

Я хотел бы информировать Вас о том, что семинар ЯМА/ВМО по менеджменту качества приземных, климатических и аэрологических наблюдений в Региональной ассоциации II (Азия), который был проведен в Токио, Япония, в июле 2010 г., пришел к заключению, что к числу основных факторов, негативно влияющих на качество данных в РА II, относятся калибровка и техническое обслуживание приборов, в основном, вследствие недостаточного уровня соответствия измерений международным стандартам и нехватки технических средств калибровки. На семинаре было отмечено, что существует настоятельная потребность в программах наращивания потенциала по калибровке и менеджменту качества данных среди стран-членов. Семинар принял рекомендацию о том, чтобы услуги региональных центров по приборам (РЦП) в полной мере использовались странами – членами РА II для решения этих проблем.

Комиссия по приборам и методам наблюдений (КПМН) на своей пятнадцатой сессии, проведенной в Хельсинки, Финляндия, в сентябре 2010 г., рекомендовала, чтобы РЦП поддерживали базу данных о стандартах, используемых странами – членами Региона и уже откалиброванных в РЦП; разрабатывали необходимые учебные материалы и осуществляли организацию учебных мероприятий с целью углубления понимания проблемы соответствия измерений международным стандартам в Регионе в сотрудничестве с КПМН.

По отношению к измерению радиации региональные радиационные центры назначены для выполнения функций центров для внутрирегиональных сравнений приборов по измерению радиации в рамках Региона и технического обслуживания эталонных приборов, необходимых для этой цели. Эти центры должны обеспечивать необходимые технические средства для работы на открытом воздухе с целью одновременного сравнения национальных эталонных радиометров из Региона.

Постоянным представителям стран – членов Региональной ассоциации II (ASE-603)

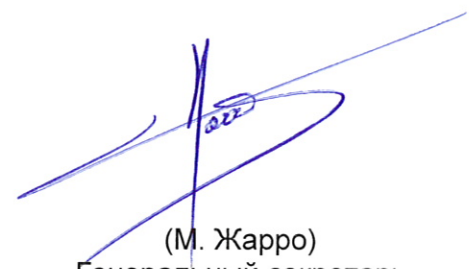
Копии: Президенту РА II)
Вице-президенту РА II) (для информации)
Президенту КПМН)

Прилагаемый вопросник основан на результатах работы РЦП Цукуба и РЦП Пекин совместно с РРЦ Токио и РРЦ Пуна по оценке возможностей стран – членов РА II в области выполнения калибровки, а также их потребностей в обслуживании, предоставляемом РЦП и РРЦ, включая предоставление учебных материалов и проведение учебных мероприятий для стран-членов. Результаты этого опроса будут использованы РЦП и РРЦ для совершенствования их возможностей и предоставляемых услуг в целях повышения качества данных наблюдений в РА II эффективным и действенным образом.

В связи с этим, а также в целях содействия работе РЦП и РРЦ, я был бы признателен, если бы Вы смогли любезно направить в РЦП Цукуба (Япония) заполненный надлежащим образом вопросник в возможно короткий срок, но предпочтительно **не позднее 31 января 2012 г.**

Ваше сотрудничество по данному вопросу будет высоко оценено.

С уважением,



(М. Жарро)
Генеральный секретарь

WORLD METEOROLOGICAL ORGANIZATION

QUESTIONNAIRE ON METEOROLOGICAL INSTRUMENTS, CALIBRATION AND TRAINING IN REGIONAL ASSOCIATION II (ASIA)

This questionnaire is based on the work of Regional Instrument Centre (RIC) Tsukuba and RIC Beijing together with Regional Radiation Centres (RRC) Tokyo and RRC Pune to assess the capability of calibrations of the RA II Members as well as their needs for services provided by RICs and RRCs including provision of training materials and training events to the Members.

Results of the survey will be utilized for RICs and RRCs to fully utilize their capability and available services for improvement of quality of observational data in RA II in an efficient and effective manner.

Name of Member:_____

Person filling out this form:

Title: Mr ☐ Ms ☐ Dr ☐ Prof. ☐ (Please tick appropriate)

Name: _____

Organization: _____

Address: _____

_____

Telephone: _____

Facsimile: _____

Email: _____

Date: _____ _____

(Signature of Permanent Representative)

Part I. Instruments and calibration

Q 1. Instruments in operational use

(Q 1-1) Which instruments do you use for operational observation? Please choose the types/methods of instruments by ticking the appropriate boxes and describe the manufactures and the models of the instruments. If you use two or more manufacturers or models in one type/method of instruments, please describe it/them in "others " box(es) additionally.
Then follow the questions on the status of calibration. Are the instruments calibrated with standard instruments? If "Yes", how often calibrations are performed?.

(a) Pressure

□ Mercury barometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Aneroid barometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Barograph
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Electronic barometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others (Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others (Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

(b)Temperature

□ Liquid-in-glass thermometer

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Thermograph

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Electrical thermometer

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Others(Type/method of the instrument: _____)

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Others(Type/method of the instrument: _____)

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

(c) Humidity

□ Assmann aspirated psychrometer

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Other psychrometer (Name of the instrument: _____)

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Hair hygrometer

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Lithium-chloride heated condensation hygrometer

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Electrical hygrometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

(d) Wind

□ Cup anemometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Wind vane
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Pressure tube anemometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Propeller anemometer and vane
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Sonic anemometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument: _____)

Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

(e) Precipitation

□ Ordinary gauge
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Weighing gauge
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Tipping bucket gauge
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Float gauge
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

(f) Radiation

□ Pyrheliometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Pyranometer(thermoelectric, photoelectric, pyroelectric, bimetallic etc.)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Pyrgeometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Net radiometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Sunphotometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument : _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Others(Type/method of the instrument: _____)
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

(g) Sunshine duration

□ Campbell-Stokes sunshine recorder
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Jordan sunshine recorder
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Pyrheliometer
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Photo voltaic cell recorder
Manufacturer: _____ Calibration:
Model: _____ □Yes-> □Regular intervals: every__years
□Irregular intervals
□No

□ Scanning method sunshine recorder

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Others(Type/method of the instrument: _____)

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

□ Others(Type/method of the instrument: _____)

Manufacturer: _____ Calibration:

Model: _____ □Yes-> □Regular intervals: every__years

□Irregular intervals

□No

(Q 1-2) Supplementary comments with regard to (Q 1-1), if any.

_____

_____

_____

Q 2.National meteorological standards and traceability to an international standard

(Q 2-1) Do you maintain national meteorological standards*? Please tick the appropriate boxes. If your answer is "Yes", please describe them.
If your answer is "No", skip to (Q 2-3).
*(*National meteorological standard: A standard recognized by a NMHS decision to serve, in a member country, as the basis for assigning values to other standards.)*

(Q 2-2) If your answer is "Yes" in some questions of (Q 2-1), do you calibrate your national meteorological standards with superior standards which are traceable to international standards* ? Please tick the appropriate boxes.
If your answer is "Yes", please describe the superior standard.
*(*International standard: A standard recognized by an international agreement to serve internationally as the basis for assigning values to other standards of the quantity concerned.)*

(Q 2-3) Do you have your traveling standards*? Please tick the appropriate boxes.
If your answer is "Yes", please describe them.
*(*Traveling standard: A standard, sometimes of special construction, intended for transport between different locations.)*

(a) Pressure

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used:
□Pressure balance(Dead weight tester)
□No □Mercury barometer
□Electronic barometer
□Others(_____)
Instrument manufacturer: _____
Instrument model: _____
The year of manufacture: _____
Uncertainty: _____(unit)
Date of the last calibration with a superior standard: _____
Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)
Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)

(b) Temperature

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used:

□Platinum resistance thermometer

□No □Liquid-in-glass thermometer

□Others(_____)

Instrument manufacturer: _____

Instrument model: _____

The year of manufacture: _____

Uncertainty: _____(unit)

Date of the last calibration with a superior standard: _____

Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

(c) Humidity

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used:

□Chilled mirror dewpoint hygrometer

□No □Electrical hygrometer

□Psychrometer

□Others(_____)

Instrument manufacturer: _____

Instrument model: _____

The year of manufacture: _____

Uncertainty: _____(unit)

Date of the last calibration with a superior standard: _____

Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____
Uncertainty: _____(unit)

(d) Wind

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used:
□Pitot tube
□No □Differential pressure
□Hot wire
□Others(_____)
Instrument manufacturer: _____
Instrument model: _____
The year of manufacture: _____
Uncertainty: _____(unit)
Date of the last calibration with a superior standard: _____
Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)
Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)

(e) Precipitation

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used:
□Weight
□No □Volume
□Others(_____)
Instrument manufacturer: _____
Instrument model: _____
The year of manufacture: _____
Uncertainty: _____(unit)
Date of the last calibration with a superior standard: _____
Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)
Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

(f) Radiation

(f-1) Pyrheliometer

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

The year of manufacture: _____

Uncertainty: _____(unit)

Date of the last calibration with a superior standard: _____

Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

(f-2) Pyranometer

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

The year of manufacture: _____

Uncertainty: _____(unit)

Date of the last calibration with a superior standard: _____

Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

(f-3) Pyrgeometer

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

The year of manufacture: _____

Uncertainty: _____(unit)

Date of the last calibration with a superior standard: _____

Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

(f-4) Sunphotometer

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

The year of manufacture: _____

Uncertainty: _____(unit)

Date of the last calibration with a superior standard: _____

Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____

Uncertainty: _____(unit)

Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____

Instrument manufacturer: _____

□No Instrument model: _____
Uncertainty: _____(unit)

(g) Sunshine duration

(Q 2-1) National meteorological standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
The year of manufacture: _____
Uncertainty: _____(unit)
Date of the last calibration with a superior standard: _____
Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)
Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)

(h) Others(Name of the instrument: _____)

(Q 2-1)National meteorological standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
The year of manufacture: _____
Uncertainty: _____(unit)
Date of the last calibration with a superior standard: _____
Interval of calibration with a superior standard : every_____years

(Q 2-2) Superior standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)
Possessor of the instrument: _____

(Q 2-3) Traveling standard

□Yes --> Instrument type/method used: _____
Instrument manufacturer: _____
□No Instrument model: _____
Uncertainty: _____(unit)

(Q 2-4) Supplementary comments with regard to (Q2-1)-(Q2-3), if any.

_____

_____

_____

Q 3. Needs for calibration of standard instruments with RIC or RRC standards

(Q 3-1) If your answer is "Yes" in (Q 2-1), do you wish to calibrate your standard instruments with the standard instruments that RICs or RRCs own? Please tick the appropriate box.
If your answer is "No", skip to (Q 3-4).

□Yes □No

(If your answer is "yes", we will additionally contact you to ask your requirements in detail at a later date.)

(Q 3-2) If your answer is "yes" in (Q 3-1), which standard instruments do you wish to calibrate? Please tick the appropriate boxes.
Then follow the questions on how you wish to perform the calibration? If you want to bring your own standard instruments to RICs/RRCs and have them calibrated there, choose "1". If you want to calibrate your standard instruments on your own with traveling standards that RICs/RRCs send to your laboratory, choose "2". Please tick the appropriate boxes.

□**Instruments measuring pressure**
- □1.You bring your standards to RIC. RIC calibrates them at RIC.
- □2.RIC sends its traveling standard to your laboratory. You calibrate your standards with RICs' standard by yourself.

□**Instruments measuring temperature**
- □1.
- □2.

□**Instruments measuring humidity**
- □1.
- □2.

□**Instruments measuring wind***3
- □1.
- □2.

□**Instruments measuring precipitation***3
- □1.
- □2.

□**Pyrheliometer** *1*3
- □1.
- □2.

□**Pyranometer***3
- □1.
- □2.

□**Pyrgeometer** *2*3
- □1.
- □2.

□**Instruments measuring sunshine recorder** *3
- □1.
- □2.

□**Others(Name of the instrument: _____)**

□1.

□2.

*1: Calibration is limited only to comparison with Regional standard when Regional intercomparison is conducted at RRCs in every five years.

*2: Calibration is not available now, but for the future consideration. This is the question for investigating potential requests of calibration in the future.

*3: RIC Beijing and RIC Tsukuba don't have these traveling standards now. This is the question for investigating potential requests of calibration in the future.

(Q 3-3) Supplementary comments with regard to (Q 3-1)-(Q 3-2), if any.

_____

_____

_____

Q 4. Calibration laboratories

(Q 4-1) Do you have calibration laboratories? Please tick the appropriate boxes.
If your answer is "Yes", is the laboratory accredited with ISO 17025(General requirements for the competence of testing and calibration laboratories)? Please tick the appropriate boxes.

(a)Pressure

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(b)Temperature

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(c)Humidity

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(d)Wind

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(e)Precipitation

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(f)Radiation

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(g)Sunshine duration

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(h)Others(Meteorological variable _____)

□Yes, I have a laboratory -->□in the NMHS.
-->□out of the NMHS.
--> ISO17025 □Yes.
□No.
□Other ISO accreditation or certification(ISO:)
□No.

(Q4-2) Supplementary comments with regard to (Q4-1), if any.

_____
_____
_____

Q5. Questions or comments about instruments and calibrations, if any.

_____
_____
_____

Part II Training

Q1. Do you wish to join any training courses on meteorological instruments held by RICs? Please tick the appropriate box.
If your answer is "No", skip to Q4.
□Yes □No

Q2. If your answer is "Yes" in Q1., which kind of trainings do you require? Please tick the appropriate boxes.
□Principle and operation of instruments
Which instruments do you wish to be trained about?
□Pressure
□Temperature
□Humidity
□Wind
□Precipitation
□Radiation
□Sunshine duration
□Radiosonde
□Visibility meter
□Ceilometer
□Snow depth meter
□Others(Meteorological variable :_____)
□Measurement traceability
□Procedure of uncertainty calculation
□Calibration methods of instruments
□Establishment and management of calibration laboratories/ISO 17025
□Quality management of observation data
□Quality assurance of meteorological observation network
□Handling to instruments troubles
□Maintenance of the environmental condition of observing stations
□Installation and operation of AWS
□Commercial instrument initiatives
□Others(_____)

Q3. If your answer is "Yes" in Q2., how do you wish the training programs are conducted ? Please tick the appropriate boxes.
□Regional training workshop at RICs, etc.
□Training at member's laboratory(lecturers are dispatched from WMO or RICs etc.)
□Training at RICs for each member
□Provision of training materials
□E-learning website
□Others(_____)

Q4. Do you have any training courses or materials which can be shared among RAII members? Please tick the appropriate boxes.

□**E-learning website (building own website which includes some e-learning materials etc.)**

(1)Contents: _____ Language: _____

(2)Contents: _____ Language: _____

□**Training materials(Training textbook etc.)**

(1)Contents: _____ Language: _____

(2)Contents: _____ Language: _____

□**E-learning software(developing a software which people can learn about meteorological instruments by themselves etc.)**

(1)Contents: _____ Language: _____

(2)Contents: _____ Language: _____

□**Training events open to other members (organizing workshops on meteorological instruments etc.)**

(1)Contents: _____ Language: _____

(2)Contents: _____ Language: _____

□**Others(_____)**

(1)Contents: _____ Language: _____

(2)Contents: _____ Language: _____

□**Others(_____)**

(1)Contents: _____ Language: _____

(2)Contents: _____ Language: _____

Q5. Supplementary comments with regard to Q1-Q4, if any.

_____

_____

_____

Q6. Questions or comments about trainings, if any.

_____

_____

_____

*Please send the completed questionnaire to the Regional Instruments Centre Tsukuba at the following address not later than **31 January 2012**:*

WMO Regional Instruments Centre Tsukuba for RA II (Asia)
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