CIMO/WIGOS Exploratory Workshop

Improving Surface-based Data Quality Though Improved Standardization of Practices and Procedures

Regional Instrument Centre
(developed countries)

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Some of recent activities of RICs

Traceability dissemination and capacity building:

- ✓ RICs provided traceability of reference standards for basic meteorological parameters: temperature, relative humidity and pressure for NMHSs on regular bases (Serbia, Bolgaria..) especially in countries without fully functional National Metrology Institutes.
  Also bilateral interlaboratory comparison were conducted.
- ✓ Workshops on metrology addresing traceability issues, calibration procedures, uncertainty budget estination were organised (Ljubljana, Cassablanca, Melbourne).
- ✓ Two IOM report, one to be published
- ✓ RIC Toulouse organized bilateral interlaboratoy comparison with DWD in the field of pressure and relative humidity.
- ✓ International workshop on Metrology for Meteorology and Climate – MeteoMet, follow up project Meteomet 2

Some of recent activities of RICs

Field inspection:

RIC Ljubljana implemented activity “Assistance and calibration and maintenance of hydro-meteorological instruments” in the project "Building resilience To Disasters in the Western Balkans and Turkey“:

RIC Ljubljana initially provided traceability and calibration procedures for transfer standards of two calibration kits and dispatched kits to beneficiaries:

Calibration kit No1: Montenegro, Bosnia and Herzegovina (final beneficiary)
Calibration kit No2: Kosovo, Albania and Macedonia (final beneficiary)

Interlaboratory comparison

- Most of RICs in developed countries are accredited at national accreditation bodies with established traceability to National Metrological Institutes.
- ILC represents very effective means to demonstrate technical competence of the laboratory (reliability, calibration procedure, staff confidence and measurement accuracy) and also serves as a technical base for accreditation.
- Very few interlaboratory comparisons were organised in last decade on a level of technical competence of RICs or NMHSs (‘secondary level’ - not BIPM key comparison). The only RIC intercomparison took place in 2008 involved 3 RICs.
- C1 Expert team on Operational Metrology task: RIC inter-laboratory intercomparisons in Regional Associations.

Assistance in accreditaion process for ISO 17025 for MNHSs

Survey on calibration capabilities of Meteo services in the RAVI

Maintain the laboratory calibration and measurement (CMC) capabilities data base

Different aproches on implementing data quality of in-situ observations

NMHSs with calibration laboratories:

- regular laboratory recalibrations of field instruments
- set of transfer standards and calibration equipment for on-site calibration

NMHSs without calibration laboratories:

- using field inspection kits

Estimaton for measurement uncertainty of in situ measured data

Continue to establish traceability functions and data disseminations

- RICs provide traceability of reference standards for meteorological services upon request

Assamble and distribute basic calibration kits to those NMHSs in RAVI have no calibration facilities

- Very positive feedback from Meteo Services involved in project "Building resilience to disasters in Western Balkans" with the transfer standards calibration kits for testing field instruments.

C1 Workplan

- Estimation of calibration uncertainty – traceability to SI (IOM report, workkshops)
- RIC inter-laboratory intercomparisons (demonstrating capabilities in achieving declared RIC calibration and measurement capabilities - CMCs)
- Strengthening RICs and supporting their communication with Members (develop websites, self evaluations)
- Calibration of ceilometer, visibilimeter and present weather sensor (calibration procedure)
- Implementation of the strategy for improving traceability of measurements (guidance)
- Impact of Minamata convention and guidance for transition from mercury-based instruments to alternative technologies (road-map, guidance)

- Use of modern alternatives to obsolete instruments (guidance)
- CIMO Guide update of temperature and pressure chapter (Hg)
- Precipitation procedures (laboratory calibration)