

WMO scoping meeting on a potential WMO recognition mechanism for centennial observing stations

Motivation

A centennial observing station is a surface observing station on land that provides continuous data for 100 years or more. Such data – carefully treated in terms of quality assurance and archiving - are of utmost importance for documenting and studying climate variability and change on decadal to centennial time scales, thereby providing basic input to relevant climate research and services. Moreover, centennial observations serve many other applications too, including environmental studies, vulnerability and disaster risk assessments etc.

Centennial observing sites and measurements may be at risk due to significant changes in the surrounding environment (e.g. artificial structures) or due to enforced closure or relocation as a result of competing societal interests. WMO and its Members have an interest in protecting well-sited long-term observing stations, including centennial observing stations, with good quality time series of meteorological parameters to serve as anchors and reference for climate analyses, monitoring and applications at local, national, regional and global scales.

As of today, centennial observations exist for temperature, precipitation and air pressure mainly, but also for sunshine duration, soil temperature, humidity and cloudiness. Centennial time series of further parameters, as reflected in up-to-date observing programmes, will be enabled by protecting centennial stations in the future.

This initiative aims at highlighting the extraordinary importance of centennial stations and observations for science, human knowledge and services and intends to help Members to properly maintain respective observing sites and protect them against unfavourable changes in the station's neighbourhood, closure or inappropriate relocation. 'Unfavourable' and 'inappropriate', as well as station closure refers to irreversible and irreparable impacts on the observational data, which prevents the generation of long-term homogeneous time series.

Background

Following discussions at ICG-WIGOS-2, EC-65 requested CCI -jointly with GCOS and CIMO- to investigate an appropriate WMO mechanism for the recognition of centennial observing stations based on a minimum set of objective assessment criteria. The initiative is based on a recent WMO survey, to which 65 Members responded, referring to nearly 10.000 centennial observing stations.

Two experts, one from climate and one from observation domains, visited the Secretariat in mid November 2013 to explore existing site certification mechanisms, network criteria and monitoring principles and discuss potential criteria and mechanisms for a WMO recognition of centennial observing stations (draft report attached).

Date and place

11-13 June 2014, WMO Secretariat, Geneva, Switzerland

Working language

The working language of the meeting will be English.

Objectives

- Highlight the role of centennial observations
- Help to protect centennial stations from unfavourable changes in the station environment, including closure or inappropriate relocation
- Promote QMS by applying its principles in the frame of the WMO centennial stations' recognition mechanism
- Promote CIMO's Siting Classification Scheme by applying it for the present and future operation of recognized centennial stations

Scope and expected outcome

The meeting is expected to:

- review the *Draft criteria for a potential WMO designation of centennial observing stations* as proposed by the above mentioned experts, and
- discuss and outline an appropriate WMO mechanism for recognising centennial observing stations.

(Note: In principle, a pragmatic recognition mechanism might comprise (i) a self assessment by Members based on a template, which requests confirmation relative to agreed upon criteria; and (ii) a small expert review board, which would review self assessments once or twice a year by written procedure and which would advise on the recognition. Final recognition to be confirmed by an appropriate WMO body. Recognition mechanism to be described in WIGOS Manual. Recognised observing sites to be listed in an official WMO document, such as WMO publication n° 9, and to be published on the Web, and formal recognition letter to be sent to Member country)

Expected meeting outcome:

- Draft text on WMO recognition mechanism including its motivation;
- Proposed roles and responsibilities;
- Identified WMO regulatory material, in which the recognition mechanism be described;
- Proposal for endorsement process by appropriate WMO body.

Potential participants

Representatives of CCI, CIMO, CBS, GCOS

One expert from NMHSs of Guinea, India, Brazil, USA, Australia, Denmark

One expert from the Hong Kong Observatory

Dr Ingeborg Auer, ZAMG and Michel Leroy, MF

One expert from the Met Office Hadley Centre

Experts from WMO Secretariat as appropriate

Draft agenda

Day	Agenda item	Remarks
1	Opening	
	Organisation of the meeting	
	Centennial observations: Challenges and opportunities	Introductory talk reflecting climate as well as station network aspects from an overall WMO perspective
	Member presentations on aspects of centennial observations	Country and observatory representatives to present challenges and opportunities related to centennial observations from a national perspective. The talks should reflect on (i) characteristics and particularities of centennial observation sites, (ii) aspects of instrumentation, data management, station metadata and data accessibility, (iii) time series quality and availability as well as examples of its use.
	Update on relevant WMO and GCOS activities	Short talks on WIGOS, CIMO, CCI and GCOS activities relevant to centennial observations
2	Technical criteria for a potential WMO recognition of centennial observing stations	Introductory talk of the authors of the draft recognition criteria, followed by a discussion. The aim of the discussion is to review and consolidate the criteria.
	Towards a WMO recognition mechanism for centennial stations	A proposal will be presented to initiate relevant discussions. It is expected to elaborate, and recommend on, a suitable recognition mechanism.
	Roles and responsibilities	Discussion about roles and responsibilities of Technical Commissions and programmes involved including aspects of regulatory material etc.
3	Way forward	Discussion and agreement on a road map to implement the WMO recognition mechanism for centennial stations.
	Any other business	
	Conclusions and recommendations	
	Closing	