

The Global Observing System for Climate

GCOS Update for ICM10

GCOS Secretariat

Potsdam, 23-27 April 2018



ICSU

International Council for Science



GCOS – Global Climate Observing System

- GCOS is a system of system: It comprises any data and information on the climate system taken by in situ, airborne or space-based techniques and platforms, while the ownership of the observing systems and networks will remain fully with their operating entities.
- **Ensure that the observations and information needed to address climate-related issues are obtained and made available to all potential users.**
- It is co-sponsored by:
 - the World Meteorological Organization (WMO),
 - Intergovernmental Oceanographic Commission (IOC) of United Nations Educational, Scientific and Cultural Organization (UNESCO),
 - United Nations Environment Programme (UNEP)
 - International Council for Science (ICSU).



ICSU
International Council for Science



GCOS Contribution to the UNFCCC's Paris agreement

The Conference of the Parties serving as the meeting of the Parties to this Agreement shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals (referred to as the "global stocktake").



GCOS is supporting all these uses of observations in order to support the Global Stocktake and Paris Agreement.

Systematic observations are vital for the Paris Agreement.

Observations are needed to both implement actions and to monitor the progress and impacts

Driving the Global Climate Observation Agenda

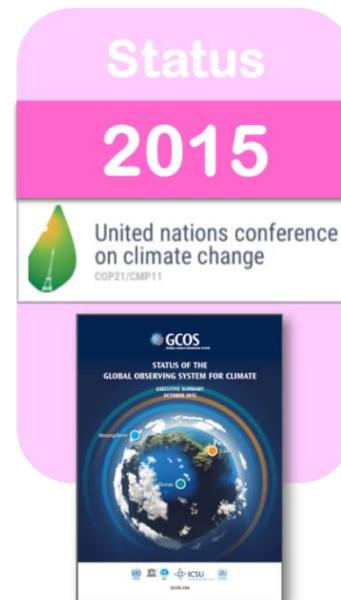
GCOS follows a 3 phase approach driven by users

Identify/Review Essential Climate Variables (ECVs) through science panels

Regular review of how these ECV are observed

Develop plans to ensure continuity and improvement of observations

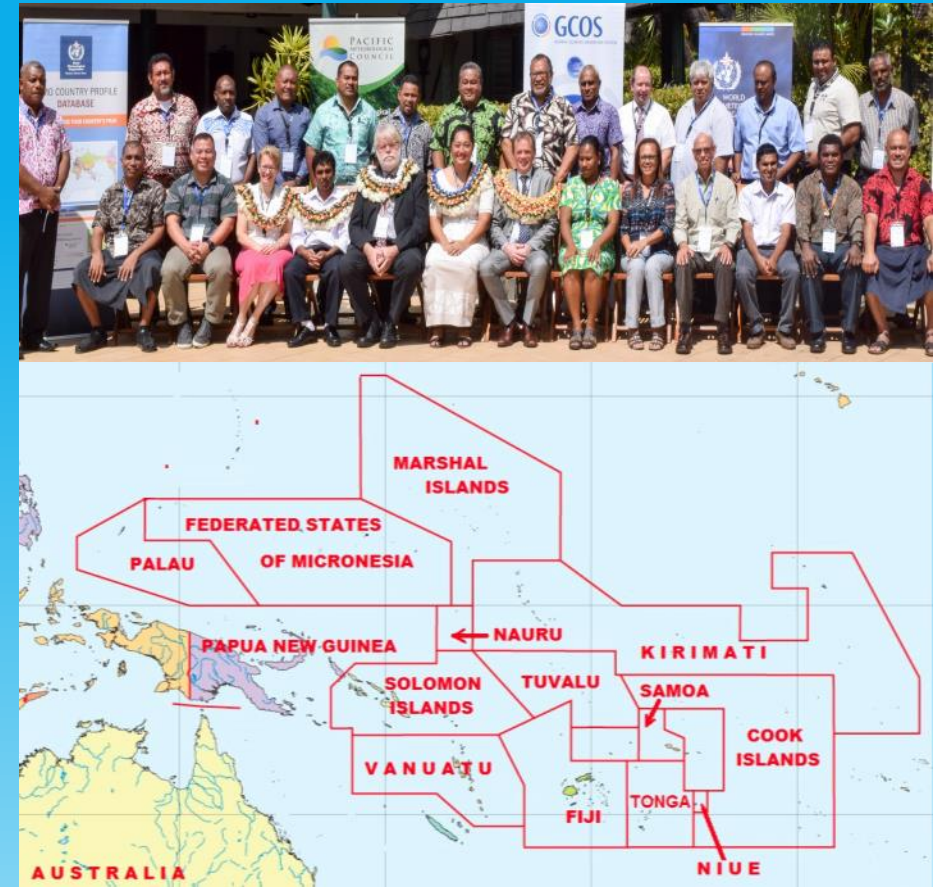
GCOS Reports



2016

First Regional workshop - Pacific Island States

- Held jointly with the WMO Integrated Global Observing System (WIGOS) and hosted by the Fiji Meteorological Office and supported by The Secretariat of the Pacific Region Environment Programme (SPREP)
- **Systematic upper air observations, lead to global benefits, and these observations in the Pacific region have the highest impact, of all ground-based measurements,** on the global quality of weather and climate analysis and prediction.
- Both the spatial density and observing frequency currently fall short of GCOS and WMO requirements and are beyond the resources of SIDS.
- **These observations are a global good and therefore the upper air network over the South Pacific needs sustained international support.**
- National precipitation observations are often insufficient and unrepresentative
- Communications are a major regional issue
- The workshop developed an outline for a **Pacific region observing network plan** which will be presented to COP 24

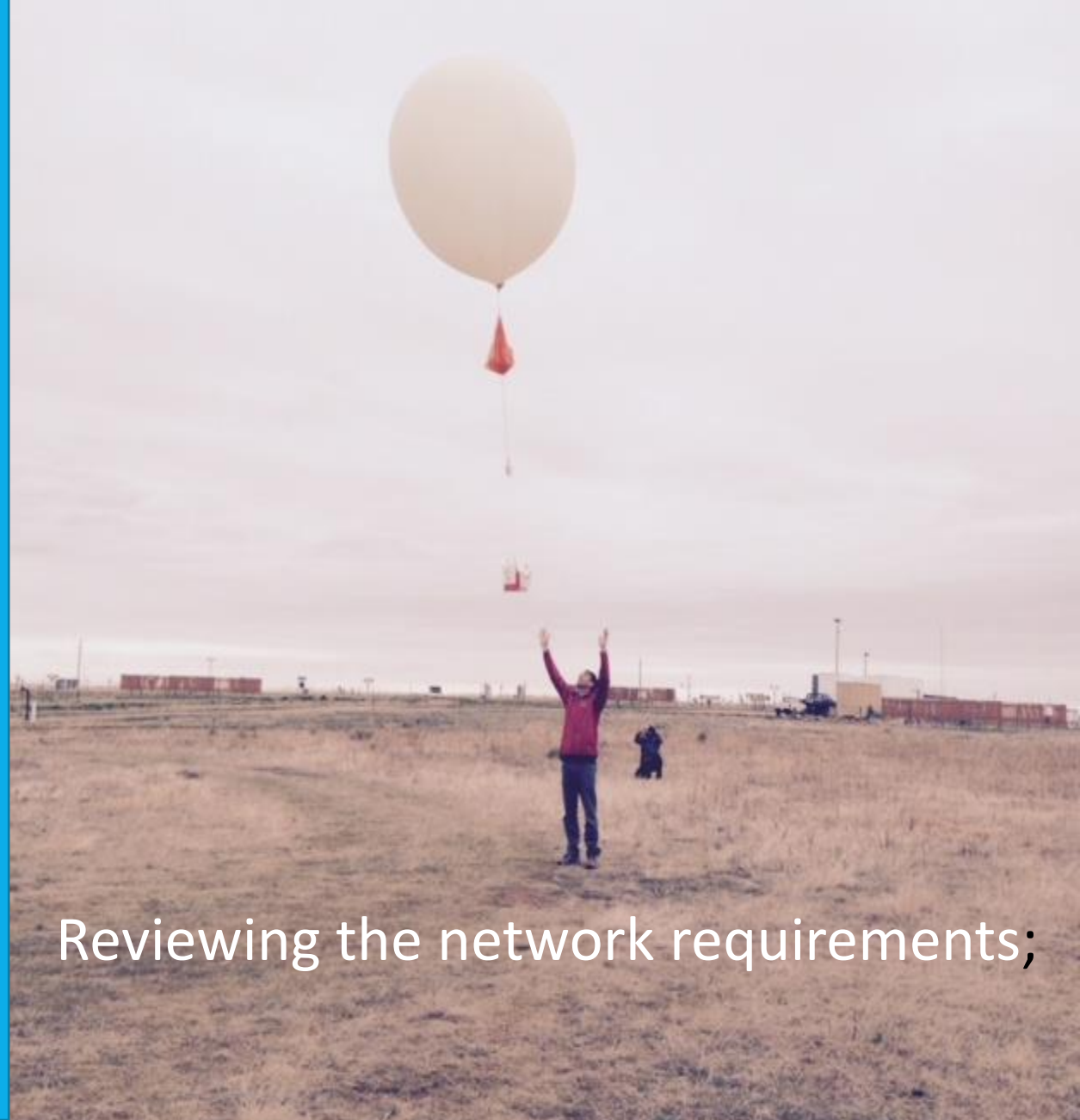


GCOS SRN



“Towards a global land surface climate fiducial reference measurements network”, published in the International Journal of Climatology

GCOS Upper-Air Network



Reviewing the network requirements;

Lightning for Climate



GCOS is laying the foundations for NEW global climate observations.

The **GCOS/CCI task team TTLOCA** will review current observation requirements, define metadata standards and global standards for data management

Radar for Climate



The Task Team on Climate Radar will develop a proposal for the framework and regulations for climate radar observation

- define climate monitoring requirements for precipitation radar data, metadata, best practice.
- Propose how to harmonize retrieval and calibration methods
- Archives
- Handling of historical

1. AOPC 23 – Darmstadt March 2018

Ruud presented an update on GRUAN activities

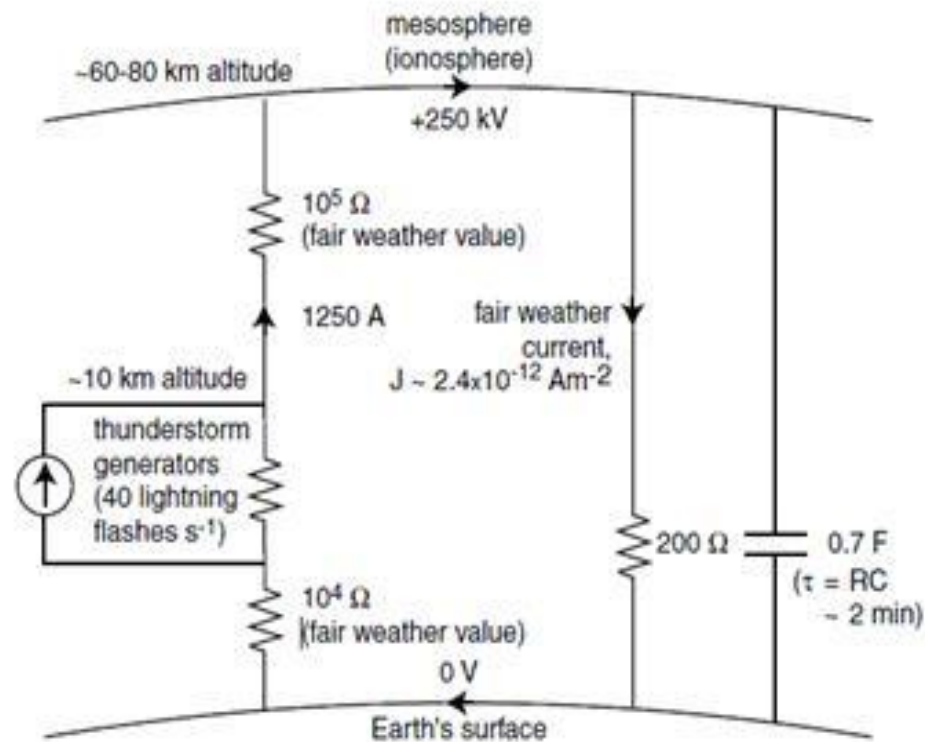
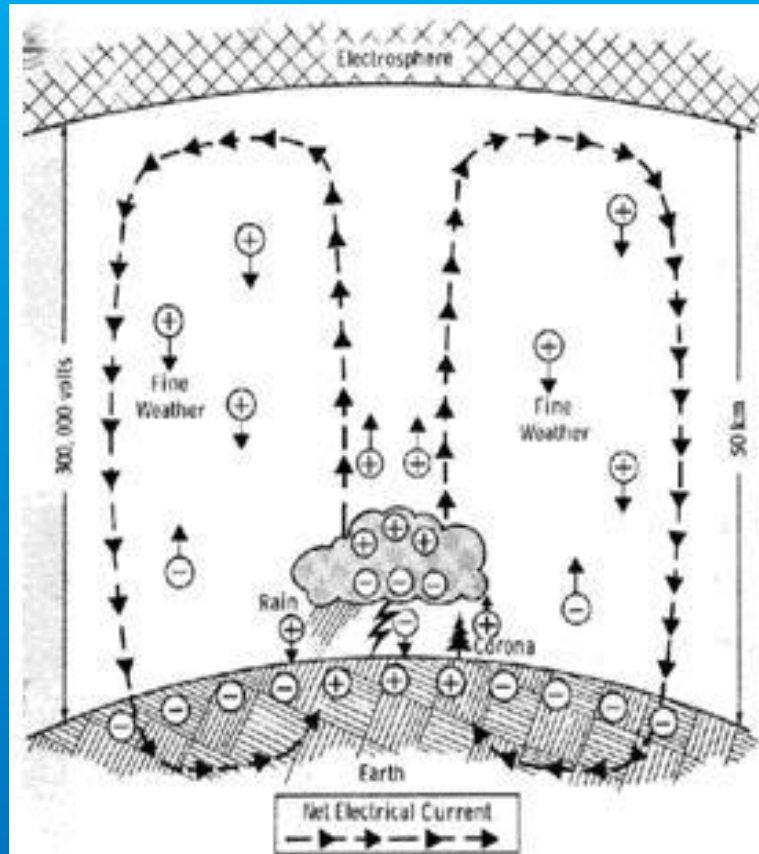
- Need of more interactions with AOPC
- Need of more support to the LC
- Issue of resignation of co-chair: proposed revised structure for the GRUAN WG to reviewed...on agenda

Two actions:

- Given the lack of GRUAN in Africa, S. America, central Asia, AOPC panel members are asked to reach out to their contacts in these countries and to let Ruud know of these contacts.
- Ruud to make up a list on possible duties of LC to be taken up by GCOS. List will be submitted to GCOS Sec and discussed within AOPC

Possible cooperation with the Lightning TT on the global atmosphere electrical circuit

Request from the Lightning Task Team (TT-LOCA)



Global atmosphere electrical circuit: Can be used to measure global lightning activity from one point on Earth

- Initial field campaign to launch balloons with E-field sensors from 3-5 GRUAN sites
- If successful, sounding on regular basis for monitoring possible

Important meetings and time plan 2018-2023

- GCOS Steering Committee: Helsinki, 22-26 October 2018
- Joint GCOS Panels Meeting: Morocco, 18-22 March 2019
- 2nd Science Conference (tentative) 2020
- revision of status report and
- revision of implementation plan (to be ready for 2023)

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Thank you

gcos.wmo.int