WG 3: EWV and Observations

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Side Event: GEO GLOWS and the Harmonization of GEO Water Activities

EWV and Observations

Objectives / Goals

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- Establish a minimum set of EWV and assess the status for each EWV
- Assess opportunities in applying citizen science and private source data to provide EWV data
- Promote continuity in observational systems and open access to data

Goal

Make high-quality (long, extensive, calibrated, homogeneous) key water datasets freely available and easily useable for water research, management, and policy application

EWV and Observations

Geographical Scope

Methodology

- The EWV status will be established through user and expert group surveys
- Non-traditional data sources will be explored by engagement with citizen science and data groups
- Observational system continuity and open data access will be pursued via white papers and advocacy to agencies

Project Governance Structure

WG members will take lead responsibility in specific areas

EWV and Observations

Progress and Achievements

Current Status of EWV List

Primary EWVs	Supplemental EWVs (Apply to Water and other SBAs)
Precipitation	Surface meteorology
Evaporation and evapotranspiration	Surface and atmospheric radiation budgets
Snow cover (including snow water equivalent, depth, freeze thaw margins)	Clouds
Soil moisture/temperature	Permafrost
Groundwater	Land cover, vegetation, and land use
Runoff/streamflow/river discharge	Elevation/topography and geological stratification
Lakes/reservoir levels and aquifer volumetric change	Surface altimetry
Glaciers/ice sheets	Surface radiation budgets
Water quality	Aerosols
Water use/demand (agriculture, hydrology, energy, urbanization)	Atmospheric radiation budgets

EWV and Observations

Progress and Achievements

Clarified the need for a more-formal definition of EWV, their sources, and their targets

Discussions and a telecon have shown the need for harmonizing differences in the approach among committe and agency members

Began collecting contacts into citizen science organizations

The initial WG 3 membership lacked anyone with a strong citizen science emphasis

General Progress:

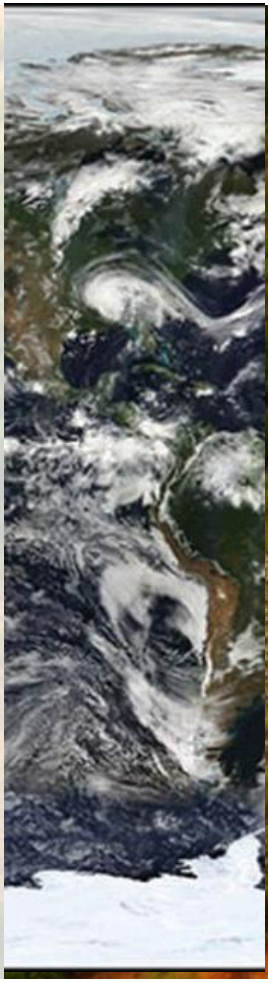
Advocacy for continued observational networks and continuity in satellite observations

EWV and Observations

Deliverables for 2018-2019

- Carry out a study to sharpen definition of Water Cycle and Water Quality EWVs
  - discuss policy drivers (e.g. SDGs), operational needs, links between in situ and satellite data, stakeholder needs, etc.
  - involve GEOGLOWS, Aquawatch, USGS, stakeholders

- Develop a sub-group focused on citizen science
  - assess current and potential citizen science in EWV areas
  - involve GEO citizen science groups, CitizenScience.org, mPing, COCORAHS, GLOBE



EWV and Observations

Deliverables for 2018-2019 (cont.)

- Draft list of at-risk EWV observing systems
  - involve EWV expert community, such as GPCC for precipitation gauges, GRDC for river discharge

- One or more white papers on current or future short-comings in specific EWV observing systems
  - satellite passive microwave sensors for precipitation
  - observing the water cycle in cold regions
  - the future of groundwater measurements
  - opportunities for active remote sensing (radar, laser) in terrestrial hydrology

EWV and Observations

Plans for cross SBA linkages and SDG support

Links to other SBAs or initiatives

EWVs are important and sometimes critical information inputs for Biodiversity, Agricultural and Forestry monitoring, Disaster Risk Management, Climate Resilience, and Renewable Energy.

Contributions to SDGs

SDG 6 (Water) is considered an important basis for defining Water Quality EWVs. Countries require EWVs in order to make timely interventions to achieve the SDGs.

Challenges and Issues:

- The proper organizational structure of the water cycle and water quality EWVs is yet to be determined
- The diverse breadth of EWVs requires a wide range of experts to address the very different technical and application issues that each EWV poses

Thank You

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