

Preparing for the 2022 IP update

GCOS Secretariat



2022 Update (UNFCCC Global Stocktake)



Review (2021) and update (2022) IP actions



Need to update requirements by 2022 (UNFCCC Global Stocktake)

- Requirements follow same approach as in the past



Have 2 values: “threshold” and “goal”

- Threshold – minimum for useful data, Goal – maximum beyond which there is no need to go



No need to supply “breakthrough” values as in OSCAR

- Difficult to assess cost-benefit...

Implementation Plan for GCOS 2004

- Characterize the state of the global climate system and its variability;
- Monitor the forcing of the climate system, including both natural and anthropogenic contributions;
- Support the attribution of the causes of climate change;
- Support the prediction of global climate change;
- Enable projection of global climate change information down to regional and local scales;
- Enable characterization of extreme events

GCOS Implementation Plan 2016: improve the monitoring of the climate system

- To support, climate scientists (e.g. IPCC), adaptation planners and policymakers(e.g. UNFCCC)
- And so
 - Improve global, regional and local climate forecasts
 - Support adaptation;
 - Improve the provision of information to users;
 - Improve the communication of the state of the climate.



Definitions

- Name of ECV
 - Products
 - Definition

Resolution

- Temporal Sampling
- Horizontal and vertical resolution
 - Timeliness

User Requirements

Uncertainty

- Required measurement uncertainty
 - Stability

References and notes

- Standards and references
 - Notes

- Name of ECV
- Products: these are the data items to be delivered to users.
 - They are what is actually measured
 - Measured can mean directly measured (e.g. *permafrost active layer thickness*)
 - Measured can also include derived from measurements (e.g. *above ground biomass*) models or reanalysis based on observations (e.g. *maps of evaporation*)
 - These are what is needed by users
- Definition
 - A precise, complete definition of the product
 - The measurement units in SI units, common units can be given *in addition*

- Temporal sampling needed by users
 - The minimum temporal resolution of the ECV product dataset
- Horizontal and vertical resolution needed by users
 - Minimum horizontal and vertical resolutions of the data set to be provided to users
- Timeliness needed by users
 - The maximum time lag between observations and the data being freely distributed.
 - A addition since GCOS-200

- Required Measurement uncertainty for users
 - The required measurement Uncertainty (see the VIM & GUM). It includes both random and systematic components. Uncertainty should be expressed in units of 2 standard deviations.
 - Three items are needed: the uncertainty metric, the units and the value itself.
- Stability for users
 - The maximum permissible cumulative effect of systematic changes of the measurement system to allow long-term climate records compiled from assorted measurement systems/satellites etc. Uncertainty should be expressed in units of 2 standard deviations.
 - Three items are needed: the metric used to measure change, the units and the value itself.

- References and Standards
 - Any recognized standards and methodological references for the ECV product
- Notes.
 - Additional information to explain the choice of requirement.
 - Each number should be explained.
 - May include links to other documents.

Thank you



**GLOBAL CLIMATE
OBSERVING SYSTEM**

KEEPING WATCH OVER OUR CLIMATE

