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Essential climate variables to support climate change mitigation

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ABSTRACT:

Long-term observation is fundamental to the provision of sound and accessible information needed for sustainable environmental resource management globally including mitigation of greenhouse gas emissions, and the adaptation to climate change that is already an inevitable consequence of past emissions. Opportunities to improve the quality of observations need to be pursued in order to strengthen information available for these purposes, on a global basis and in particular for least developed regions. So far the monitoring of Essential Climate Variables (ECVs) identified by the Global Climate Observing System (GCOS) has focused mainly on the physical climate system, and the needs of climate modelers and others undertaking work assessed by IPCC Working Group I, with little attention paid to human activities and the needs and requirements of climate change mitigation. Accordingly, GCOS and GOFC-GOLD organized an expert meeting, which took place from 5-7 May 2014 at WMO headquarters (http://www.wmo.int/pages/prog/gcos/index.php?name=ObservationsforMitigation) . The meeting considered observation requirements for mitigation, reviewed the ECVs and associated guidelines and their adequacy for mitigation, and how to address gaps and deficiencies identified. The meeting focused on land use to exemplify ideas and options to expand upon ECV observations because the AFOLU sector is currently the sector with the largest data gaps and user needs, and also the sector where the ECV concept seems to be most relevant to mitigation. The discussions have led to important considerations for the role and importance of ECV's in land-based mitigation and has important influence for the type, quality and consistency of space-data needed to support ECV monitoring.

The workshop results have been synthesized (http://www.wmo.int/pages/prog/gcos/Publications/gcos-185.pdf) and as a result GCOS expects that the revised focus of the ECVs will:

- Better consider the relationship between ECVs (especially those related to biomass, land cover, fire, and soil carbon) and the IPCC greenhouse gas inventory guidance for AFOLU, and suggest any revision to the ECV list in time for the next Implementation Plan.
- consider how ECVs relate to the remote sensing product list
- Stimulate the of generating a full global map of land use changes, tracking reported emissions data under the IPCC land use categories.
- Better coordinate with information important for mitigation (not covered within the current ECV context) on land management, drivers and agents of change, and other economic indicators

The presentation will describe these new developments and give examples on how they can be put in practice.

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