**2018 ‘WATER FROM SPACE’ WORKSHOP**

*CEOS Plenary 2017 Discussion Document*

Objective

A better understanding by space agencies of the needs for observations relevant to water.

Background

Over the past decade, space agencies have delivered several missions which are relevant for water. In some cases they have been designed to meet specific water needs (e.g. SMOS, SMAP), but in many cases water services have been incidental beneficiaries (e.g. Landsat series, Sentinels 1/2/3). At the same time, many initiatives have been developed, some of them through the GEO framework expressing a wide variety of observational requirements. However, there has not been an overall coherent dialogue among the water-related communities and as a result CEOS agencies have found it difficult, if not impossible, coherently to address the range of needs.

Where we stand

At present, there are several initiatives, projects and proposals that represent diverse statements of need by the water community. In some of the requirements, their relation to the wider community of potential final beneficiaries from the resulting services has not been clear. In addition, the varyied and in some cases overlapping scope of the different initiatives has made the response of CEOS agencies very challenging.

Proposed way forward

At the 2017 CEOS SIT Technical Workshop a two-day workshop was proposed to allow for an interchange between CEOS agencies and the representatives of the major water-related initiatives in order that CEOS agencies better understand how they might collectively best serve the needs of the wider community of beneficiaries of information related to water, in particular freshwater resources, water management and biodiversity. This would build on the Tuscaloosa workshop held by GEOGLOWS in May 2017 and would allow all relevant projects, largely from within the GEO programme but with other contributions as appropriate, to establish a more coherent dialogue with space agencies. The proposed outcome would be a suite of observational needs directly traceable to policy and service requirements considering the ambitions of all the above communities. Beyond this, a co-ordination among CEOS agencies to respond to these needs would be foreseen.

Implementation

The proposed workshop would be co-Chaired by the proposed 2018 CEOS SIT Vice Chair (CSIRO), with GEO/GEOGLOWS to be asked to co-Chair, and would be held in Q2 2018. A small committee, including volunteers identified at the 2017 SIT Technical Workshop, should be set up to develop the detailed content and expected outcomes. In some cases projects have a specific focus in relation to water services, for example GEOGLOWS, AquaWatch, the Blue Planet initiative, often as part of the GEO programme, while other initiatives have implied relevant requirements in relation to wetland biodiversity and similar topics. These have covered water on land, in the coastal zone or more generally across all aspects of the water cycle. The focus of the workshop would be on the freshwater aspects of the hydrological cycle and water resource management, extending as needed to the coastal zone but excluding oceanography. Some requirements stem from the original IGWCO community and the GEO Water Strategy document of some ten years ago. More recently SDG #6 has crystallised the needs for geospatial information in relation to specific indicators of water availability and quality. These should be taken into account as appropriate.