

VERSION 1.0

2016 CEOS Chair's Annual Report

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As CSIRO's 2016 CEOS Chair term draws to a close, I reflect back on what has been a strategically important year for CEOS. I am proud to have led CEOS through the period and to have stimulated some of these discussions through our two CEOS Chair Initiatives.

In just one year, the **Future Data Access and Analysis Architectures Ad Hoc Team (FDA-AHT)** has produced an impressive and comprehensive review of the challenges and opportunities related to Earth observation data architectures. We have heard that traditional approaches to EO data distribution are not sustainable, and that the evolving ICT landscape is changing the expectations of users while also offering great potential to substantially broaden the user base for our data. With the **endorsement of the CEOS Plenary, USGS will take this forward as a cross-cutting theme in 2017, including a one-year extension of the ad-hoc team to support our engagement with the more strategic dimensions of this topic**, I am certain we will ensure CEOS agency data is used more effectively, on a larger scale, and in new and exciting ways to unlock the true potential of EO for society.

We have also seen significant progress to take the much talked about concept of **Analysis-Ready Data (ARD)** forward in a more concrete manner. Defining this term for CEOS has been one of the first major achievements of the newly re-established Land Surface Imaging Virtual Constellation (LSI-VC), led by ESA, GA, and USGS. With representatives from over 20 CEOS Agencies, this team has rapidly developed a shared understanding of ARD and prepared a high-level definition specifically for land surface imaging – **CEOS Analysis Ready Data for Land (CARD4L)**. The LSI-VC will now demonstrate the application of this CEOS ARD in support of pilot projects including the CEOS Data Cube.

The step-change in Earth observation data volumes is not restricted to the realm of low-Earth orbit, or the land domain. Next-generation GEO imagers, namely Himawari-8 (Japan), GOES-R (NOAA), GEO-KOMPSAT-2 (Korea), Feng Yun 4 (China), and MTG (Europe) will generate unprecedented volumes of data at spatial resolutions approaching that of some of their LEO counterparts, and at temporal resolutions unachievable by any other means. Recognising the enormous potential of this data, the **Non-Meteorological Applications for Next Generation Geostationary Satellites Ad Hoc Team (NMA-AHT)** we established last year has assessed the potential non-meteorological applications of these advanced satellites. **CEOS Plenary endorsed the excellent report of the team, which identified a diverse range of opportunities that I know a number of agencies will take forward, keeping us informed of their progress and learnings.**

At the 2015 CEOS Plenary, Agencies approved the significant Kyoto Statement, affirming our commitment to support a number of key international initiatives and frameworks, including the United Nations Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction 2015-2030, the second decade of the Group on Earth Observations, the Global Climate Observing System (GCOS) and any implications from UNFCCC COP21 (i.e., the Paris Agreement).

In response to these commitments, CEOS has undertaken the following in 2016:

- **Performed a stocktake of existing agency efforts that support the United Nations Sustainable Development Goals (UN SDGs).** EO clearly has an important role to play, and

CEOS will continue to engage through GEO and its GI-18 task. Recognising the importance of the UN SDGs and the scope of work to be undertaken, CEOS is considering the creation of an ad hoc team that will coordinate CEOS efforts related to the SDGs.

- **Continued engagement in the formative phases of the GEO Data Access for Risk Management (GEO-DARMA) Initiative**, through which CEOS will respond to the Sendai Framework, and continued the operation of the WGDisasters thematic pilots and Recovery Observatory (RO).
- **Contributed to the new GCOS Implementation Plan (IP)**. The new GCOS Plan will broaden its scope to address global environmental cycles (e.g. energy, carbon and water), and take into account the UN SDGs, climate services, climate indicators, and the relevant outcomes of COP 21. CEOS will continue to respond to the requirements set out in the GCOS IP and is therefore well-positioned to ensure that these requirements are comprehensively addressed.
- **Ensured a greater strategic role in GEO through representation on both the GEO Programme Board and GEO Executive Committee**. This is in addition to the continued coordination of satellite Earth observation as the ‘space arm’ of GEO; direct support for Initiatives and Flagships; and implementation of thematic observing strategies for topics such as agriculture, disasters, carbon and water.

A notable example of CEOS support to GEO thematic observing strategies is the work of the **Water Strategy Implementation Study Team (WSIST)**, which has been led admirably by JAXA throughout 2016. Tasked with implementing the CEOS response to the *Group on Earth Observations System of Systems (GEOSS) Water Strategy*, in 2016 it primarily focused on preparing a thoughtful report on the feasibility of developing a Water-Train satellite constellation. At Plenary, **CEOS recognized the completion of the feasibility study, noting that all but one of the remaining Water Strategy actions have been successfully allocated to ongoing CEOS groups and initiatives. The final task – developing a feasibility study for hyperspectral water-related measurements – will be completed within 4 months.** We thank JAXA for successfully delivering on the mandate of the AHT. We will monitor the GEOGLOWS initiative as a potential overarching framework for CEOS water related activity, and at our SIT-32 meeting in 2017 we will evaluate the need for follow-on actions.

I am certain that CEOS will continue to make great progress on all themes, and the continuity provided by **USGS as CEOS Chair for 2017** is important and I welcome that enthusiastically. I wish Frank Kelly and the rest of the USGS CEOS Chair Team all the best for 2017.

Thank you again for the opportunity to serve as CEOS Chair in 2016.