Memorandum

From: Polar Space Task Group

To: CEOS Plenary, 24-16 October, Bangalore, India

Title: Polar Space Task Group Information background and recommendations to CEOS

Prepared by: Yves Crevier and Steven Hosford, members of PSTG, and Mark Drinkwater, Chair of PSTG

Related documents: Polar Space Task Group terms of reference; PSTG presentation

Purpose:

Inform CEOS on the Polar Space Task Group (PSTG) status and latest development, stimulate a reflection within CEOS on the importance of polar and cryospheric issues, and propose to develop a formal relation with PSTG.

Background:

During the International Polar Year (IPY) a Joint Committee (JCOMM) of WMO and ICSU co-sponsored IPY activities and contributed to the coordination and implementation of a wide international array of interdisciplinary scientific activities. As part of its sub-committee on Data, the JCOMM mandated the IPY-Space Task Group (IPY-STG) - comprising invited representatives of each of the Space Agencies with relevant observational assests - to plan and coordinate the necessary acquisition planning, and to fulfil the principal scientific objectives of approved IPY projects requiring spaceborne data. The IPY-STG was assembled to address both CEOS and CGMS member agencies, and thus represented the interests of both R&D and operational agencies alike, but also successfully engaged satellites operated in the commercial sector (e.g. TerraSAR-X, RADARSAT-2 and Cosmo-Skymed, SPOT). The logic of embedding STG within the JCOMM was to ensure that the requirements stemming from IPY projects were considered, and that the data were being acquired in response to to the principal scientific objectives.

Prior to the close of IPY, WMO Congress XV had approved a Canadian request to prepare a new Global Cryosphere Watch (GCW) programme which was designed to capitalise on the legacy of the IPY. A new WMO Executive Council Panel of Experts on Polar Observations Research and Services (EC-PORS) was assembled to oversee the preparation of GCW. EC-PORS prepared the proposals which were submitted and subsequently approved by WMO Congress XVI.

Meanwhile, the newly elected President of WMO, invited the former Chair of IPY-STG to investigate re-establishing the coordination group under the auspices of WMO and EC-PORS. This group is now known as the Polar Space Task Group (or PSTG).

The PSTG is a successor of the successful International Polar Year Space Task Group (IPY-STG), established for the purpose of Space Agency planning, processing and archiving of the IPY Earth Observation legacy dataset. The group’s mandate is to provide coordination across space Agencies to facilitate acquisition and distribution of fundamental satellite datasets and to contribute to or support development of specific derived products in support of polar and cryospheric scientific research and applications. The PSTG shall actively seek realisation of benefits from the growing constellation of polar orbiting satellites by mobilising the unique and complementary capabilities of each of the respective participating Agencies, whether research and development or operationally oriented.

The agreed upon functional requirements are:

* Assemble disciplinary science requirements for polar and cryospheric research uniquely addressable with spaceborne systems through regular and broad interaction with the science community.
* Through iteration amongst the planning and processing arms of the participating international space agencies, develop a concise, prioritized list of observational objectives based on:
  + efficient use of the international constellation of satellites;
  + operating mandates of each space agency;
  + satisfying science objectives best served by coordinating agency activities.
* Regularly assess and revise observation acquisitions and acquisition plans
* Redirect observation priorities over time
* Develop plans to use shared resources for processing and distributing data and data products
* Establish subgroups addressing instrument specific issues
* Encourage participation by all interested space agencies

Issue:

The activity of PSTG is mandated by a United Nations Agency which spans 189 member states and territories, and conducted under the auspices of the WMO Executive Council Panel of Experts (EC-PORS), responsible for polar and global cryosphere matters. This has the advantage of the broadest possible reach and benefits of data in relation to national and international initiatives.

While most of the PSTG members, but not all, are individually linked directly or indirectly to CEOS (see attached list), no formal link allowing optimal and efficient communication and working channels between PSTG and CEOS currently exists.

Recommendations:

In order to strengthen PSTG’s effectiveness, raise the profile of issues in connection with critical observation gaps, address priorities and conflict in mission planning and data access, and ensure a broader engagement of new space agencies in PSTG, the PSTG/CEOS common representatives would like to suggest the following recommendations:

1. For CEOS to reflect on the importance of polar and cryospheric issues within their current priorities
2. For CEOS and CEOS SIT to formally establish communication, working, and reporting channels with PSTG.

Appendix 1

List of PSTG members and agency representatives invited at the PSTG meeting:

*Members of PSTG*

Drinkwater, Mark Chair ESA/ECPORS Mark.Drinkwater@esa.int

Battazza, Fabrizio ASI Fabrizio.Battazza@asi.it

Stephen, Hosford CNES steven.hosford@cnes.fr

Crevier, Yves CSA Yves.Crevier@asc-csa.gc.ca

Peng, Zhang CMA zhangp@cma.gov.cn

Gottwald, Manfred DLR Manfred.gottwald@dlr.de

Floriciou, Dana DLR dana.floricioiu@dlr.de

Holmlund, Kenneth EUMETSAT Kenneth.holmlund@eumetsat.int

Buss de Souza, Ronald INPE ronald@dsr.inpe.br

Shimada, Masanobu JAXA Shimada.Masanobu@jaxa.jp

Dobson, Craig NASA craig.dobson1@nasa.gov

Key, Jeff – ViceChair NOAA/ECPORS jkey@ssec.wisc.edu

ClementeColon, Pablo NOAA pablo.clementecolon@noaa.gov

Asmus, Vasilii PLANETA asmus@planet.iitp.ru

Mullins, Jerry USGS jmullins@usgs.gov

*Secretariat*

Bojinski, Stephan WMO/WSP sbojinski@wmo.int

Lafeuille, Jerome WMO/WSP jlafeuille@wmo.int

*Invited Participants*

Jung, Thomas AWI thomas.jung@awi.de

Varotto, Condrado CONAE varotto@conae.gov.ar

Dowell, Mark European Commission mark.dowell@jrc.ec.europa.eu

Kumar, Kiran ISRO kiran@sac.isro.gov.in

Kim, Dohyeong KMA dohyeong@gmail.com

Kennicut, Mahlon SCAR m-kennicutt@tamu.edu

Sparrow, Michael SCAR mds68@cam.ac.uk

Paul, Frank University of Zurich frank.paul@geo.uzh.ch

Zemp, Michael University of Zurich michael.zemp@geo.uzh.ch

Scheuchl, Bernd University of California Irvine bscheuch@uci.edu

Stryker, Tim CEOS tstryker@usgs.gov

Barbara Ryan GEO bryan@geosec.org

Dexter, Peter JCOMM p.dexter@bom.gov.au

Ryabinin, Vladimir WCRP vryabinin@wmo.int

Goodison, Barry WMO/GCW bgoodison@wmo.int

Sarukhanian, Eduard WMO/IPD esarukhanian@gmail.com

Mohr, Tillmann WMO Tillmann.Mohr@tonline.de