

Space Task Group (STG) of the IPY Sub-committee on Observations Second Session

Summary Report

The Space Task Group (STG) of the Sub-committee on Observations of the ICSU/WMO Joint Committee for the International Polar Year (IPY) is the body tasked with addressing how to meet the space observation requirements of IPY. It is comprised of nominated representatives of Space Agencies, and WMO provides the secretariat support. The basis of the work has been consolidation of observational requirements as defined through individual Space Agency Announcement of Opportunities, IGOS-P Cryosphere Theme, WCRP CliC and other institutional requirements obtained via the IPY survey.

The second meeting of the STG took place on kind invitation of Eumetsat in Darmstadt, Germany on 26-27 November 2007 (see Agenda in Annex 1). The following Space Agencies took part: CMA, CNES, CSA, DLR, ESA, Eumetsat, NASA, and NOAA (see Annex 2). Invited attendees included representatives from the IPY Joint Committee, JCOMM, the IPY Sub-Committee on Data Policy and Management, and the WMO Space Programme.

The meeting gave the opportunity for the Space Agencies to document details of the contents of their respective IPY Data Portfolios. Existing Agency portfolio contents are documented and now hosted on-line on the GIIPSY web site (see Annex 1).

Results from meeting indicated significant progress during the first year of IPY in response to acquiring comprehensive Arctic and Antarctic snapshots. An impressive array of new data products have been planned, acquired and archived with which to address some of the key scientific goals. Some examples shown (*and not exhaustive list*) were:

- Dedicated SPOT-4 VGT 1km weekly summer Arctic mosaics during 2007 (Antarctic to come during austral summer) - from CNES
- SPOT-5 HRS derived Digital Elevation Models of specific Arctic outlet glaciers and ice caps - from CNES
- TerraSAR-X strip-map mode InSAR of ice streams in Antarctica - from DLR
- L-band mosaics of Antarctica from ALOS PALSAR - from JAXA
- Envisat ASAR regular bipolar GMM and Wide-swath mosaics and routine Arctic basin wide sea-ice motion, and Ross/Weddell Sea ice motion - from ESA
- SAR measurements of fastest moving ice streams in Greenland using Envisat-ERS-2 inter-satellite interferometry (now in tandem configuration) - from ESA
- Inter-satellite InSAR of Siberian tundra topography (using ERS-2 - Envisat tandem configuration) - from ESA

- CSA ASAP activity for distributing R1 sea-ice imagery
- CSA RADARSAT-1 InSAR mapping of Antarctic glaciers during late 2007

In addition to these the operational agencies reinforced the routine acquisition of:

- Operational meteorological and met-ocean products at high latitudes - from Eumetsat and NOAA
- Routine atmospheric and atmospheric chemistry observations at high latitudes - from DLR, ESA, Eumetsat, and NASA

Results demonstrated significant progress in building a space-borne component of the IPY data legacy.

In addition, STG reviewed and acknowledged the progress achieved in the IGEOLAB HEO forum, which has taken up responsibility to further cooperation in the context of geostationary laboratories in highly elliptical orbit. The STG welcomed the opportunity that had been provided for other space agencies to participate in Arktika mission, and notes the positive steps taken to allow national user requirements to drive development and integration of additional candidate instruments/payloads.

STG extended their congratulations to DLR for the success of the launch of TerraSAR-X. Examples of IPY-relevant results indicate spectacular results which show great promise for scientific applications. STG looks forward to completion of commissioning and commencement of operational data processing in January 2008. Further scientific AOs are encouraged as a mechanism of engendering scientific exploitation of the commercial data, though the STG encouraged formulation of a free-access to the existing catalogue of polar processed image data as part of the IPY legacy.

CSA have agreed to plan to follow up the second STG meeting by organizing and hosting a SAR acquisition planning and mission planning coordination meeting on 5-6 March 2008. The theme of the meeting is to arrange an inter-agency forum for addressing SAR acquisitions, to optimise time-space sampling strategies and to achieve the guarantee of a comprehensive array of SAR-derived geophysical data products.

The 3rd STG meeting will be hosted by ESA at ESRIN on 5-6 May, 2008. The focus of this meeting will be the extent to which the multi-Agency Portfolio contents meet the challenge of the identified high-level scientific "firsts" documented at the STG1 meeting.

STG2 agreed on a number of Actions and Recommendations listed on the following pages.

Actions and Recommendations from STG2

Action Items:

STG2 – A1 – K.J. requested (by end calendar year) to upload Agency-specific portfolio details on GIIPSY web site – and to request IPO to implement link from ipy.org to IPY data portfolios.

STG2 – A2 - NOAA (Jeff Key) - to investigate feasibility of establishing a single consolidated AVHRR 1km Antarctic dataset - merging data acquired by various Antarctic HRPT stations such as Marambio, Siowa, McMurdo, Terra Nova and Casey or Davis..

STG2 – A3 – CNES to deliver a 1-2 page overview/summary of CNES-related Portfolio data sets, to be publicised online.

STG2 – A4 - Action on STG members – by 15 January –Compile multi-agency results presentation by end Jan. 2008 in order to submit abstract to SCAR/IASC IPY Open Science Conference. Paper should demonstrate how well Space Agencies are doing in achieving the goals set out as part of GIIPSY. This is planned to be a presentation on behalf of STG as to how the Agencies have specifically responded to addressing the four specific high-level objectives set out in GIIPSY.

STG2 – A5 - STG members - to notify their archive managers of need to register IPY Portfolio items in IPY DIS (i.e. GCMD) – via registration of DIF record. This will allow metadata links to agency archives.

STG2 – A6 - Action for E.S. (WMO Secretariat) to contact STG members – to identify Agency points of contact responsible for implementing metadata standards.

STG2 – A7 - Action for STG members to provide 1 page summary of access to respective data portfolio. Space Agencies with existing portfolios (ESA, CNES, CSA, DLR, NOAA, NASA) provide by 15 December, summary text about access to their data, and listing relevant satellite/instrument datasets.

STG2 – A8 - Action to Mark Parsons/Taco de Bruin - to approach CEOS working group on standards (WGISS), via Chair of WG Martha Maiden, to discuss how to encourage CEOS to adopt common metadata standards, and to report back to STG3.

STG2 – A9 - Action on CSA - Y.C. to set up an inter-agency meeting of SAR mission managers to optimise SAR coverage - in order to address top level scientific objectives/requirements stated in the GIIPSY User requirements document.

STG2 – A10 - Action – KJ to establish direct link to Shimada san (JAXA) – to extract information on acquisition plans for PALSAR, PRISM, AVNIR-2. And to request list of ALOS snow/ice investigators/projects, and to inform E.S. on JAXA feedback

STG2 – A11 – Action – E.S. (WMO Secretariat) to establish STG nominee from ASI (via formal letter from WMO/ICSU to R. Guzzi) and invite Cosmo-Skymed mission Manager (Coletta), to make future STG presentation on mission planning relevant to IPY.

STG2 – A12 – Action - E.S. (WMO Secretariat) to establish link to ISRO (via formal letter from WMO/ICSU), and to request participation feedback on RISAT in context of IPY.

STG2 – A13 – Action – ESA (H. Laur) to investigate local arrangements for hosting next STG3 meeting in late April – May 2008 timeframe at ESA ESRIN, in Frascati, near Rome Italy.-
(Invitation sent by M. Drinkwater and H. Laur to all STG members for STG3 meeting at ESA-ESRIN, Frascati, Italy on 5-6 May, 2008).

Recommendations

STG2 – R1 - Recommendation for WMO Space Programme to request relevant Agencies to secure NOAA AVHRR 1km HRPT data for Arctic and the Antarctic region as an IPY legacy dataset.

STG2 – R2 - WMO Space Programme to consider actions required to collect AVHRR data from Antarctic local HRPT stations in McMurdo (NOAA & NASA, USA), Terra Nova (PNRA, Italy), Davis or Casey (BOM, Australia), Syowa (NIPR, Japan) and Marambio (CONAE & Met service, Argentina) and make them available by appropriate means.

STG2 – R3 – M.D. & K.J. (GIIPSY) (Ongoing recommendation from STG1 R2) – Recommendation from WMO Space Programme to STG to identify a list of geophysical variables of interest to IPY users. Then WMO Space Programme can place a link on their web site to allow IPY users to find appropriate products.

STG2 R4 - Recommendation to DLR to consider the opportunity to make metadata publicly available (i.e. to non-registered users of TSAR-X) to allow visibility of frames in the catalogue for IPY use. Further, to consider making polar products from processed images in catalogue freely available for IPY scientific use, as an IPY legacy.

STG2 R5 - Recommendation to IPY JC – for permanent membership of Oystein Godoy (IPY operational data coordinator) on STG.

STG2 R6 – STG Recommendation to Sub-Committee on Data Policy Management to approach Agency contacts for discussions on interoperability of IPY data bases, and exchange of metadata.

STG2 R7 – Recommendation on STG – to include Agenda item at next meeting to specifically address top 4 listed GIIPSY scientific objectives presented at STG1. This requires STG member presentations specifically documenting data acquisition strategies that respond to these objectives, and demonstrating degree to which achievable, and where adjustments in planning need to be made.

**Space Task Group (STG) of the IPY Subcommittee
on Observations
26-27 November 2007, Eumetsat, Darmstadt, Germany**

STG-2 Agenda

Day 1

- 0900 Opening (introduction by Co-Chair, approval of agenda)
- 0910 Review minutes and actions of STG1
- 0930 GIIPSY Status & recap of GIIPSY requirements (MD)
- 1010 2nd Meeting IGEO LAB HEO (TM)
- 1030 Break
- 1050 Input from CGMS & WMO Space Programme (JL)
- 1115 State of IPY implementation (ES)
- 1130 Agency Reports on Portfolios
CNES (ET)
- 1200 Lunch
- 1300 Continued reports on Portfolios
DLR (MG)
TSAR-X Status (AR)
- 1430 Break
- 1645 Continued Agency Reports
CSA (YC)
- 1730 Review of Day 1 Action Items
- 1745 End of Day 1
(Dinner at Fuerstenbahnhof Restaurant – 19:00hrs)

Day 2

- 0900 Review of Day 1 Action Items
- 0915 Review minutes and actions of STG Telecons 1 and 2
- 0930 Continued Agency Reports
ESA (HL)
NASA (FL)
NOAA (PCC)
- 1130 IPY Data management summary (OG)
- 1230 Lunch
- 1330 Agency plans for data tagging, data catalogues and inventories, data distribution and data processing
- 1400 Discussion of opportunities for inter-agency coordinated observations
- 1430 Global Cryosphere Watch, IPY Legacy, and Links to GEO (ES)
- 1500 Break
- 1515 STG Schedule & Planning of next STG Meeting
- 1530 Review of Day 2 Action Items
- 1600 Closure the STG2 session

Presentation Material

Distributed Documentation

Doc 1: IPY STG 2 Agenda
Doc 2: IPY STG1 Summary
Doc 3: IPY STG Telecon 1 Minutes
Doc 4: IPY STG Telecon 2 Minutes
Doc 5: IPY SCOBS Report
Doc 6: IPY IGEOLAB Report
IPY STG-2 Outcome of CGMS

Background Document Links

GIIPSY STG2 and Presentation Materials:

http://bprc.osu.edu/rs/GIIPSY/index_files/STG2.htm

IPY Portfolios: http://bprc.osu.edu/rs/GIIPSY/index_files/IPYGIIPSY.htm

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of the IPY SubCommittee on Observations -
Second session

(26-27 November 2007, EUMETSAT, Darmstadt, Germany)

List of participants

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