

IPY Space Task Group - First Meeting

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 first meeting of the STG took place in WMO Headquarters 17-19 January 2007 (see Agenda in Annex 1). The following Space Agencies took part: BNSC, CMA, CNES, CSA, DLR, ESA, Eumetsat, NASA, and Roshydromet (see Annex 2). Invited attendees included representatives from the WCRP Climate and Cryosphere (CliC) Project, the GIIPSY IPY Project, the IPY Joint Committee, and the WMO Space Programme.

Results from the first meeting indicated that the STG is well on the way to developing the concept of an effective space component of the observing system for the polar regions during IPY. This would deliver a series of “firsts”, including:

- For the first time, pole to coast multi-frequency InSAR measurements of ice-sheet surface velocity
- For the first time, repeat fine-resolution SAR mapping of the entire Southern Ocean sea-ice cover for sea ice motion
- For the first time, one complete high resolution visible and thermal IR (Vis/IR) snapshot of circumpolar permafrost
- For the first time, pan-Arctic high and moderate resolution Vis/IR snapshots of freshwater (lake and river) freeze-up and break-up

In terms of how this will be delivered, Agencies have introduced the concept of IPY data portfolios. Each Agency will determine what data will be made available to IPY scientists as part of its portfolio. The intention is to provide open and easy access to these portfolios for scientific use. The content of the portfolios will evolve through the STG coordination of planning, acquisition, downlink and processing during IPY and beyond, as a legacy.

One of the key issues discussed was how to secure the legacy of a long-term observing system. This legacy shall include high-level products resulting from the science of IPY, e.g. high spatial resolution digital terrain maps of the polar regions. One approach that may be considered for long term security of the IPY legacy is to establish a link to GEO.

STG1 agreed on a number of Actions and Recommendations listed on the following pages.

Actions and Recommendations from STG1

Action Items:

STG1 A1: For STG members and participants to deliver presentation material fit for public consumption prior to close of meeting. (Done)

STG1 A2: To formulate Summary Statement by end of meeting – for high-level policy committee – and for general consumption. Accompanying 2-pg slide pack summarising highlights, open issues and/or roadblocks to be solved. (Done)

STG1 A3: Action on Space Programme of WMO to design an interface that points users to how to obtain GOS space data for IPY scientists. This should be linked to the proposed IPY portal home page, and point to respective browsing/ordering interfaces (and data points of contacts)
Timeline – Mid March

STG1 A4: Action on Space Agencies to deliver to Co-Chair STG – summaries of results of solicitations/AO's, with explicit IPY Project ID references (as available) to existing JC approved IPY Projects. (by mid Feb)
This basic tabulated list will be compiled by Mark Drinkwater (. Co-Chair) and attached as Annex to report approved from STG 1 meeting. Distribution of STG summary via IPY web site (by end Feb).

STG1 A5: Action on JC to send letter to Project Coordinators on list of approved projects, on behalf of STG (signed by Co-Chairs), including summary of meeting of STG (and Annexes collected above) – encouraging them to complete surveys.

STG1 A6: Action on each Space Agency to define the existing baseline “portfolio” of IPY data contributions (by Feb 15th). Should be sent to WMO Secretariat (E. Sarukhanian) and eventually linked into the proposed IPY data availability web page (www.ipy.org).

STG1 A7: Action on GIIPSY (K. Jezek) – to define science requirements, and geographic map to be sent to WMO Secretariat (by Mid-Feb). Secretariat to distribute to Agencies (by end Feb). Agencies to confirm these requirements form sufficient basis for planning by mid-March.

STG1 A8: Action on each Space Agency individually and collectively to define proposed plan of data acquisitions, to build on the existing portfolio of data that is available, and to report back to STG (mid October 2007).

*For Agencies to report back to STG on specific issues relating to third party data acquisition, archiving and repatriation/distribution that limit their ability to fulfil the plan in an optimal way.

STG1 A9: Set Agenda for STG2 Meeting planned in mid-November (Date TBC) including issues identified in A8.

Recommendations:

STG1 R1: For STG to ensure a review of implementation plans on future STG Agenda.

STG1 R2: At the IPY Early Science Conference (2010) a specific issue should be to look at initial results from IPY projects and in particular to consider defining a long term solution for appropriate high-level geophysical products** – where sustained processing and archiving is deemed necessary. This conference shall consider whether and how the basic observational network should be maintained.

**in this context STG understands that this applies to geophysical products that result from multi-sensor, multi-temporal data.

STG1 R3: Recommendation to WMO Space Programme to coordinate ground receiving station activities for polar orbiters through CGMS, to ensure that we have guaranteed full polar coverage, as appropriate, at 1km res. for AVHRR during IPY.

STG1 R4: Recommendation to WMO Space Programme to extend polar region coverage of geophysical products to maximum extent possible, generated from geostationary data.

STG1 R5: Recommendation to WMO Space Programme, GEO, CGMS and CEOS to advance the use of Molniya orbit, to provide pseudo GEO (high resolution spatio-temporal) polar coverage. The STG meeting noted the potential Russian “Arktica” mission concept.

STG1 R6: Recommendation to JC to contact IPY National committees to motivate survey responses from all funded IPY participants who did not send in a completed data requirements survey.

STG1 R7: Recommendation to JC to implement on IPY web site a top level link to “data availability” with sub links to pages containing in-situ, airborne/shipborne & satellite data. STG can formulate appropriate links to URLs where data may be accessed.

STG1 R8: Recommendation to WMO-ICSU Joint Committee for IPY to decide how to interact with GEO to develop long-term perspective on implementation of a sustained observing system for the polar regions, as a legacy of IPY.

Note. Recommendations R3, R4, R5 and R8 were endorsed by the Seventh WMO Consultative Meeting on High-Policy Level on Satellites (Geneva, 19-20 January 2007)

Space Task Group of the IPY Sub-Committee on Observations First Meeting

(17-19 January, 2007, Geneva, WMO Headquarters, Room J8)

Agenda

Day 1

- Opening (welcome by Prof H. Yang, WMO Deputy Secretary-General)
- Status of the IPY preparation (E. Sarukhanian for D. Carlson)
- Report on activities of Sub-Committee on Observations (SCOBS) including background to Space Task Group (T. Mohr/W. Zhang)
- WCRP IGOS-Cryosphere Theme (V. Ryabinin)
- GIIPSY/Baseline Scientific Requirements for IPY datasets (K. Jezek)
- Agency presentations on existing IPY plans/proposal
 - ESA (H. Laur)
 - NASA (C. Dobson)
 - ROSHYDROMET (V. Asmus)
 - DLR (M. Gottwald)
 - EUMETSAT (K. Holmlund)
 - CSA (J-M. Chouinard)
 - CMA (L. Zhao)
 - CNES (E. Thouvenot)
- Operational vs. Scientific missions (All)

Day 2

- Leaving an IPY legacy
 - “The Polar Snapshot” K. Jezek
 - GEO contribution (M. Rast & E. Sarukhanian)
- Mechanisms for collecting IPY data requirements
 - SCOBS survey of IPY satellite data needs (E. Sarukhanian)
 - Other Agency IPY AOs (All)
- Establishing the priorities for near term/medium term/long-term actions
 - Acquisition planning/Tasking satellites (All)
 - Data Management/Metadata standards (All)
 - Archiving & Data Distribution (All)
 - Data Policy (All)
- Discussion on Agency Commitments
 - Baseline plans for data acquisitions (All)
 - Archiving and distribution (All)

Day 3 (half-day)

- Missing Agencies
- Consolidation of Action Items
- Time and place of next Meeting
- Meeting Closure

Distributed Documentation

IPY SCOBs Space Reqs Summary v1.doc

GIIPSY_Program_STG.pdf

GIIPSY_Science_Reqs_Summary.doc

GIIPSY_EOS.pdf

IPY Project Summary: <http://216.70.123.96/images/uploads/ipychart4.4.pdf>

Background Documentation Links

GIIPSY IPY Project: <http://www-bprc.mps.ohio-state.edu/rs/GIIPSY/>

IGOS-Cryosphere Theme: <http://igos-cryosphere.org/>

IPY: <http://www.ipy.org/>

Space Task Group (STG) of the IPY Sub-Committee on Observations
First meeting
(17-19 January 2007, WMO, Geneva)

List of participants

Members of STG

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Invited participants

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WMO Secretariat

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