28 May 2008

Guy Bujold, President,
Canadian Space Agency
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Mr. John Hornsby, President
MDA Geospatial Services
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Mr. Edward Weiler, Associate Administrator
Science Mission Directorate
National Aeronautics and Space Administration
Headquarters
Washington, DC20546-0001

Dear Messrs. Bujold, Hornsby and Weiler,

On behalf of the Joint Committee for the International Polar Year 2007-2008 (IPY) we would like to draw your attention to an important issue raised by the IPY Space Task Group (STG) Synthetic Aperture Radar (SAR) Coordination Sub-Group to resolve the planning and data reception gap for RADARSAT-1 over both Polar Regions during IPY.

As you are aware, the International Polar Year 2007-2008 provides an international framework for understanding high-latitude climate change and predicting world wide impacts. Recent and well documented observations of the sometimes dramatically changing components of Earth's cryosphere, especially at high latitudes, make IPY science investigations particularly timely and relevant to scientists, policy makers and the general public. IPY 2007-2008 is intended to lay the foundation for major scientific advances in knowledge and understanding of the nature and behaviour of the Polar Regions and their role in the functioning of the planet.

The IPY STG was formed in December 2006 by Space Agencies in response to a letter from the International Council for Science (ICSU) and World Meteorological Organization (WMO) requesting the active involvement of space agencies in the IPY. The STG is tasked with reviewing the IPY space data requirements and making data acquisition plans, processing, archiving, and distribution recommendations regarding Space Agencies' contributions in close consultation with science end-users. Contributions are to be consistent with each

Agency's resources and capabilities, and coordinated so that the total effort can satisfy IPY satellite data needs.

At the second STG meeting (November, 2007), the Canadian Space Agency (CSA) was requested to set up an inter-agency meeting of SAR mission managers to optimize SAR coverage - in order to address top level scientific objectives/requirements stated in the GIIPSY (Global Inter-agency IPY Polar Snapshot Year) User Requirements Document. CSA hosted the IPY STG SAR Workshop on 5-6 March 2008, at which RADARSAT-1 activities were discussed among other issues.

RADARSAT-1 has demonstrated performance exceeding its specifications since the launch on 4 November 1995. It has proven to be an excellent tool for mapping and monitoring oceans and polar ice fields, with particular applications such as mapping sea ice, and detection of vessels and oil slicks. It has excelled as a tool in both operations and scientific research.

The International Memorandum of Understanding (IMOU) between CSA, NASA, and NOAA allowed NASA to order, receive and process RADARSAT-1 data at the Alaska Satellite Facility (ASF) and the McMurdo Ground Station (MGS) since the launch of RADARSAT-1. The ASF station mask covers the western Arctic including the Beaufort and Chukchi Seas. Data from ASF have been proven to be immensely valuable scientifically. They have provided routine, 3-daily high resolution coverage of the western Arctic Basin, and provide the fundamental basis for studying and understanding of sea-ice dynamics, ice mass variability and change. ASF, NASA and CSA worked together to create the Arctic Science Archive Processing (ASAP) Project, a unique collection of Arctic environmental data and the largest archive of RADARSAT-1 imagery. The MGS station mask covers most of Antarctica and nearby waters. Data from MGS are fundamental to studying ice dynamics in the Antarctic.

The ASF station is of particular strategic importance because much of the western Arctic is not covered by the Prince Albert station mask and none of this region is covered by the Gatineau station mask. In addition, the Envisat ASAR has no Real Time transmission via Artemis in the western Arctic. (The Envisat recorder is needed to cover this region, and this is avoided as much as possible for operational reasons. To complement the existing RADARSAT coverage, ESA focused its ASAR coverage on the eastern Arctic where the Real Time transmission is excellent.) Practically speaking, Envisat ASAR has data gaps in the western Arctic.

Unfortunately, the IMOU recently expired. This means that ASF and MGS can no longer freely order, receive, process or archive RADARSAT-1 data. The timing of this event is especially unfortunate since it is the middle of IPY, which lasts from 2007 to 2009. The importance of RADARSAT-1 data in the Polar Regions to support the multi-national data collection of numerous IPY science projects cannot be overstated.

In view of the critical scientific importance of this issue, we should be very much grateful if you could undertake urgent action to allow ASF and MGS to continue to order, receive, process and archive RADARSAT-1 data for science purposes in a routine or background mode for the duration of IPY (at least until 31 March 2009).

We look forward to your continued close collaboration with IPY scientific community

Yours very sincerely,

Co-chairs of Joint Committee

Ian Allison

Michel Béland

Director of the International Programme Office

David Carlson

cc: Dr. E. Sarukhanian, Special Advisor to WMO Secretary General on IPY
Mr. Michael Freilich, Director, Earth Science Division, NASA's Science Mission Directorate
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