



Frascati, 30 June 2016

Vanessa L. Griffin
Director
Satellite and Product Operations
National Oceanic and Atmospheric
Administration

Marianne Thyrring
Director General
Danish Meteorological Institute

Subject: your letter dated 22 June 2016 on Sentinel-1 Coverage of the Polar Regions

Dear co-Chairs of the International Ice Charting Working Group (IICWG),

Thank you for your letter and your continued interest expressed in the Sentinel-1 mission.

As you are aware, a high-frequency coverage is provided since the start of the Sentinel-1A operations in September 2014 over the priority areas of the Copernicus Marine Environment Monitoring Service (CMEMS) for sea-ice and iceberg monitoring, in the Arctic in particular.

For the other polar areas relevant to sea-ice, based on the available satellite capacity and in accordance with the priority for accessing Sentinel resources as defined in the Sentinel High Level Operations Plan, a certain regular coverage is also provided, although at a lower frequency.

With the inclusion of Sentinel-1B in the mission operations accompanied by an increase of system capacity (in particular the use of the European Data Relay Satellite System and a 4th core receiving X-band station), the Full Operations Capacity of the Sentinel-1 mission will be reached during the first quarter 2017. At this stage we expect to provide a further increase of the coverage frequency of the Polar Regions.

You explicitly refer in your letter to the relevance of high frequency coverage of the Antarctic sea-ice, during summer season in particular. The sea-ice extent around Antarctica, even during local summer season, nevertheless represents a very extended area to be covered. A high mapping frequency of the whole area would engage a significant part of the Sentinel-1 mission resources. Some technical iterations are therefore necessary to find a suitable scenario in support of ice charting globally.

We suggest further iterating the needs and review the relevant implementation with BAS (Dr. Andrew Fleming), as main partner involved in CMEMS for the Southern Ocean areas, who could then liaise with IICWG partners as necessary. The IICWG Secretariat will be kept informed on the matter.



As part of the Polar Space Task Group to which ESA actively participates (both at PSTG level and at SAR Working Group level) but also within the IICWG, it would also be beneficial that more emphasis is placed in elaborating the possible complementarity of Sentinel-1 floating ice observations with other relevant SAR missions (around Antarctica in particular), some of these missions being linked to members of the IICWG.

Thank you again for your letter. ESA is very well aware of the suitability and importance of the Sentinel-1 mission for sea-ice and iceberg charting, and will do its best, in agreement with the European Commission in copy of this reply, so that the Sentinel-1 mission responds to the expectations of the IICWG, within the mission technical capacity.

Sincerely,

A handwritten signature in blue ink, appearing to be 'P. Potin', written over a horizontal line.

Pierre Potin

Sentinel-1 Mission Manager

c.c.

- Mauro Facchini, European Commission
- John Falkingham, IICWG Secretariat
- Andrew Fleming, British Antarctic Survey
- Pier Bargellini, Henri Laur, Simon Jutz, Ola Grabak, ESA