

TerraSAR-X IPY Antarctic Campaign – DLR Planning Meeting

October 2, 2008

Participants

Stefan Buckreuss, DLR

Achim Roth, DLR

Dana Floricioiu, DLR

Robert Metzиг, DLR

Falk Mrowka, DLR

Kenneth Jezek, OSU

Katy Farness, OSU

Meeting summary

Floricioiu opened the meeting with a review of the acquisition planned developed by Floricioiu and Farness. The plan specified strip mode TerraSAR-X (TSX) acquisitions over Coates Land/Filchner Ice Shelf Ice Streams and West Antarctic Ice Streams/TransAntarctic Mountains Outlet Glaciers. The rationale was to use the high resolution, left looking capabilities of TSX to obtain data along the most dynamical regions of the ice sheet south of about 80° S latitude and where there are strong shearing gradients between the fast flowing ice streams/glaciers and the slower moving interior ice sheet.

Jezek summarized the science objectives. He illustrated the regions of particular interest using the Radarsat image mosaic overlain with ice flow lines. He pointed out that TSX can make a unique glaciological contribution by providing surface velocity data over the southerly fast flowing ice, where in most cases, no data now exists.

Metzig and Mrowka reviewed operational and mission planning constraints. A particular concern was the length and number of swaths. Jezek noted that one way to lessen the mission duty cycle would be to spread acquisition of interferometric pairs out over the life of the nominal mission. Metzиг noted that downlinks to O'Higgins station are a possibility. There is some small risk of losing passes downlinked to O'Higgins, but this risk is offset by the greater operational risk of losing downlinks because of conflicts with other users. Mrowka noted that there would likely be few if any losses because of erasing on board recorder data due to conflicts even if the data are downlinked to Germany. Metzиг will be traveling to O'Higgins to oversee testing and operations. It was agreed that with Metzиг on site, the risks will be minimized and that downlinks should proceed into O'Higgins.

Buckreuss and Roth requested a review of the total number of acquisitions requests. They asked that Jezek and Farness identify the highest priority targets and provide DLR with a minimum acquisition plan. They suggested that Jezek identify a test site for early downlinks into O'Higgins. Jezek identified one of

the tributary streams feeding into the Recovery Glacier. Coverage of the glacier will require about 3 adjacent swaths. Further left-looking acquisitions will be assessed pending the outcome of that test.

Actions:

- 1) Jezek and Farness. Provide DLR with a minimum acquisition plan (mid October)
- 2) Metzsig: Report on outcome of O'Higgins downlink tests (end October)