Access to TerraSAR-X data for scientific use

Dana Floriciou
How to get TerraSAR-X data? - planning (1)

• Apply for a scientific proposal via:
  http://www.dlr.de/tsx/main/science_en.htm

  Time needed for the proposal to be reviewed: about 2 months

General proposal submission (since October 2007):

  Submission at any time

• Send the filled User License Agreement form and confirmation of your projects funding to the TSX science coordinator ->

• Your EOWEB account will be activated (2,3 several working days)

• 1st order: the order desk is verifying/activating your profile (order acception can be delayed, e.g on Friday)
The TerraSAR-X Science Service System allows for the submission and evaluation of proposals, as well as for the submission of reports. It is further used to monitor and track proposals and therewith help to organize the science user community of TerraSAR-X.

Depending on who you are and what you like to do you have the following possibilities to proceed via the sidemenu on the left of this page:

- Anybody may receive information about which proposals are accepted and read their executive summaries.
- Principal investigators of TerraSAR-X data may enter and maintain their proposals and are able to submit reports. Proposals and reports should be in English.
- Evaluators may receive detailed information about the proposals they have been appointed to and submit their comments and rating.

The pdf document: How to submit a TSX proposal gives a short description of the procedure for submitting proposals.

Investigator will get the data for the costs of fulfilling the user request. Discounts will be applied for larger order volumes, and for dedicated research programs and institutions contributing to the TerraSAR-X mission, especially by financial or operational support. Special conditions might be applied for the AOs.

The current COFUR pricelist is applicable to proposals presented to the permanent submission interface.

The Science Service System is now open for the submission of general proposals.

ATTENTION: The download of TerraSAR-X data requires special security regulations which are described in the FAQ document.

Proposal submission: http://sss.terrasar-x.dlr.de

Documentation: http://www.dlr.de/tsx/main/science_en.htm
Executive Summary

The provision of a concise resume of the proposal is required. It shall describe the objectives, method, data requirements and deliverables. The funding must be specified. (maximum 4000 characters)

Istanbul is a “megacity”. As a commercial and cultural metropolis, Istanbul is becoming more and more important in a global context. As a consequence of rapid development the megacity is facing numerous problems. Explosive population growth, uncontrolled urban sprawl, housing at hazardous areas or bad building materials in combination with a significant risk of a major earthquake present acute danger to the population. Substantial and up-to-date data are the premise of an effective crisis management. Assessing vulnerabilities of Istanbul are fundamental to enabling preventive measures before an expected earthquake disaster and preparing for the post-earthquake response.

Schedule

The schedule must show the project duration, its phases (preparation, data acquisition, analysis) as well as the plan for the reporting of preliminary and final results. (maximum 2000 characters)

- Phase A: Preparation with optical data (until 12/06)
- Phase B: Algorithm adaptation and TS-X data acquisition (01/06 – 03/07)
- Phase C: Vulnerability map of Istanbul (01/07 – 06/07)
- Phase D: Development of change detection algorithms and acquisition of time series (07/07 – 06/08)
### List of accepted Proposals

The following table gives a complete overview about all accepted proposals. The proposal id links to the proposal’s executive summary (only for non-confidential proposals).

<table>
<thead>
<tr>
<th>Proposal Id</th>
<th>Title</th>
<th>Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAL0107</td>
<td>FLUX-X Winds, waves and air-sea fluxes in the Southern Ocean - a study of extreme conditions - with a surface mooring and TerraSAR-X</td>
<td>Drennan, William - University of Miami, RSMAS, Applied Marine Physics</td>
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<tr>
<td>CAL0109</td>
<td>Validation of TerraSAR-X Mapping Precision for Land Cover and Disaster Monitoring</td>
<td>Suga, Yuzo - Hiroshima Institute of Technology, Dept. of Environmental Information Studies</td>
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<tr>
<td>CAL0137</td>
<td>Interferometric Calibration and Verification</td>
<td>Bledner, Michael - DLR, DLR</td>
</tr>
<tr>
<td>CAL0139</td>
<td>Calibration and Validation of TerraSAR-X in Mongolia</td>
<td>Sato, Motoyuki - Tohoku University, Center for Northeast Asian Studies</td>
</tr>
<tr>
<td>CAL0163</td>
<td>Geometric Validation of TerraSAR-X High-Resolution Products</td>
<td>Meier, Erich - Remote Sensing Laboratory (RSL), Geography</td>
</tr>
<tr>
<td>CAL0166</td>
<td>Validation of spectral and individual ocean Wave parameters at offshore platforms YW-X</td>
<td>Lehner, Susanne - German Aerospace Center, MI</td>
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<tr>
<td>CAL0196</td>
<td>Validation of the TerraSAR performances by using airborne SAR (Pi-SAR) and ground experiments</td>
<td>Uratsuoka, Seiko - National Institute of Information and Communications Technology, Applied Research and Standards Department</td>
</tr>
<tr>
<td>CAL0264</td>
<td>TerraSAR-X products geometrical calibration and validation</td>
<td>Arnaud, Alain - ALTAMIRA INFORMATION, Research and Development</td>
</tr>
<tr>
<td>COA0025</td>
<td>Investigations of meso-scale dynamics associated with marine sand waves in the tidal channel of the Elbe River in the German Bight of the North Sea by using TerraSAR-X data (MESODYN35X)</td>
<td>Hennings, Ingo - Leibniz-Institut fuer Meereswissenschaften an der Universitaet Kiel (IFM-GEOMAR), Ozeanokolohie und Klimadynamik</td>
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<tr>
<td>COA0047</td>
<td>Investigation of intertidal zone using TerraSAR-X</td>
<td>Won, Juong-Sun - Yeonsu University, Earth System Sciences</td>
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<tr>
<td>COA0051</td>
<td>Coastal zone mapping and monitoring using SAR</td>
<td>Yang, Chan-Su - KORDI (Korea Ocean Research &amp; Development Institute), Ocean Satellite Research Group</td>
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<tr>
<td>COA0065</td>
<td>Ocean Winds from Terra S AR X</td>
<td>Horstmann, Joachim - GKSS Research Center, Institute for Coastal Reseach</td>
</tr>
</tbody>
</table>
How to get TerraSAR-X data? - planning (2)

1. Orders (via EOWEB):
   - Catalogue orders
   - Future **scenes** orders (to be entered in EOWEB at least 3 days **before** the acquisition date)
   - Future **coverages** orders
     Order acception e-mail from DIMS-monitor-op@dlr.de received by the PI

2. Delivery (via ftps):
   - notification e-mail from DIMS-monitor-op@dlr.de received by the PI.
     Data must transferred by PI (user) from the pickup point via ftps. Data are deleted from the pickup server after 15 days.
   - Catalogue orders: several hours
   - Future scenes orders: 10 **days after** the acquisition
EOWEB-NG User Interface (TerraSAR-X) – catalogue orders
EOWEB-NG User Interface (TerraSAR-X) – future orders

Kangerlussuaq ScanSAR future scenes (1 day)
EOWEB-NG User Interface (TerraSAR-X) – future orders

Kangerlussuaq terminus Stripmap future scenes (1 day)
Left looking can not be ordered via EOWEB – contact the science coordinator

RAMP ice stream ScanSAR future scenes (12 hours), left looking
EOWEB-NG User Interface (TerraSAR-X) – shop cart

1- Product order options (SSC, GEC, orbit)
2- Order creation (enter “order name”)
EOWEB-NG User Interface (TerraSAR-X) – order monitoring

Order Criteria

<table>
<thead>
<tr>
<th>Order ID</th>
<th>Order Name</th>
<th>Order Status</th>
<th>Order Date From</th>
<th>Order Date To</th>
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<tbody>
<tr>
<td>1</td>
<td>F1</td>
<td>All</td>
<td>2004-05-05 00:00</td>
<td>2004-08-05 00:00</td>
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<tr>
<td>2</td>
<td>F2</td>
<td>All</td>
<td>2004-05-05 00:00</td>
<td>2004-08-05 00:00</td>
</tr>
</tbody>
</table>

Order Monitor
TerraSAR-X maximum coverage (nadir) towards the North pole

82.6°N

Northermost TSX acquisitions Spotlight mode
~55deg incidence angle, 88.1°N
Preoperational acquisitions at 88.1°N (45 Spotlight scenes)
TerraSAR-X maximum coverage (nadir) towards the South pole

82.6°S

With left looking and incidence angle about 58 deg up to 89°S possible
Future acquisitions at 89 deg S (Spotlight modus)
Nordaustland Mosaic (36 SM EEC RE)

by M. Lachaise, T. Fritz