WInSAR Business Meeting

Marriott Marquis Nob Hill room 2

Wednesday, December 16th, 2015, 12.30 pm

Notes taken by Gareth Funning

1) Zhong Lu: Introduction and welcome

* WinSAR has grown enormously in the last year, currently we have 191 members.
* The Executive Committee are always seeking input from the membership, suggestions about how you can contribute to WInSAR, and vice-versa.
* We have successfully negotiated an extension to our Terrasar-X (TSX) tasking allocation with DLR, the allocation should last another year or two.
* WInSAR has set up online data sharing and download facilities for PIs’ TSX data – people who requested tasking, please write a proposal to access the data that was acquired for you!
* WInSAR has set up a similar system for ALOS-2, for proposal management and data retrieval.
* WInSAR will broadcast opportunities for data access via newsletter updates.
* WInSAR submitted a white paper to the NSF Workshop on Future Seismic and Geodetic Facility Needs in the Geosciences.
* Two workshops were held in the past year, one in ISCE and GIANT and StaMPS, the other in GMTSAR, both were considered very successful by both participants and leaders.

2) Chris Crosby and Scott Baker: Updates from Unavco

* WInSAR has limited support from GAGE, ~1 FTE for management and operations. To fund further development of web services, UNAVCO have written supplemental requests to NASA and NSF for $100K, and also secured $55K from EarthCube.
* The most recent changes to online offerings have been improvements to the WInSAR web portal, specifically improvements to the GUI interface and the development of an API (under the SSARA project that ended in March 2015) and the introduction of ALOS-2 proposal management tools.
* In general, the distribution of ISCE licenses and software has led to a major increase in WInSAR membership (particularly in international ‘Adjunct-2’ applications).
* The WInSAR Sentinel-1 archive is being phased out, now archiving at the Alaska Satellite Facility (ASF) is online. The ASF archive will be the primary North American archive going forward.
* WInSAR has been managing tasking requests for TSX for several years. The success rate for background tasking requests is 37%. If you write a PI proposal to DLR, your success rate can be higher. Sometimes the data can be acquired anyway (in at least one case, tasking requests were declined but the data were collected!)
* There is now proposal management functionality through the WInSAR website for ALOS-2 PIs. PIs should upload their approved proposals and signed license agreements to WInSAR. Then, if you have ordered data through a PI proposal, you can paste the order number into the PI proposal tool on the website, and WInSAR will download it and archive it automatically. JAXA have been open to allowing the adding of co-investigators to projects so far, to broaden access to those PI data.
* WInSAR has established an InSAR product archive, which allows users to contribute interferograms, time series, velocity products, and they get archived and referenced in SSARA. This archive will also issue DOIs for data products. To obtain a DOI, click on the ‘request doi’ button once you have uploaded your product. However, be aware that once you have requested a DOI, the associated uploaded products will be there in the archive forever! A number of users, notably at JPL, have started using the archive to share their products.
* The data format for the product archive is HDF-EOS5 – this is a standard NASA format, with documentation available to download online. Some of the kinks are still being worked out, notably in the standardization of keywords and development of standardized conversion tools; please send any feedback in this regard to Scott Baker.

3) Gerald Bawden: NASA update

* Selection of the recompeted NISAR Science Definition Team has been delayed for a couple of months to ensure continuity through the next step of the mission approval process.
* NASA is working to establish a collaboration with Argentina to enable access to data from their forthcoming SAR mission. The aim is for NASA to provide and pay for extra download stations in exchange for free access to data. A rough template for a future agreement has been developed, but negotiations are ongoing.
* What will we do with the vast volumes of data that will be available in the near future? NASA needs the community onside and ready.

4) Paul Rosen: NISAR mission update

* Lots of progress in the last year – the mission concept successfully passed Key Decision Point B. However, officially, the mission is still in the formulation stage.
* The next major milestone, Preliminary Design Review, will be in June.
* They have contracted for the construction of the reflector (contractor: Northrop Grumman) and the solid-state recorder, which will have the largest capacity for civilian missions to date (contractor: not yet announced).
* The mission will have a high capacity (3.5 Gbit) downlink.
* The mission concept has so far progressed without any descopes on the plan and mission details
* A set of observation modes have been agreed upon preliminarily (although still potentially subject to change) that seem to be a good compromise for the user base.
* There may be challenges ahead on cost (costs are going up a little) and ISRO requirements (these are not yet fully codified, but probably not a problem). All systems go!

5) Nettie Labelle-Hammer: ASF update

* There have been more than 20 years of SAR (ASF will be celebrating its 25th anniversary on June 3rd).
* As others have previously mentioned, Sentinel-1A data are now available through ASF. Obtaining political agreement for the archive was slower than sorting out the technical issues with setting it up. The download links should be fast. Answers to some common questions: are you keeping the data? (Yes.) Do you have all of the data? (Yes.)
* It seems that some Europeans are getting the data from ASF rather than direct from ESA!
* SMAP radar data are now available from ASF, as well as PALSAR terrain corrected data. In addition, UAVSAR, ASAR and PALSAR products are being updated and Supersite data feeds now include Sentinel-1A.
* Thanks to space agency data policy changes, access is starting to open up – for example, ALOS PALSAR data have been openly available to the public as of 2015.
* Their next challenges will be in speeding up data searches through their website.

6) Masanobu Shimada: ALOS-2 update

* So far the mission has been a success, and JAXA anticipate 7-8 more years of operation. There has been no degradation of the sensor or platform.
* The mission was planned with a nominal 500 m orbital tube. In practice so far, there has been a 400m x 100 m tube for orbits.
* The JAXA RA-6 PI proposal call resulted in the submission of 500 proposals! This big number of proposals has caused a delay in the announcement of the successful PIs.
* Proper burst synchronization necessary for SCANSAR interferometry started Feb 8, 2015.
* A 25 m global uniform data set (comparable to ALOS) will be made available to the public.

7) Wolfgang Lengert: Sentinel-1 update

* The mission is very robust (>90% data availability) and is being successfully operated with an open and free data policy.
* Sentinel-1B is scheduled to launch in May next year, raising the possibility of 6 day repeat coverage!
* In Europe, Sentinel-1A data are being acquired in ascending and descending modes every 12 days. Elsewhere in areas of tectonic and volcanic interest, there are acqusitions in both modes every 24 days. There may be some flexibility in the acquisition plan, if a case can be made for modifications (ask them if you want/need more frequent acquisitions).
* SLC processing is underway now for all acquired products (now available for all products previously only available as raw data).
* It is anticipated that the acquisition plan for Sentinel-1B will be identical to that for Sentinel-1A.

8) Paul Rosen and David Sandwell: Open source software update – ISCE and GMTSAR

* The most recent snapshot of the ISCE software was uploaded last month, Piyush Agram has been working on the algorithms, the software can now deal with zero or non-zero Doppler images.
* A new application, roi.app, uses the roi processor from ROI\_PAC for processing data from RAW – it doesn’t work with all sensors yet, but they are working on it.
* They have implemented a working waterbody mask, and two-stage phase unwrapping for connected components.
* There are 200+ pages of documentation from the recent user workshop, available online.
* JPL have had a working version of the ISCE software that supported the processing of Sentinel TOPS data for six months. They were initially reticent to release it as they were still debating the final formats for some metadata elements. However, due to overwhelming community interest, they plan to release the sofware in its current form in mid-January, with the proviso that the metadata formats are provisional and will possibly be updated in future versions of the software as and when they are finalized.
* ALOS-2 SCANSAR processing capability should also be included in ISCE in the near future.
* Sentinel-1 processing capability for GMTSAR is being worked on at present. Preliminary time series scripts have been made available.

9) Hook Hua: ARIA project update

* Continuous interferogram processing is possible in the ‘hypercloud’, both in bulk and on-demand. For instance, they have successfully implemented two years of automated Cosmo-Skymed continuous processing.
* They have implemented ‘straw man’ Sentinel-1 processing in this scheme (downloading the data has been the main bottleneck).
* They have built the capability to interface with lots of different data streams, ASI,. ESA, ASF, Unavco…
* They have been looking at ways to QA the data – currently, users can tag datasets and assign them a quality, and they have been using this information to guide machine learning to identify the features of a good dataset (e.g. whether or not there are unwrapping issues).
* ARIA has been prototyping the systems that will eventually feed into NISAR and SWOT.
* They are also working on their search capabilities, e.g. faceted search to enable areas of interest to be searched.

10) David Bekaert: StaMPS/TRAIN/GIANT

* Forthcoming versions of StaMPS are in the pipeline that include new, automated algorithms for fixing unwrapping errors and parallelization. They are also building ISCE support.
* They aim to release these soon, hopefully announced with an article in EOS article.
* There have also been a series of improvements to GIANT, including atmospheric corrections (through the PyAPS tool).

11) Francesco Casu: SBAS-InSAR Tool

* This tool works under the ESA Geohazards Exploitation platform, and implements a parallelized version of the SBAS algorithm.
* It uses computing resources from the Amazon AWS cloud. Their test example was a complete set of 2-frame interferograms – using 150 nodes from Amazon, the data were completely processed in 9 hours for less than $1000.
* ESA has their platform available for data storage and access, and sharing of results.
* Their softwares are available there (as well as ROI\_PAC, StaMPS, etc). Simply select the data, put it on the interface, and run the processing there to the time series stage!
* They are running training on this system at AGU, and possibly at future meetings.

12) Zhong Lu: New opportunities and wrap-up

* Please send e-mails with suggestions on future activities for WInSAR.
* Thanks to Jaime Magliocca for organizing this meeting.
* We will send out a WInSAR newsletter soon that will include all these updates.

Meeting adjourned at 1.30 pm.