Summary of the 37th Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Science Team Meeting

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The 37th ASTER Science Team Meeting was held at Ikebukuro Station Conference in Tokyo, Japan from June 8-11, 2010. ASTER Science Team members and members of other relevant teams attended the meeting. Participants heard reports on the status of the ASTER science project and the status of projects related to the ASTER project at the Opening Plenary. They then split up into working groups for more focused discussions about particular topics of interest. The reports from each working group were presented at the Closing Plenary.

Opening Plenary

H. Tsu [Earth Remote Sensing Data Analysis Center (ERSDAC)—*Japan ASTER Science Team Leader*] and **M. Abrams** [NASA/Jet Propulsion Laboratory (JPL)—*U.S. ASTER Science Team Leader*] made opening remarks, in which the achievements of the Global Digital Elevation Model (GDEM) were highlighted. **M. Kato** [ERSDAC] presented the meeting schedule.

W. Turner [NASA Headquarters] outlined the current status of NASA, including NASA's organization, future projects, and budget. Turner noted that in the budget allocation plan, greater emphasis is placed on Earth Science.

M. Abrams updated the team on the U.S. ASTER Team status. Abrams reported that an article on ASTER GDEM appeared in the April issue of *Photogrammetric Engineering & Remote Sensing*. Abrams then presented observations of three natural disaster events.

M. Ramsey [University of Pittsburgh] provided an update on the Mineral And Gas Identifier (MAGI), a whiskbroom airborne demonstrator sensor with 128 bands covering 7.5–13 μm spectral range. **B. Eng** [JPL] discussed the status of the Landsat Data Continuity Mission (a.k.a., Landsat 8). The spacecraft primary structure assembly is completed with launch scheduled for December 2012. A Thermal Infrared (TIR) instrument is also expected to be mounted, but the spacecraft will be launched without it if the development of the sensor is delayed. **S. Hook** [JPL] summarized the status of the planned Hyperspectral Infrared Imager (HyspIRI) mission and of the airborne Hyperspectral Thermal Emission Spectrometer (HyTES).

M. Kikuchi [Japan Resources Observation System and Space Utilization Organization (JAROS)—Instrument Team,] reported on the instrument status. Kikuchi spoke on the instrument lifetime management and radiometric calibration.

M. Hato [ERSDAC] reported on the Ground Data System (GDS) status. Hato gave an update of the production and distribution at GDS. He also reported on a change of operation working time and the Science Data Processing Segment (SDPS) replacement timeline.

D. Meyer [U.S. Geological Survey Land Processes Distributed Active Archive Center (USGS LPDAAC)] reported on the status of operation, distribution, science, and development at LPDAAC.

M. Fujita [ERSDAC] presented the Science Scheduling Support Group/Operations and Mission Planning (SSSG/OMP) report. Fujita discussed the observation status for Global Mapping (GM) and GDEM, and management of the pointing device lifetime.

To close the plenary, **Y. Yamaguchi** [Nagoya University] raised two points for further discussion in the working groups: status of GM, Night TIR GM and other Science Team Acquisition Requests (STARs) and GDEM update.

Working Group Sessions

Level 1/Geometric/Digital Elevation Model (DEM) Working Group

In the first half of the session, the validation results of ASTER Level 1 algorithm/software were presented. No appreciable problem was found. There was some discussion on the geolocation error of the nighttime TIR data. The cause of the error was not determined and will be further investigated. The second half of the session was devoted to the ASTER GDEM project. Firstly, **H. Fujisada** [Sensor Information Laboratory Corporation (SILC)] reported on the plan for GDEM version 2 (*v2*) generation. There will be some delay due to the Science Data Processing Segment (SDPS) update at GDS. Then, **D. Meyer** proposed the validation plan for GDEM *v2*. **B. Crippen** [JPL] presented the results of validation of GDEM *v2* (trial version). The topographic expression was much improved.

Radiometric Calibration/Atmospheric Correction Working Group

At the beginning of this session, the instrument team shared the results of onboard calibration. The radiometric database for both visible-near infrared (VNIR) and thermal infrared (TIR) needs to be updated. Following the instrument team's report, **K. Arai** [Saga University], **A. Kamei** [National Institute of Advanced Industrial Science and Technology (AIST)], **S. Biggar** [University of Arizona], **H. Tonooka** [Ibaraki University], **T. Matsunaga** [National Institute for Environmental Studies (NIES)], and **S. Hook** reported on the results of field campaigns and plans for future campaigns. Finally, **K. Arai** reported on future work, sensitivity degradation trend analysis, 10 years of vicarious calibration and recommendable radiometric calibration coefficient (and biases) for users. In atmospheric correction, **B. Eng** [JPL] gave a status report of current *Level-2* software.

Temperature-Emissivity Separation (TES) Working Group

A. Gillespie [University of Washington] presented a study of stripe noises of emissivity images particularly over lakes and oceans. **H. Tonooka** and **S. Hook** discussed the status of development of large-scale emissivity datasets. **H. Tonooka** reported on water temperature retrieval from the Lake Senba site and the method for small water bodies. **M. Fujita** presented the status of Night TIR Global Mapping and **H. Tonooka** reported on the update of cloud assessment.

Operations and Mission Planning (OMP) Working Group

A. Miura [ERSDAC] reported on the changes in ASTER Operations, namely, working time and updates on some parameters in the scheduler. **M. Fujita** reviewed the status of the fourth round of Global Mapping (GM4), Nighttime TIR Global Mapping, Underserved Area STARs, and Gap Filler STARs. GM4 is progressing well and likely to be accomplished in approximately three years. TIR Global Mapping will continue as it is for the time being. Underserved Area STARs will continue until the completion of GDEM *v2*. The observation resource was increased by a scheduling parameter update and divided appropriately. **H. Tonooka** presented results using a new cloud assessment method for identifying gaps in coverage. **K. Duda** [USGS] discussed the status of expedited data support. The website address to access the expedited data will remain not advertised.

STAR Committee

In the current process, STAR proposals require approval by two chairs. It was decided that approval would be granted by one chair and the review period would be reduced to one week from two weeks for prompt processing. Priority of the Global Land Ice Measurements from Space (GLIMS) STAR will be checked to ensure the GLIMS STAR acquisitions that will start in June.

Ecosystem/Oceanography Working Group

First, **T. Matsunaga** and **G. Geller** [JPL] reviewed action items and STAR status. Since the last ASTER Science Team meeting seven new STARs were submitted. After that, five project reports (Japan Biodiversity Observation Networks (J-BON), GEO Biodiversity Observation Networks, 100 Cities Project, Global Road and Human Settlements Mapping and Terra Look) and six research reports were presented.

Geology/Spectral Working Group

Action items and discussion items from the opening plenary were reviewed. Seven research activities, four in the fields of glaciology, and three in volcanology were presented. **D. Pieri** [JPL] gave an update of JPL ASTER Volcano Archive (AVA).

Closing Plenary

After the splinter sessions, the groups reconvened for a Closing Plenary to hear the outcomes of each working group session. **M. Abrams** announced that the next (38th) ASTER Science Team Meeting would be held in the U.S. December 6-9 and closed the meeting. ■