Research Announcement: Free FORMOSAT-2 Satellite Imagery

I. Introduction

ISPRS WG VI/5 is delighted to announce the call for proposals for free FORMOSAT-2 satellite data. Sponsored by the National Space Organization, National Applied Research Laboratories (NARLabs-NSPO) and jointly supported by the Chinese Taipei Society of Photogrammetry and Remote Sensing and the Center for Space and Remote Sensing Research (CSRSR), National Central University (NCU) of Taiwan, this research announcement provides an opportunity for researchers to carry out advanced researches and applications in their fields of interest using archived and/or newly acquired FORMOSAT-2 satellite images.

FORMOSAT-2 has a unique daily-revisiting capability to acquire images at a nominal ground resolution of 2 meters (panchromatic) or 8 meters (multispectral). The images are suitable for different researches and applications, such as land-cover and environmental monitoring, agriculture and natural resources studies, oceanography and coastal zone researches, disaster investigation and mitigation support, and others. Basic characteristics of FORMOSAT-2 are listed in Section III of this document and detailed information about FORMOSAT-2 is available at <http://www.nspo.org.tw>.

Interested individuals are invited to submit a proposal according to the guidelines listed below. All topics and fields of application are welcome, especially proposals aiming for addressing issues related to the Societal Beneficial Areas of GEO/GEOSS (Group on Earth Observations/Global Earth Observation System of Systems, Figure 1). Up to 10 proposals will be selected by a reviewing committee. Each selected proposal will be granted 10 archived images (subject to availability) and/or data acquisition requests (DAR) free of charge. Proposals that include members of ISPRS Student Consortium or other ISPRS affiliated personnels as principal investigator (PI) or co-investigators (CI) will be given higher priorities, so be sure to indicate ISPRS affiliations in the cover sheet of the proposal.

Figure 1: Societal Beneficial Areas of GEO/GEOSS (http://www.earthobservations.org/geoss.shtml)

II. Terms and Conditions

1. This call for proposal is open to global researchers in educational and research institutes, government agencies, non-government organizations, private enterprises and other organizations.
2. Each principal investigator (PI) can submit one proposal.
3. Up to 10 submitted proposals will be selected by an evaluation committee.
4. Up to 10 FORMOSAT-2 images will be provided free of charge to each selected proposal. Images may be combination from archive and by DAR.
5. A typical FORMOSAT-2 image tile is 24 km by 24 km, but the real image size may vary.
6. Available products include L1R, L2, and L4 FORMOSAT-2 imagery. In case of L4 data requests, orthorectification will be performed using available Digital Elevation Models (DEM).
7. All data requests, including new DAR, must be specified in the proposal. The request should include information of Time Frame, and Area of Interest (AOI). Noted that the higher flexibility in the requirement, the higher availability. All requested image acquisition shall be before December 31, 2014.
8. NSPO reserves the right to decline the request of archived images and, in case of new DAR, to schedule the tasking of data acquisition.
9. All provided FORMOSAT-2 data are for academic or non-commercial use only.
10. NSPO retains the copyright of all provided data.
11. All PIs must submit a final report no less than 10 pages by email to the designated address by July 31, 2015.
12. A special session may be arranged in ACRS 2015 for the PIs to report their research results.

III. Basic Description of FORMOSAT-2

FORMOSAT-2 is the first earth observation satellite developed by the NARLabs-NSPO, Taiwan. It is currently the unique remote sensing satellite capable of imaging 14 strips of worldwide areas daily as illustrated in Figure 2. From 2004 to 2012, FORMOSAT-2 has acquired images covering 46% of land areas over the world as displayed in Figure 3.

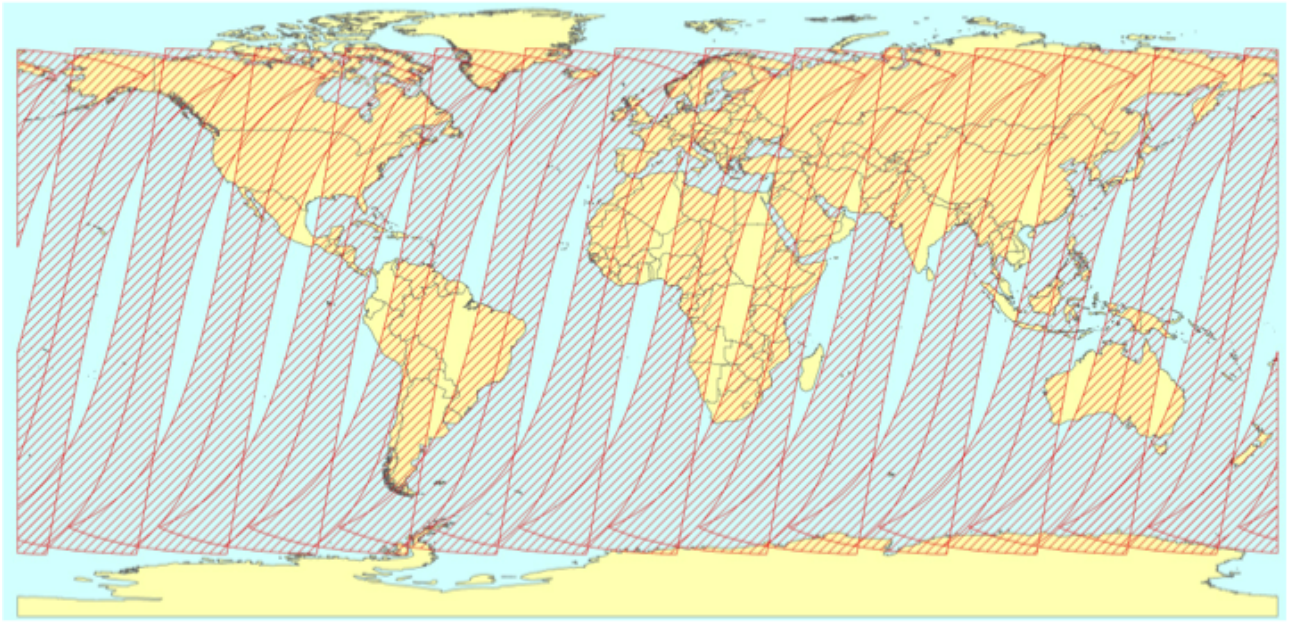

Figure 2: FORMOSAT-2 global coverage.

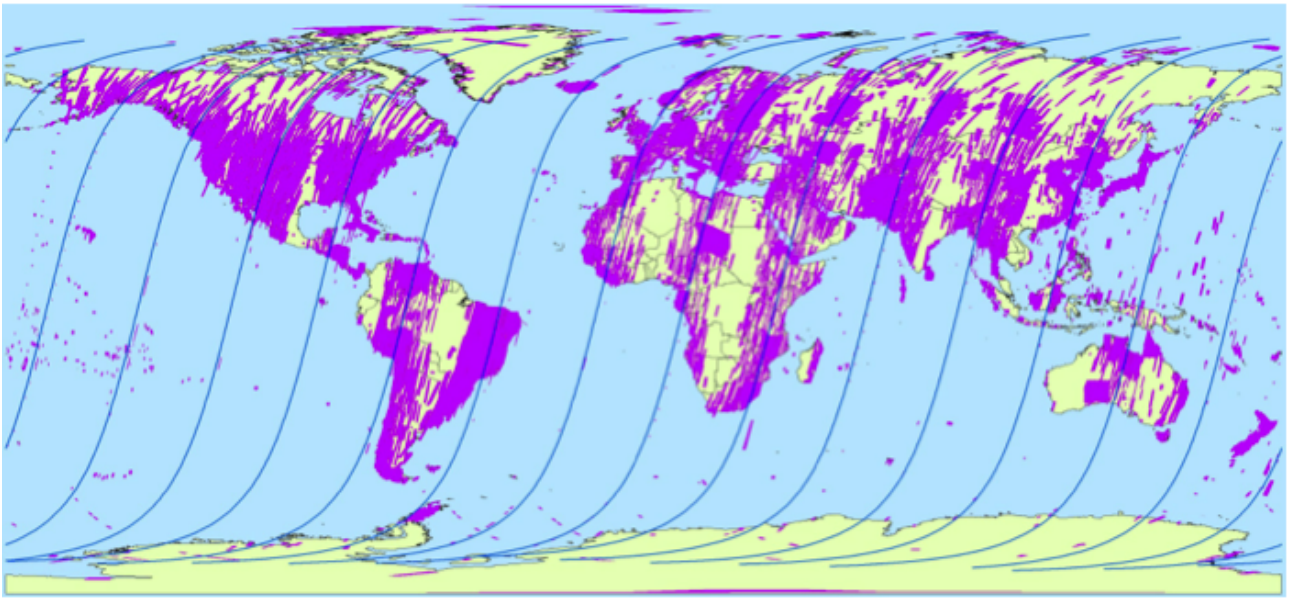

Figure 3: FORMOSAT-2 global footprint (land areas).

The Remote Sensing Instrument (RSI) onboard FORMOSAT-2 has a panchromatic (PAN) and 4 multispectral (MS) channels covering a wavelength region from visible to near-infrared. Table 1 lists a few basic characteristics of FORMOSAT-2.

Table 1: Basic FORMOSAT-2 characteristics.

Orbit	Sun-synchronized at altitude of 891 km, inclination of 99.10°
Spectral bands	0.45~0.90μm (PAN) 0.45~0.52μm (Blue) 0.52~0.60μm (Green) 0.63~0.69μm (Red) 0.76~0.90μm (NIR)
Ground Sampling Distance (GSD)	2m (PAN); 8m (MS)
Swath	24 km (@nadir) ~ 62 km (@45 deg)
Agility	Body rotation with ±45 deg. (Roll & Pitch)
RSI Duty Cycle	> 8% per orbit
Point Accuracy	< 0.7 km
Point Knowledge	< 450 m without GCP
Position Knowledge	< 70 m

III. Guidelines for Proposal

All proposals should be in English and submitted in PDF formats no later than March 31, 2014. The structure of the proposal should consist of the following sections:

1. Cover sheets: (see attachment)
2. Abstract (1 page)
3. Main body of the proposal (up to 15 pages, including references), describing the following items.
    - Objective and significance
    - Area of interest (including a map and coordinates)
    - Methodology
    - Expected results and contributions
    - Approximate dates of requested images (archived and new data acquisitions)
    - Other satellite, airborne or ground data to be used and acquisition plans
    - Work plan and schedule
    - Other helpful information
4. Short curriculum vitae and publication list of the PI

IV: How to submit:

Please visit the home page of this call-for-proposal at: <http://www.csrsr.ncu.edu.tw/FS2CFP/> to register and submit your proposal. If you have any question, please contact us at <fs2cfp@csrsr.ncu.edu.tw>.

Title:_____

Principle Investigator (PI)

Name: _____

Position: _____

Department: _____

Organization: _____

Address: _____

Email: _____

Tel: _____

Co-Investigators (CI)

Name	Organization	Email	ISPRS Affiliation

Signature of PI: _____ Date: _____