

Title: Rice monitoring in Asia

Product Leader: William Salas

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Product Team (confirmed members only):

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Agreement status: Ready to sign!

Preferred agreement type (individual/institutional): Individual

Project objective(s):

- Develop methodologies for (i) mapping rice paddy extent, (ii) mapping rice cropping systems, (iii) mapping rice inundation periods, (iv) mapping rice biophysical characteristics, and (v) identifying intermittent draining (Prototype Area 1 only), using dual-pol and ScanSAR PALSAR data, non-mosaicked path images.
- Application of the methodology for rice monitoring in all of Asia (Area 2) for 15 months, using 50 m resolution dual-pol and ScanSAR PALSAR swaths for complete year of rice cultivation (July 2005 through September 2006).

Rice monitoring in Asia

Prototype Areas: Soc Trang (Vietnam), Yiyang and Nanjing (China), NE Thailand (coordinating with AIT and GISTDA), Eastern India (TBD: coordinating with ISRO).

Corresponding observation plan polygon(s): B1, B2, A8 (ScanSAR A4, B1,B2)

No. PALSAR paths/coverage: ~60 passes (5 sites, 10 ScanSAR + 2 @34.3° per site)

PALSAR request (Year 1-2): ~60 passes (1 annual coverage see above)

Input data (EORC products): PALSAR path images (Sigma-0, slant range, 50m)

Ancillary data requests: ~ 35 JERS-1 SAR path images 1997-98 (5 sites x 7/yr)

Mapping Area: Pan Asia Rice

Corresponding observation plan polygon(s): B1-3, A8 (ScanSAR A4, B1-3) No.

PALSAR paths/coverage: ~580 passes (164 dual-pol, 419 ScanSAR)

PALSAR request (Year 1-2): 1 full coverage

Input data (EORC products): PALSAR image (Sigma-0, slant range or SRTM corr., 50m)

Ancillary data requests: JERS-1 SAR (GRFM) mosaics from mid-1990's

Rice monitoring in Asia

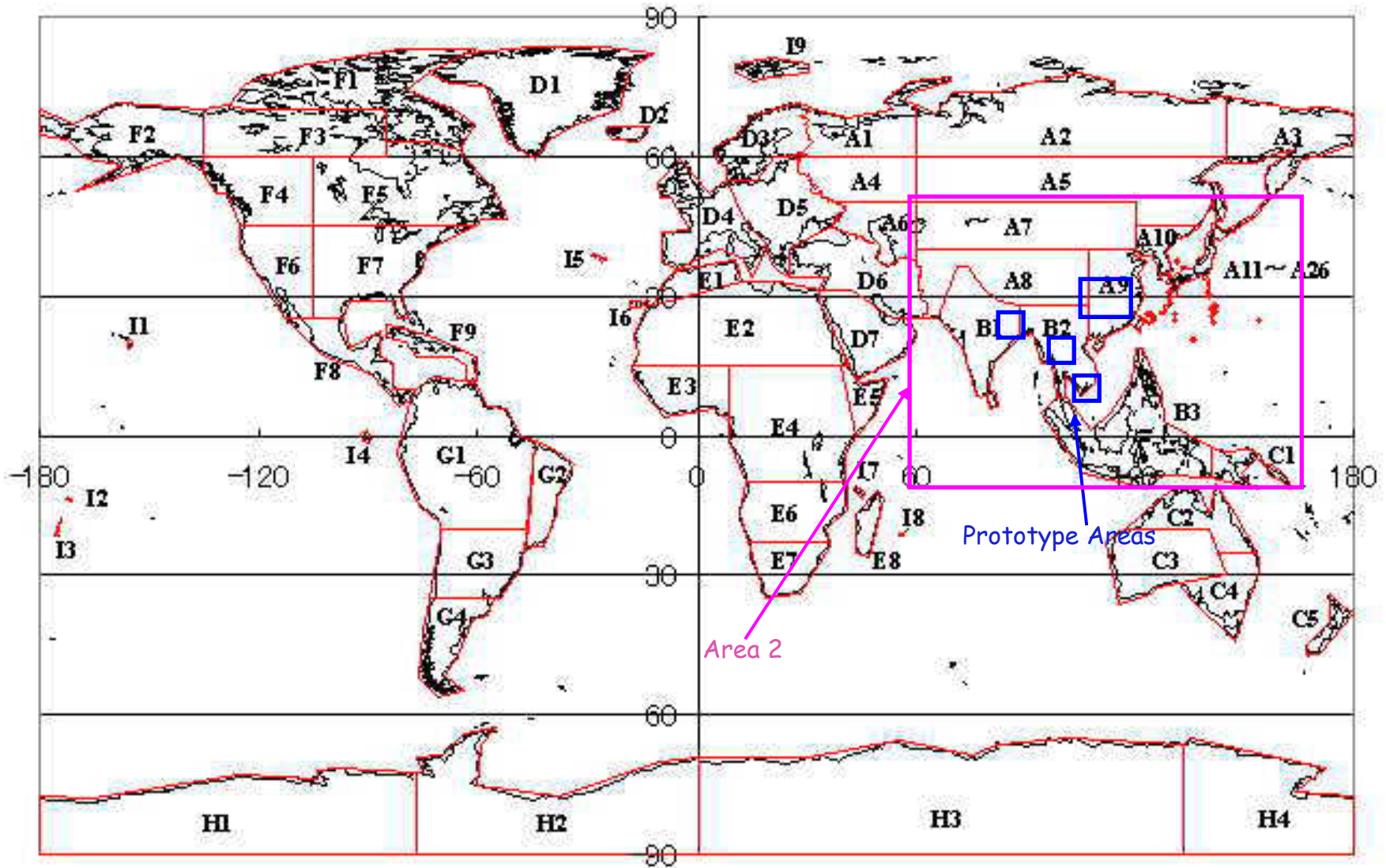
K&C Product Deliverables (before end of Year 3): East Asia and Mainland SE Asia Products

- PALSAR Methodology for operational rice monitoring
- Maps of rice cropping systems, biophysical characteristics, inundation period for prototype regions.
- Maps of rice paddy extent: Pan Asia (2005-2006 growing season)

Prospects for Years 4-5 (assuming agreement extension)

- Maps of rice cropping systems (single-, double- or triple cropping)
- Maps of start and duration of paddy inundation
- Maps of rice biophysical characteristics (biomass, age, height)
- Map of intermittent draining (China only?)
- Model estimate of CH₄ and N₂O emissions from rice paddies (yrs 3 &4).
- Extension of mapping to India and Insular SE Asia

Monitoring of Rice Paddies in Asia



Location of Prototype Areas