

Meeting RECAP

Joint Experiments CAM

- A project of GEOGLAM enabling international collaborative research focused on intensive study sites
- A distributed set of well-monitored agricultural test sites globally for a range of crop types and cropping systems
 - To test new or established methods (RS and In Situ)
 - To evaluate and validate satellite data products
 - To investigate combined use of RS and in-situ observations
 - To explore integration of EO data in Ag Production Models
- Experiment Modes
 - At individual sites (collaborative research)
 - Across multiple sites (collaborative research)
- Focus for satellite data collection (w. CEOS and Private Industry)
 - Availability to a broad range of sensor data relevant to agriculture
 - Feedback to space agencies interested on how the data are used and outcomes
 - Widening participation of data providers

This Meeting

- Updates on site activities and plans
- Identification of opportunities for cross-site collaboration
- JECAM Site Coordination
 - Community definitions (cropland, crop class)
 - Minimum data sets/site observations
 - Guidelines for validation coming
 - Guidelines for biophysical parameter data collection (TBDone)
 - Best practices for data acquisition, preprocessing and analysis as an outcome of the joint experiments
- JECAM Observations Coordination
 - Refine requirements table – by research sensor type
 - Core sensing systems that need to be engaged
 - JECAM Project-wide Proposals
 - Identification of upcoming sensors
 - *Opportunities for Broadening participation – India, China/Brazil, China ?*

Research Areas of Common Interest at the JECAM Sites

- Planted area
- Crop classification
- Crop condition
- Crop yield

- Biophysical parameters - LAI, FPAR, Biomass
- Soil moisture

- Use of SAR data (a SAR experiment non-rice?)
- Multi-scale sampling

Funded Experiments

- Bilateral Site collaborations underway e.g.
 - Canada (AAFC), China (RADI Southern Site)
 - Canada (AAFC), Argentina (INTA)
 - Argentina (INTA, China (RADI Northern Site)
 - France (CIRAD), Burkina, Madagascar, Senegal, Tanzania ?
 - France (CESBIO), Tunisia, Morocco
 - Belgium (UCL), South Africa, Ukraine
- Multilateral Collaborative Activities
 - SIGMA JECAM – VITO, EU plus
 - ASIA RICE JECAM – Japan, Thailand, Indonesia and others
 - Sentinel 2 Agri – UCL, CESBIO and others
- Others ?

Issues of Data Access and Sharing

- Identified data challenges for JECAM
 - Process for sharing data across sites (in situ and RS)
 - ‘Licensing Agreements’ on group use of restricted data
 - Access to near real-time data (demonstration data)
 - Large volume data management (storage, processing, tools)
 - Rendering data to information
- An opportunity for pilot studies for cloud processing and archive – suggestions

Discussion with JECAM Site leads

- What points / issues have we missed ?
- Any additional comments ?

JECAM - short term actions about JECAM documents:

1. Revision of JECAM doc. : min. data set requirements (BK,IJ,PDY)
 - => circulation for endorsement by JECAM sites
 - => input to the CEOS Sit Meeting (Sept. Montpellier)
2. Revision of JECAM doc. : crop class definition and validation (IJ, PDY)
 - => circulation for endorsement by JECAM sites
3. Writing JECAM doc. : SAR acq./preproc. and experiment (HMcn, PDY)
 - ⇒ across sites SAR study for crop discrimination using existing data
 - (potential JECAM candidates : Canada, Germany, Ukraine, Argentina, SAfrica, Belgium)
4. Extending SIGMA review in JECAM doc.:field data collect. tools (AD,SIGMA)
 - => circulation to JECAM sites
5. JECAM Data Sharing Policy agreement (space agencies, scientists, 3rd party)
6. Preparation of coordinated JECAM proposal for CNES, SPOT5 T5, S1,...

Some JECAM key research topics

- What are the different performing features/metrics to discriminate the cropland/crop type for the different agricultural landscapes (incl. smallholders agriculture) ?
- What are the limitations to extend the currently operational SAR method for crop mapping, soil moisture and biophysical variables ?
- How to develop multisource approaches (sensor independent methods) ?
- How to proceed to scale up from finer to coarser resolution ?
- What are the stratification approach to move from site level to region/national level ?
- How to detect/focus on change from one year to another (crop type, crop yield, cropland) ?
- What are the yield model to be developed in data rich environment ?
- How to input crowd sourcing and expert knowledge into EO-driven system ?
- How to detect water stress (indicators, ...) incl. Thermal IR ?