ESA - MOST Dragon 2 Programme

2011 DRAGON 2 SYMPOSIUM

中国科技部-欧洲空间局合作 "龙计划"二期

"龙计划"二期2011年学术研讨会

Project Summary

id. 5264 - Flood-Wetland project

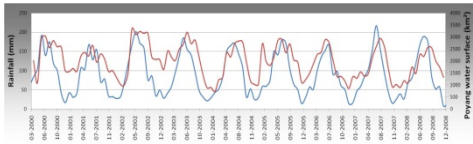
24th of June 2011

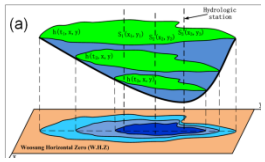
Yésou Hervé, Li Jiren,

Main Results

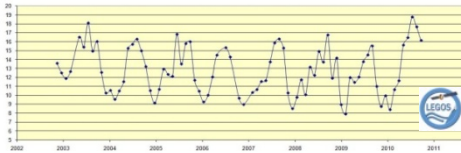
2010-2011: Year of Project Maturity

Water surface monitoring: 11 year of Poyang Dongting
Deliverables in term of
⇒ Methods; Modified Otsu threshold method
⇒ 3D lake bottom generation
⇒Lakes behaviors
⇒ Sensibility to large scale to rain fall

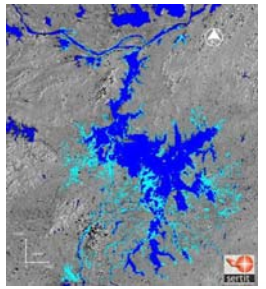




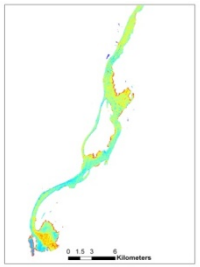
Altimetry
⇒ Full exploitation of RA2 series over Poyang
⇒ Routine mode for Jason 2 exploitation



Rapid mapping: 2010 a milestone year
⇒ Poyang and Dongting monitoring in NRT
⇒Songhua , one shot

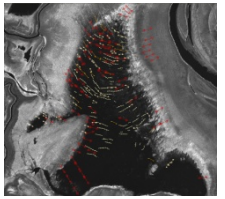


Main Results

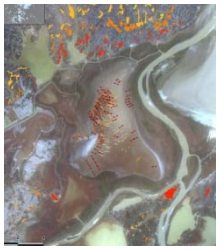


Water quality : HJ-1A/B CCD imagery
Trend of TSS derived from EO = trends of in situ data analysis
Mean retrieval value of TSS is a little higher than in-situ (atmospheric effect ?)

Wetland biodiversity : Exploitation of WPs deliverables
⇒ Time of inundation
⇒ Land Cover/use high resolution map
⇒ Impact assessment of entropic disturbances



Epidemiology
Two parallel works on Poyang and Dongting highlighting
⇒ Dynamic approach of intermediate host potential presence
⇒ Assessment of risk transmission



Issues and Recommendations

Insure data access :

In situ data as more and more restriction on gauge stations measurements EO data,

=> Limitations in accessing Chinese EO data

=> Limitations in successful acquired ASAR data from Envisat (25%)

Solutions:

=> Withdraw limitations on accessing Chinese EO data (CBERS to Beijing 1)

=> Combination of multi missions data (Deimos, CSK..)

=> Great expect in the ESA mission Sentinel (SAR and Optical)

Issues and Recommendations

Monitoring lakes: characterize of lakes' behavior in regards to large scale meteorological parameters, within the framework of global meteo context

⇒ Increase the period of observation up to 15 years, ie1998 to 2012

⇒Integrate derived information from SMOSS

⇒ Highlights the regional trends and relationships between rain fall and water extent

⇒ Characterize global effect on high water level (Nina ⇔ Drought)

List of Publications

Symposium

Space Appli Toulouse, June 2010
Bergen July 2010 : 3 papers
Lisboa 2011; Int sympo Altimetry
EGU, Vienna, April 2011: 2 papers
SFPT May 2011
CEOP AEGIS Annual review June 2011
Nanjing Lidar May 2011 (astonishing fail) : 2 papers
Pragua Dragon 2011: 3 posters

Published - Submitted papers:

Chinese Journal of Oceanology and Limnology
Natural Disaster Journal ,2010
Journal of Huazhong Normal University (Natural Sciences),
Rivers and lakes Journal
Rem Sens Env
Spatial Health
IEEE Transactions on Geoscience and Remote Sensing

Project Planning – 2011 and 2012

Water height/surface monitoring
Integrate Vegetation time series from 1998 to 2002
Continue the monitoring in summer 2011 and winter 2011/2012
=> increase the time series up to 15 years
Assess the potential inputs of SMOSS in the understanding of the system
Identify trends linked with meteorological factors

On going development of System software for flood and drought monitoring and evaluation for the whole country

Biodiversity
Finalize the integration of WPs deliverables
Characterize wetland temporal evolution

Epidemiology
Reach more field data
Cross comparison of group individual results

Project Planning – 2011 and 2012

DRAGON 2 Final: Prepare 4 to 5 papers for Final results being also submitted to IGARSS (Munich, July 2012)

DRAGON 3 Next step for management board :

=> Confirm /reinforced the partnerships for next call

=> Core team: SERTIT, LEGOS, IWHR, NIGLAS, ICF, Acad Opto Elect., Liesmars, BnU

=> Already interested new partners
CAS Kunming (wetlands) NIPD Shanghai (health)