

## Status Report - 2016

### International Commission on Remote Sensing (ICRS)

#### Current Officers

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#### Activities 2015-2016

##### ICRS committee meeting

The ICRS committee met during the 26<sup>th</sup> IUGG Congress in Prague in 2015. All outgoing and incoming committee members were present. Several proposals for future activities were discussed, including participation in the next IAHS assembly in South Africa 2017. The committee has decided to hold its flagship conference: Remote Sensing and Hydrology on a 4 year cycle.

##### Sessions Organized and/or Participation in other conferences:

1. Professor Yangbo Chen, together with other colleagues, organized a session on 2015 AGU meeting entitled as “Modeling Hydrological processes and changes”.

2. COSPAR Capability Building Workshop on Earth Observation of Transboundary Water Resources <http://cospar2015.hcmut.edu.vn/>

Prof. Bob Su organized the course with Dr. Phan Hien Vu and gave lectures and his team provided technical support to the course.

The COSPAR Capability Building Workshop on Earth Observation of Transboundary Water Resources at Ho Chi Minh City University of Technology (HCMUT), Ho Chi Minh City, Vietnam, 26 Oct - 6 Nov 2015. The workshop was co-organised by Ho Chi Minh City University of Technology (HCMUT) and the faculty of geo-information science and earth observation (ITC), University of Twente, the Netherlands. Funding was provided by COSPAR, ESA, and the University of Twente. HCMUT provides the lecture room, and computing facilities for participants.

The aim of the training workshop was to provide trainings for young researchers from SE Asia to develop skills in the access, processing, analysis and use of satellite EO

and in-situ data as well as state-of-the-art model outputs for transboundary water resources applications.

The participants were mainly junior researchers and staff members from universities and governmental organizations involved in areas of hydrometeorology, water resources and earth observation. 46 candidates from SE Asian countries were selected among more than 100 applicants by the deadline of the application.

3. Professor Christopher Neale gave multiple presentations related to the ICRS mission:

III INOVAGRI International Meeting – August 30 – September 3, 2015  
Fortaleza, Brazil “Theoretical and empirical bases for a remote sensing estimation of crop water productivity” by Neale and Campos

International Workshop on Evapotranspiration Mapping for Water Security, World Bank, Washington DC, September 15-17, 2015. Invited Presentation: “Airborne Mapping of Evapotranspiration: Role of Piloted Systems in the Future”. Also participated on a panel.

FAO Water Productivity and Drought Workshop – October 27 – 29, 2015 in Cairo, Egypt. WFI helped sponsor this workshop and gave three presentations: (1) “Crop Productivity Assessment through Remote Sensing”; (2) “Products and Services for the NENA Region.

4. Professor Christopher Hopkinson, has organized a SAR water monitoring session at the Canadian Society of Remote Sensing conference.

### **Leading the Panta Rhei working group on Modeling Hydrological processes and changes**

ICRS Secretary, Professor Yangbo Chen has initiated and led the Panta Rhei working group on Modeling Hydrological Processes and Changes with most of the ICRS officers involved, there are more than 60 group members coming from 8 countries. This WG published a special issue on Environment Research in 2015, and is now publish another special session on HESS.

ICRS Officer, Professor Maria J. Polo has led the Panta Rhei working group on on Water and Energy Fluxes in a Changing Environment, with a significant presence of the ICRS officers involved. Among other activities, she represented the WG in the Panta Rhei Day in Vienna on the previous weekend of the EGU’16 General Assembly Conference in April and agreed to participate in the Panta Rhei Special Issue in HESS (paper under preparation).

### **Training Workshops**

-Dragon advanced training course on land remote sensing Within the framework of the Dragon Cooperation, a joint collaboration between the European Space Agency (ESA) and the Ministry of Science and Technology of China (MOST), ESA and National Remote Sensing Center of China (NRSCC) are providing a series of advanced thematic

training courses on remote sensing applications hosted by university and research institutions in P.R. China.

The courses were taught by leading Dragon cooperation Chinese and European EO scientists and was hosted by Tianjing Normal University, Tianjing, China, 16-21 November 2016. Prof. Bob Su gave lectures and his team provided technical support to the course.

In 2015 as part of this initiative, Ph.D. students, post-doctoral and research scientists from P.R. China and other Asian countries interested in land remote sensing applications were invited to attend a 6 day advanced training course in the subject.

The objectives of this advanced Dragon training course are:

. To inform on past, current and future EO satellite missions and data access from ESA and Chinese EO missions. To demonstrate the exploitation of ESA, TPM and Chinese EO data for land applications. Introduce available software tools and methods for the exploitation of ERS, Envisat, TPM and Explorers missions' satellite data Because Sentinel-1A had been launched in April 2014, and that the new Sentinels 2 & 3 missions will launched in 2015 (S2-A) and 2016 (S3-A). The training aimed to introduce these missions and prepare future PIs for the scientific exploitation of these data as well as ESA science missions' data (e.g. Envisat, ERS ½ and Explorers missions). The 2015 training held 2 parallel training courses with:

- . First course on land RS focusing on both optical and thermal remote sensing (Op&T-RS)
- . Second course dedicated to SAR remote sensing (SAR-RS).

### **Co-organized activities**

Direction and organization (Prof. Polo) of the International Course on Mapping Soil Moisture: measurement, monitoring and modelling from the plot scale to the regional water Budget; Córdoba, October 2015. Prof. Z. Bob Su and Prof. Maria J. Polo participated in the lecturers' team. Funded by the International Excellence Campus on Agrifood on the University of Cordoba and other national entities.

### **Remote Sensing and Hydrology Conference 2018**

The committee has decided to hold its flagship conference: Remote Sensing and Hydrology on a 4 year cycle, with the next edition to be held in Cordoba, Spain in early May 2018, hosted by Maria Jose Polo and the University of Cordoba. Progress: The conference facilities have been reserved for May 7-11<sup>th</sup>, 2018 and negotiations with local hotels for space and pricing will be initiated later this year. Initial contacts for funding support have been done, and the organization is under development at the moment. We will soon send out a save the date message to the community, announce in the ICRS Remote Sensing of Hydrology webpage, and coordinate with IAHS journal editors on the possibility of a "pre-conference" special issue on the topics.

**Contributions to the Scientific Programme of the IAHS Scientific Assembly, July 2017, Port Elizabeth, South Africa**

ICRS has proposed the organization of Workshops/Sessions and has agreed to co-sponsor and partner with other commissions. Specifically:

**Water Balance and Crop Water Productivity in Sub-Saharan Africa Agricultural Watersheds**

Conveners: ICRS

Supporting commissions: ICSW, Potential additional IAHS partners: ICWRS

**Probabilistic forecasts and land-atmosphere interactions to advance hydrological predictions**

Convenor: ICCLAS

Supporting commission(s) / organisations: HEPEX, GEWEX-GLASS, ICSW, ICWRS, ICRS

**Advances in cold-region hydrological models: Integration of process understanding and application to climate and landcover changes**

Conveners: ICSIH

Supporting Commissions: ICCLAS, ICRS, ICSW, ICWRS

**Prediction in ungauged basins**

Convenor: ICSW

Supporting Commissions: ICSH, ICRS

**Modelling hydrological processes for prediction under change**

Conveners: ICSW, PuC WG under Panta Rhei

Supporting Commissions: ICRS, ICSH

Professor Christopher Neale, President, ICRS

Professor Frederique Seyler, Secretary, ICRS