


**Asia-Pacific Regional Synthesis and
Commitment Session of the 7th World Water
Forum**
B105, Hyundai Hotel, Gyeongju, Republic of Korea
15 Apr. 2015



Key Messages:
**“Hydrological Services in Asia under
Rapidly Changing Conditions”**

Coordinators:
KICT (Sung Kim), WMO (Paul Pilon), HRFCO (Hajoon Park)

Background (1)

- Asia Pacific region has experienced rapidly changing hydrological conditions: more than any other region
- Hydrological Services need to respond by improving hydrological practices, and product and service delivery
- Session objectives and outputs:
 - To explore the on-going hydrological efforts that could improve hydrological practices in Asia region
 - ➔ Sharing of improved practices
 - Provision of opportunities to develop collaborating projects among the Asia Pacific countries
 - ➔ Develop a framework for collaboration

Background (2)

- Previous meetings for organizing the session
 - ✓ WMO RA-II WGHS Meetings (Oct. 2012 and Sep. 2014, Seoul)
 - Session structure and participation discussed.
 - ✓ WMO CHy AWG Meetings (Feb. 2013, Geneva; and Sep. 2014, Prague)
 - WGHS results were reported.
- Organizations and speakers confirmed participation if session held (Nov. 2014)
- Korea MOLIT and WMO to support some speakers and panelists.

Speakers and Panelists

- Introduction and Opening (Dr. Sung Kim, KICT)
- Opening remarks (Mr. Ha-joon Park, Director General, Han River Flood Control Office, MLIT, ROK)
- Presentations
 - ✓ Dr. Paul Pilon (WMO Hydrological Services)
 - ✓ Dr. WANG Guoqing (Hydrological Practices under Climate Change)
 - ✓ Dr. Tai-Hoon Kim (Sediment Disasters)
 - ✓ Dr. Sergey BORSHCH (Floods)
 - ✓ Ms. Hwrin Kim (Water Resources Assessment)
- Panel Discussion
 - ✓ Dr. Wolfgang Grabs; Ms. GAO Ge; and Dr. Yeongsin ROH.
- Concluding remarks
 - ✓ Mr. Zhiyu LIU

Key Messages

- Asia has seen the full range of deadly floods, storms, landslides, earthquakes, drought and extreme weather
- Economic losses continue to rise exponentially
- Asia has experienced *human-induced changes* including population growth, increased urbanization, land use changes, increased water use demands, increased *climate variability, and climate change*
- **National Hydrological Services** in the region are becoming increasingly important and need to improve capabilities in
 - *data observations, their management and sharing,*
 - *flood forecasting and warnings,*
 - *water resource assessment,*
 - *sediment (land slide and debris flow) disaster management ,*
 - *drought , flood and water resources management.*

1

Hydrological practices under climate change

- Climate change results in generally more extreme events
 - ✓ storms, floods, droughts...
 - ✓ higher variability of available fresh water resources
- *Climate prediction model and products* can be used in extended stream flow prediction, which can help improve water resources management and planning
- *Climate change projection results* can be used in assessment of potential impacts of climate extremes, which can benefit water-related disaster management

2

Flood forecasting and warning

- FFW is an important activity of National Hydrological Services, which help inform disaster managers and the public so they may take appropriate measures for disaster preparedness and mitigation
 - ✓ The use of advanced **numerical weather prediction outputs** in flood forecasts can improve the accuracy and lead time of FFW
 - ✓ Advances have been made in the use of **ensemble meteorological prediction**, and **probabilistic hydrological forecasts**
- Capacity building through implementation of the **Flash Flood Guidance System (FFGS)** project with global coverage, the Associated Programme on Flood Management, the Integrated Drought Management Programme, and promoting **impact-based forecasts**

3

Water Resources Assessment

- National Hydrological Services need to carry out water resources assessments to meet challenges posed by increased demand
- WRA helps water managers know the availability of water resources and supports integrated water resources management
- Tools and models are being developed to **undertake dynamic assessment** of the availability of basin-wide water resources, and such tools can be used for planning purposes.

4

Sediment disaster and mass movement

- We need to improve how we deal with sediment disasters so as to decrease the exposure of ordinary people to them
- **Three perspectives:**
 - *Issuance landslide/debris flow warnings* based on improved monitoring and hazard assessment technologies
 - *Improvement in capacity for undertaking sediment disaster management* through seminars, training, knowledge and technology sharing
 - *Improved dissemination of sediment-related disaster information and products*, e.g. making available hazard and risk exposure maps, promoting provision of safety services

5

Other aspects

- Improving hydrological observations
 - ✓ Accuracy and coverage
 - ✓ Encouraging data sharing
 - ✓ Data rescue

- Strengthening cooperation and coordination among National Hydrological Services
 - ✓ Capacity building

Thank you