

Vietnam Country Contribution to the AWCI Phase 2

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Cycle Observations (IGWCO) Community of Practice (CoP) Meeting /
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National Centre for Hydro-Meteorological
Forecasting (NCHMF), NHMS, MONRE

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1. Project Design Matrix (PDM) and activities in Vietnam

Project Title “Utilizing satellite data, numerical rainfall forecasts, combining with ground observations in flood forecasting for the Thai Binh river system”

+ Project Purpose: Contribute to effective utilization of available data combining satellite and ground observations for flood forecasting system with advanced technique to extend the flood forecasting area; improve an accuracy of flood forecast; and increase lead time of flood forecast: all these will reduce the vulnerability to disasters and sustain the economic/social development of Vietnam up to regional/provincial level.

Plus, disseminating /outreaching the project result after its completion through public media or academic paper etc. inside the country or among Asia-Pacific region.

+ Project output:

1. Flood forecast for main rivers of the entire Thai Binh river system (applying satellite data for the combined forecasting system of hydrological model (IFAS) and hydraulic model (Mike DHI)).
2. Technical transfer to local forecasters at regional and provincial levels (RHM CNE etc.) to operate the flood forecasting system.
3. Achieving capacity of NCHMF staff for flood forecasting using remote sensing data.
4. Holding of stakeholder meeting with related agencies etc.

Calibrate, verify hydrological model and hydraulic model

- ICHARM experts take part in 2 meeting and field trip, providing comments and technical suggestions to improve the purpose, outputs of the project and modified the PDM.
- Confirmed availability of in-situ observed data (rainfall, hydrological data) for model calibration and verification purpose. Corrected geographical coordinates of all hydro-meteorological stations in the river basin
- Calibrate and verify accuracy of satellite rainfall estimation GSMaP and forecasted numerical rainfall GSM, ECMWF. Adjust satellite and forecasted rainfall by comparasion with ground observed rainfall.
- Calibrate and verify the parameters of IFAS (PWRI) model with different rainfall input: satellite rainfall GSMaP, ground observation rainfall and forecasted rainfall.
- Re -calibrate and verify the parameters of hydraulic model (MIKE 11) with additional data for last 3 years (2011-2013) and reservoir operation.
- Reporting

Calibrate, verify the flood forecasting system by combining hydrological model and hydraulic model

- Set up the flood forecasting system by combining hydrological and hydraulic models
- Calibration of the forecasting system
- Verification of the forecasting system
- To make supporting software programme for the forecasting system
- Reporting

Final reporting

- Training/capacity building for flood forecasting using remote sensing data or technology transfer to local forecasters at regional and provincial levels (RHM CNE, RHM CMN etc.)
- Training/capacity building for flood forecasting using remote sensing data.
- Preparation (incl. selection of members that should be involved) of the stakeholder meeting.
- Holding of the stakeholder meeting and delivery of the project results.
- Reporting of completed project

2. Other activities

links with GEO Water products

- **Improvement of warning flood forecasting system for the Huong river using DHM with satellite data and numerical weather forecasts, including reservoir operations.** From middle of 2014 August to middle of December will testing of operational forecasting of the system
- **Project “Integrated Water Resources and Environmental Management for Asian and African Mega deltas under climate change”,** from Apr 2013 to March 2016 for Egypt – Nile Delta, Vietnam – Mekong Delta, to develop a feasible strategy to understand the long term potential socio-economic effects in both mega delta areas
- **Assessment of climate change impact on water resources and recommendations for improvement of hydro-meteorological observation network to monitoring climate change**

Thank you for your attention!

