

Global Hydrological Prediction Center

[Water cycle prediction from global to municipality scales]

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<https://ghpc.iis.u-tokyo.ac.jp/>

One of the global challenges that humanity is currently facing is the issue related to water. Water is closely related to not only floods and droughts, but also climate change, food, energy, and environmental issues, and is also extremely important from the perspective of geopolitics and security. The Global Hydrological Prediction Center (GHPC) will establish a strong and systematic team in Komaba, Hongo, and Kashiwa to promote cutting-edge research on observation, process elucidation, modeling, and prediction of hydrological phenomena from river basins in municipal to the global scales, and to contribute to society using the research achievements.

Members in Global Hydrological Prediction Center

plus
Assis. Profs. 2
PD fellows, etc 15



Prof. K. Yoshimura
(Hydrometeorology)



A.Prof. D. Yamazaki
(Hydrogeography)



Prof. W. Takeuchi
(Remote Sensing)



Prof. D. Kitazawa
(Marine Engineering)



Prof. Y. Sekimoto
(GIS)



Prof. T. Kiyota
(Geodisaster Mitigation)



A.Prof. M. Numada
(Disaster Prevention)



Prof. E. Ikoma
(Data Engineering)



Prof. K. Oki
(Ecological Monitoring)



Lect. T. Nitta
(Terrestrial Modeling)



Prof. T. Oki
(Sociohydrology)



Prof. M. Kiguchi
(Hydroclimatology)

Origin: Asian Monsoon Study Observation, Modeling, and Prediction

Prof. Katsumi Musiake
1977~IIS Assoc. Prof.
1985~2003 IIS Professor

- 1989-1994 UNESCO-IHP IV Tropical Humid Region
- 1995-2001 World Climate Research Program/Global Energy and Water Cycle Experiment (WCRP/GEWEX) Asian Monsoon Experiment (GAME)
- 2001-2005 JST/CREST R&D of Hydrological Modeling and water Resources System
- 2005-2008 Japan EOS Promotion Program (JEPP)
- 2009-2014 2016-2020 Science and Technology Research Partnership for Sustainable Development (SATREPS)

Monitoring at 35-m Tower
Thai Flood Nov. 2011

Future Direction of GHPC

Global/Continental
Unit Basin
Seamless Flood Prediction

Time Scale: Months, Day, Hour
Horizontal Scale: 1km, 10km, 100km

Knowledge Gap

HydroSOS seeks to improve water information

In order to realize flood prediction with better accuracy and longer lead time, we seamlessly downscale from the global scale to the municipality scale to predict the flooding from large rivers to municipal-sized rivers in the world.

Developed: TE-Japan, TE-Indochina, TE-Indonesia
Underway: TE-Peru, TE-SouthAfrica

Comparison with Insurance Cases