

Mae Waang River Basin in Thailand for GEOSS Asian Water Cycle Initiative

Institute of Industrial Science, The University of Tokyo
On Hydro-informatics Harmonious Solidarity
4-6 November 2005

Felix River Kwai Resort Kanchanaburi



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GEWEX Asian Monsoon Experiment (GAME) in Tropics (GAME-T) successfully finished in March 2005, officially. GAME-T community has been urging the necessity of the follow-on project, and discussed many time on it.





For successes of
research projects

**Social
Expectation**



**Funding
Support**

**Personal
Enthusiasm**



**Continuous
Dedication**

**Let's
Challenge
to the Focal
Point!!**

**Honorable
Reputation**



**Scientific
Significance**



GEOSS And MAHASRI **Experiment in Tropics** **(GaME-T)**



2001/11/24



Building Up GaME-T

Objective:

- ✓ Develop *hydro-meteorological* warning system associated with telemetry stations, and demonstrate the value of the warning system in Mae Waang, Chiang Mai, Thailand.

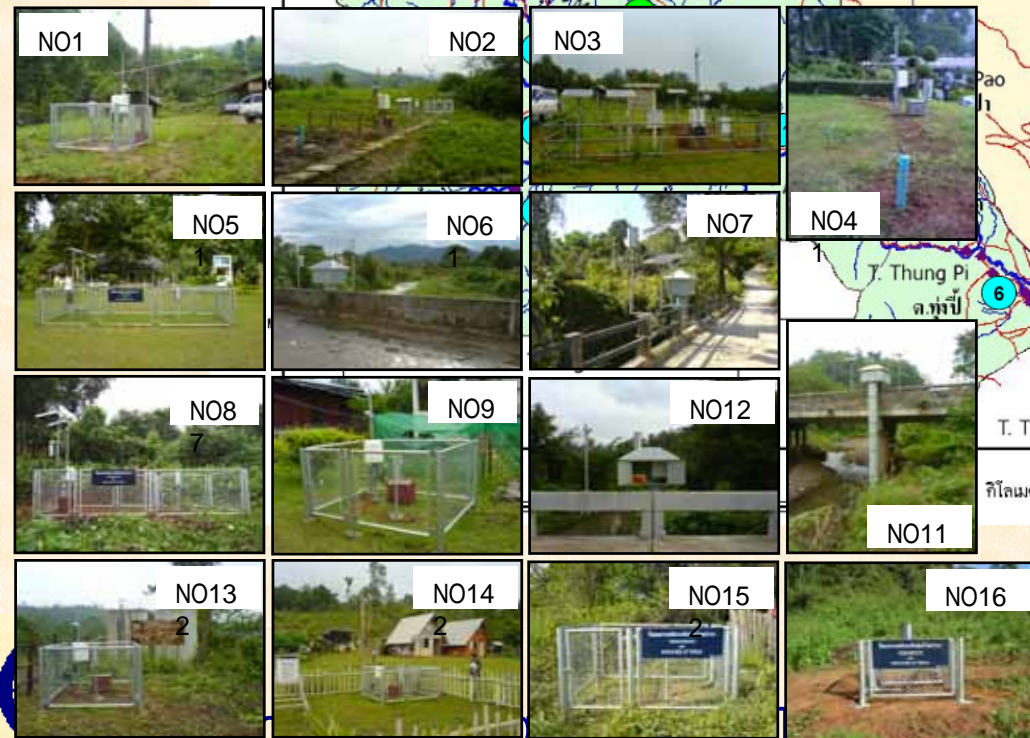
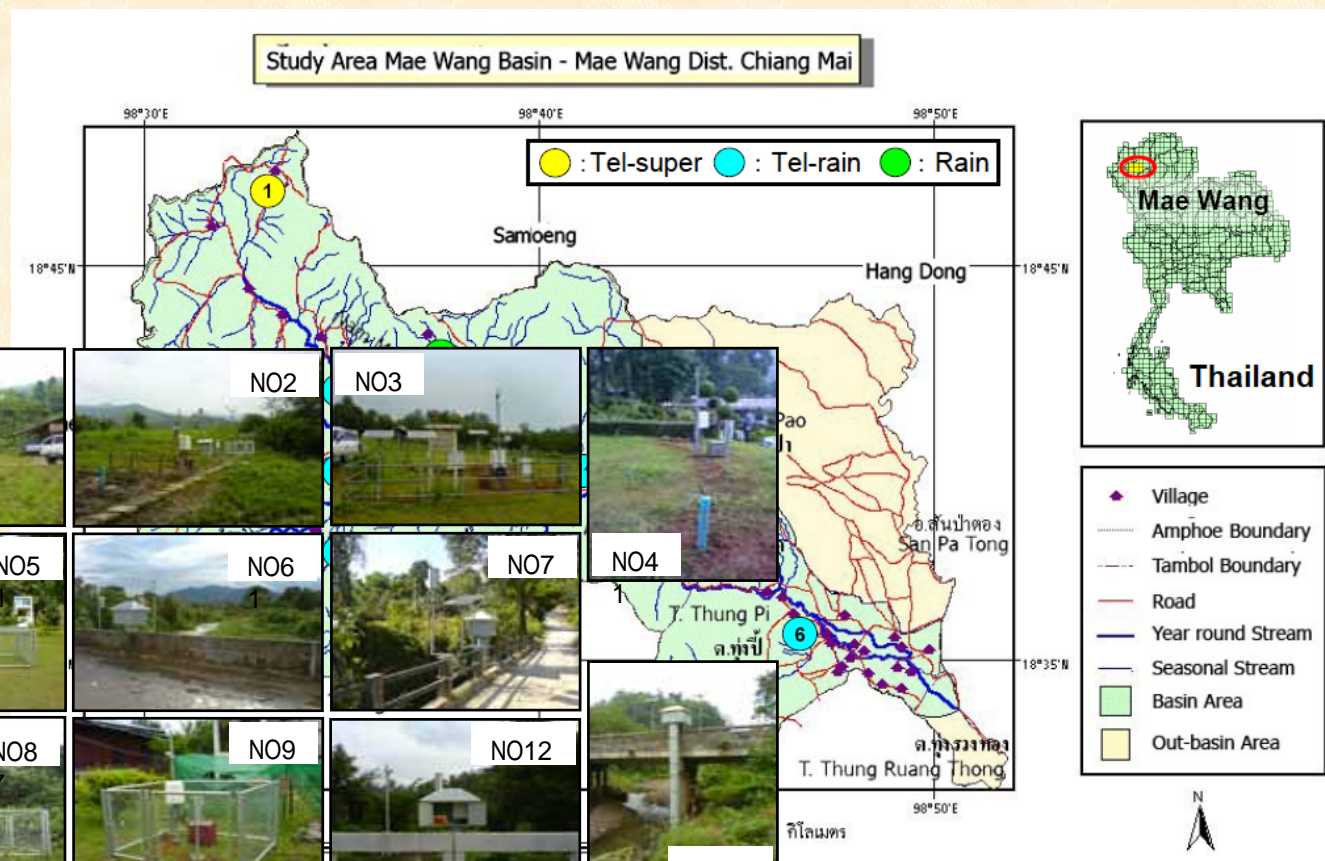
Ongoing Studies:

- ✓ Installation of 15 new AWS stations with telemetry and continuation of a few flux measurement stations.
- ✓ Case study of an extreme event caused by a tropical cyclone.
- ✓ Hydrological modeling coupled with atmospheric weather forecast.



Site description

Mae Wang basin in Chiang Mai (basin area : 600 km²)









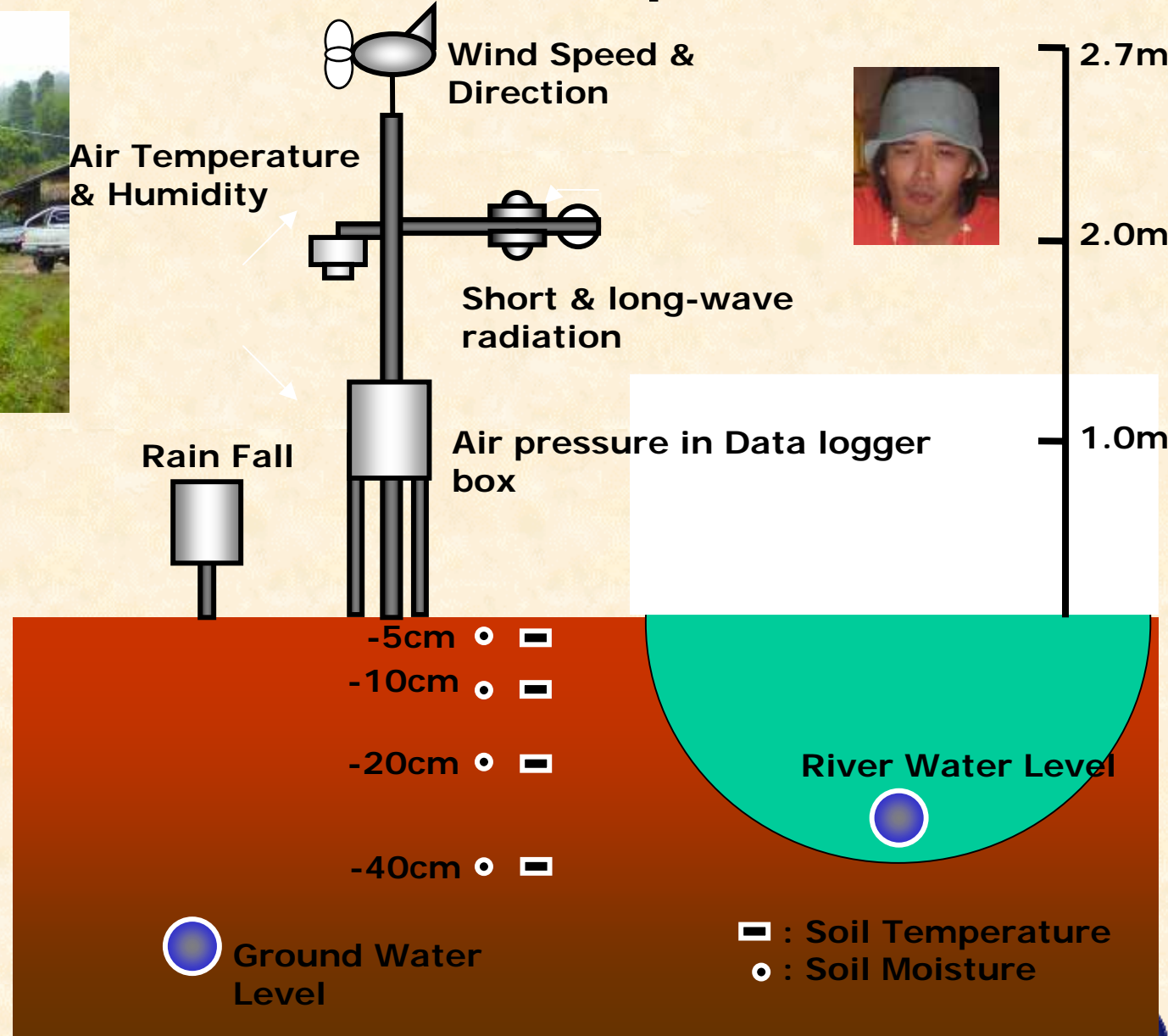
Instrumentation : Tel-super site



NO.1



Making well at NO.4



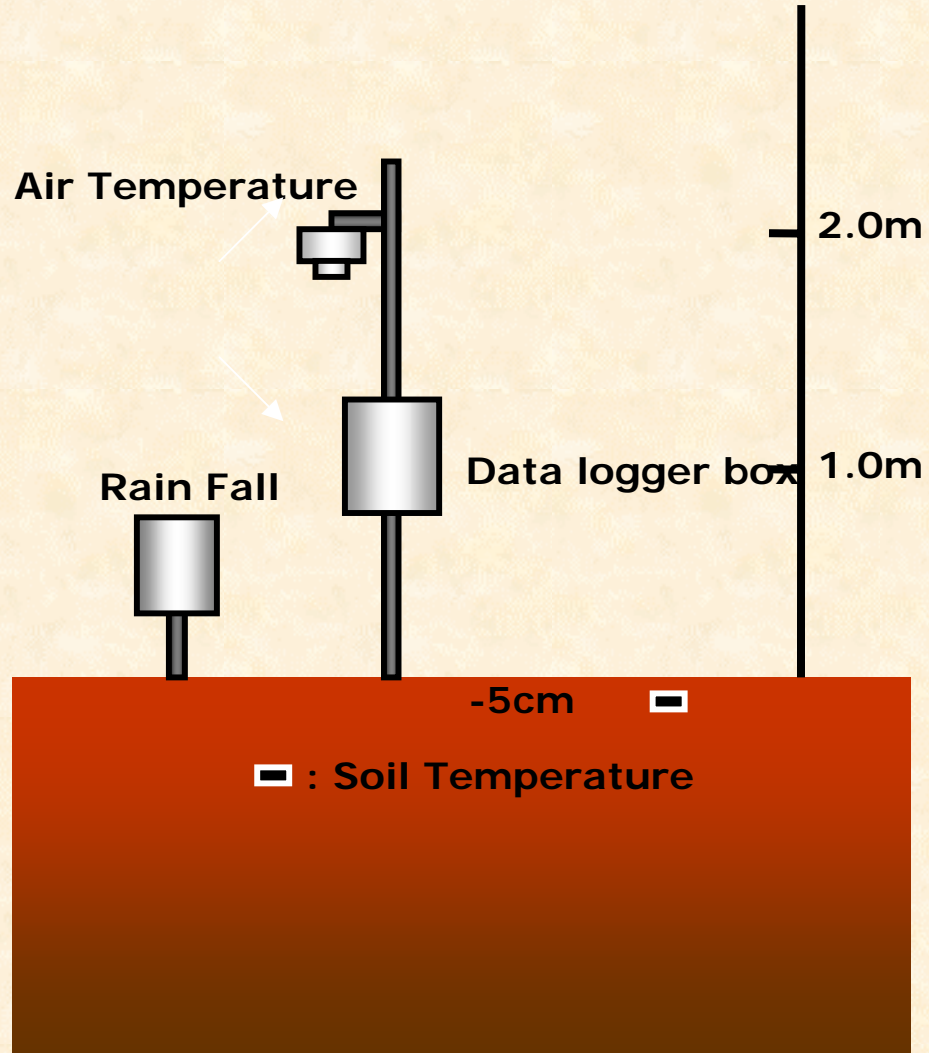
Instrumentation : Tel-rain site



NO.8



NO.13



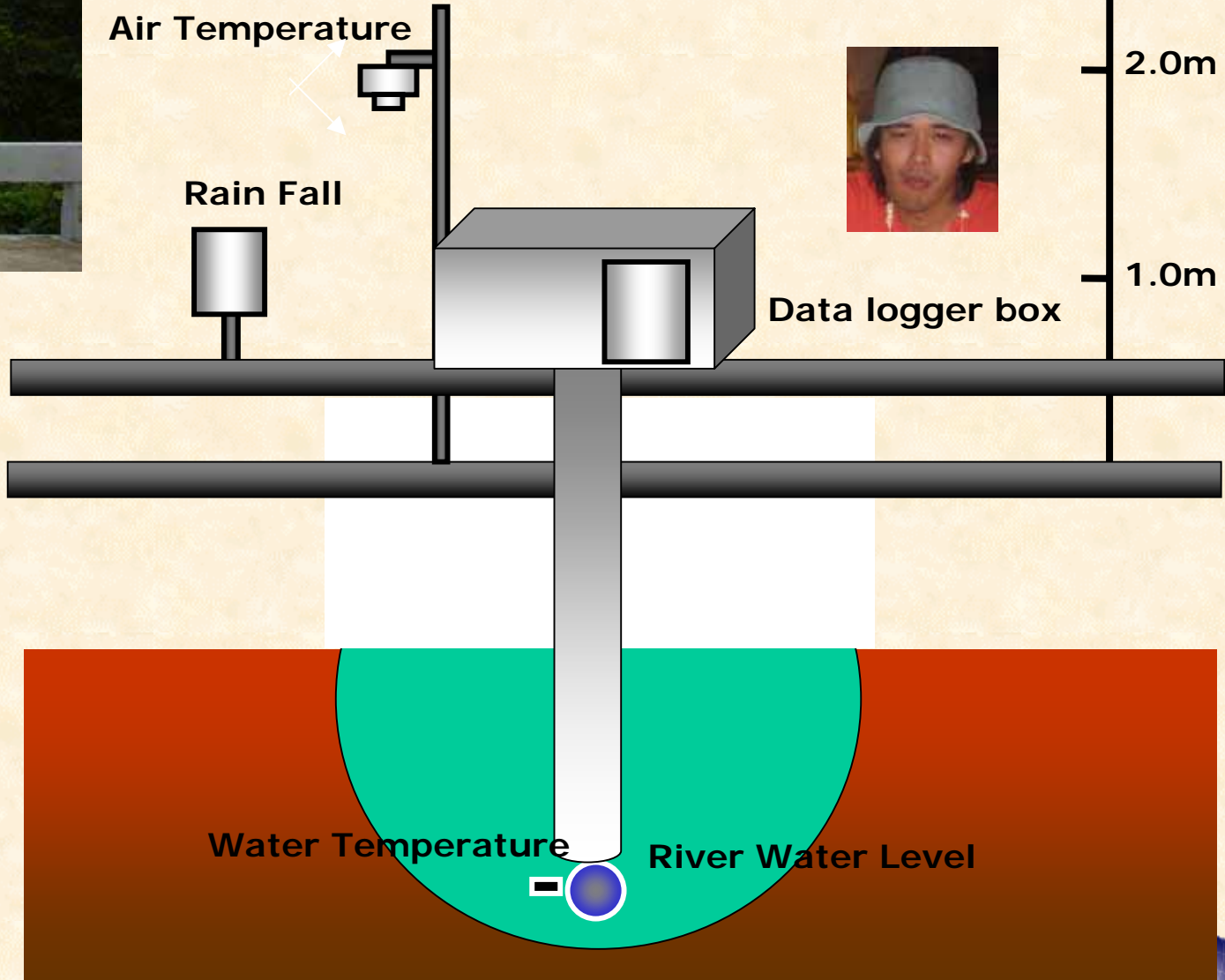
Instrumentation : Tel-rain site (with river level observation)



NO.12



NO.11





Disaster Potential,
Information for
Decision making, ...

River discharge,
soil moisture,
ground water
recharge,

Soil properties,
vegetation index,
human factors, ...

precipitation,
temperature,
radiation, wind,
humidity, ...

PUBLIC

Web Interface/Effective Warning etc.

Physical Parameters to
Information for People

**Multi-
Model**

Surface
Parameters

**Coupled
Land surface Model
& Hydrological Model**

Multi- Forcing

Historical
Record

Telemetering,
Remote Sensing

Atmospheric
Numerical Model

Hindcast

Nowcast

Forecast

Real time "PUB" - the Future!





Remarks

💧 “Today’s Indochina”

- ✓ Everyday checks the monitoring, modeling and predicting system → better observation, numerical model, risk management, ...

💧 For the success of the GaME-T:

- ✓ Share “some of” the *key scientific questions*
- ✓ Sharing data, *information, motivation*, ...
- ✓ Exchange ideas, human resources, ...
- ✓ International conferences, workshops, ...

- ✓ Vietnam, Malaysia, Laos, Cambodia, ...



ขอบคุณ ครับ



**Friends,
the hydrologists,
can we fix it?**

Yes we can!
(at least in the future)

**THANK
YOU!**





<http://hydro.iis.u-tokyo.ac.jp/GAME-T/>

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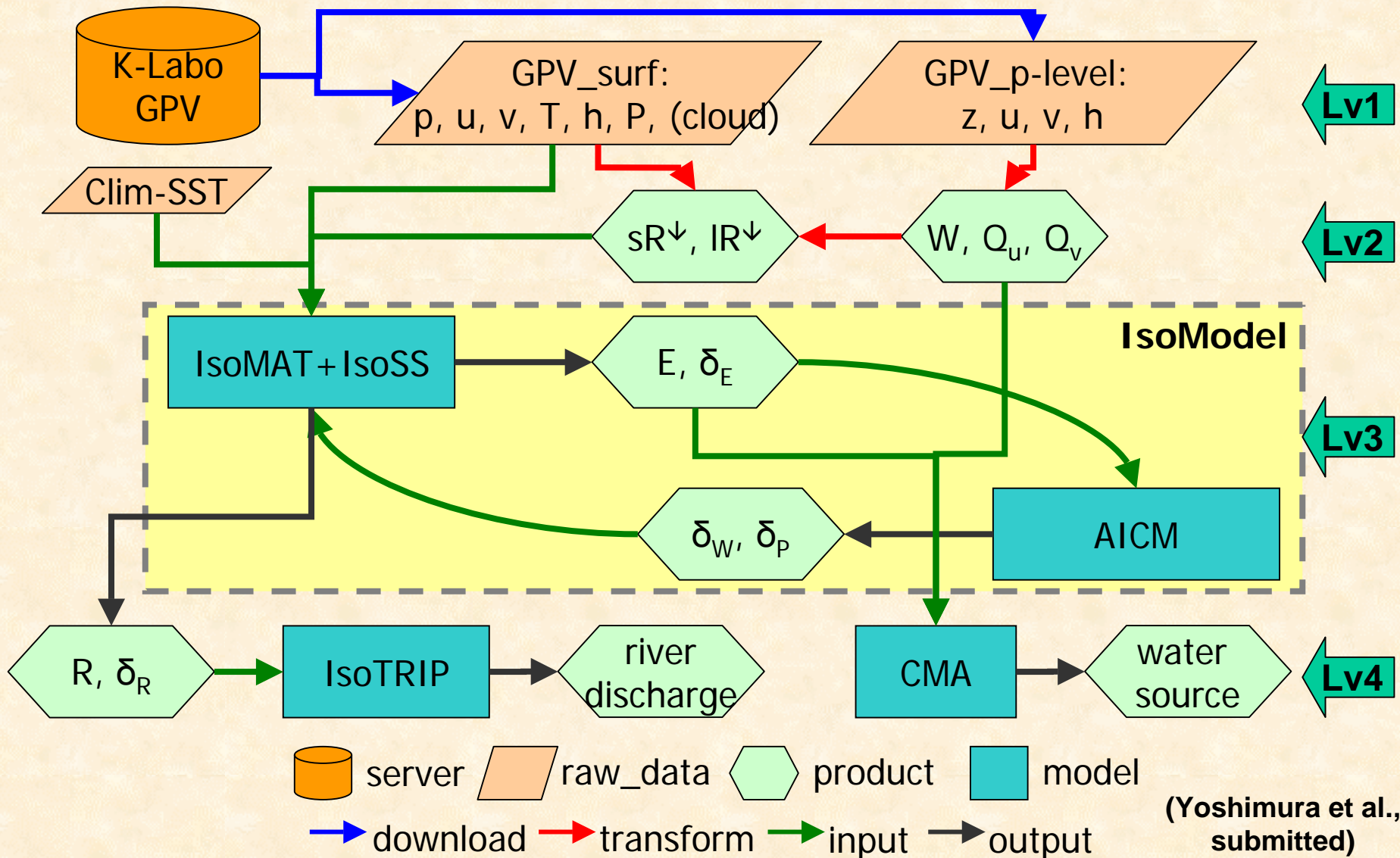
東京大学
THE UNIVERSITY OF TOKYO



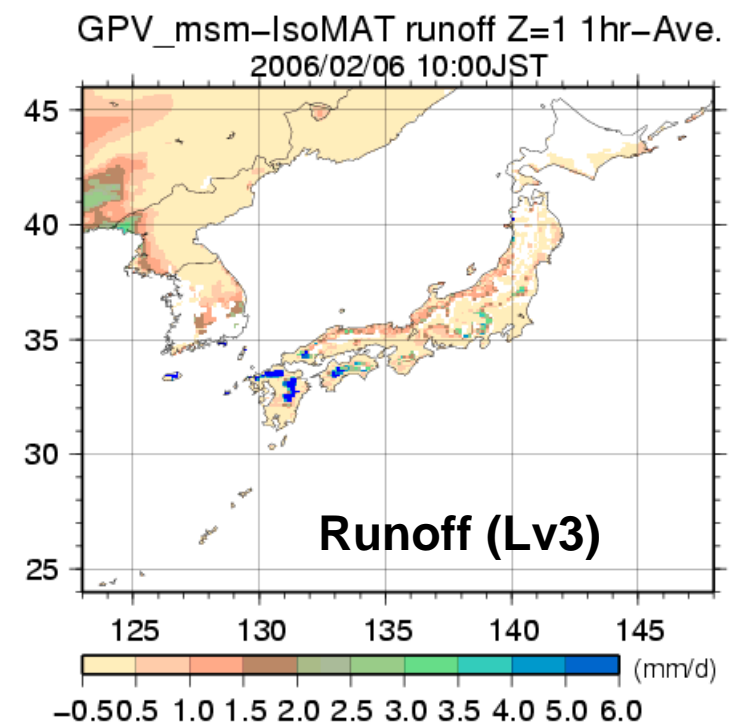
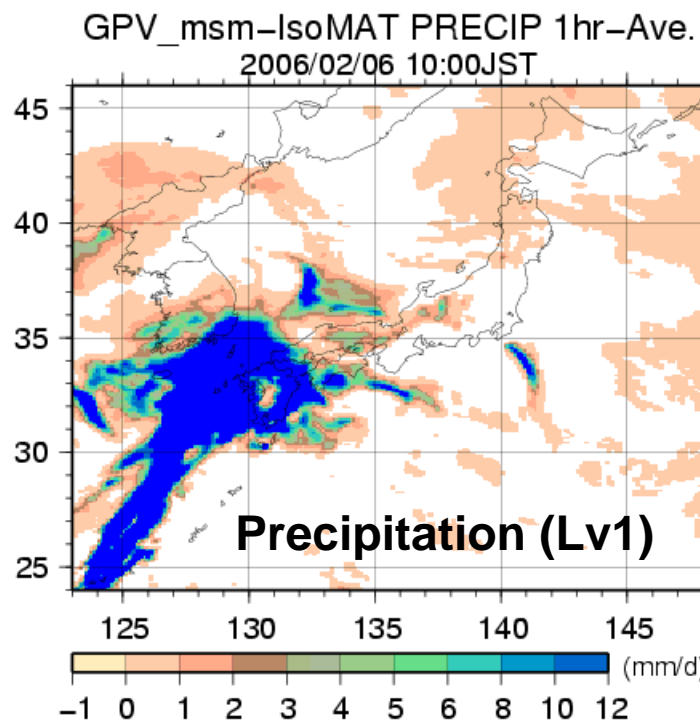
<http://game-t.nrct.go.th/GAME-T/>



Today's Earth/Japan (with JMA/GPV as its inputs)



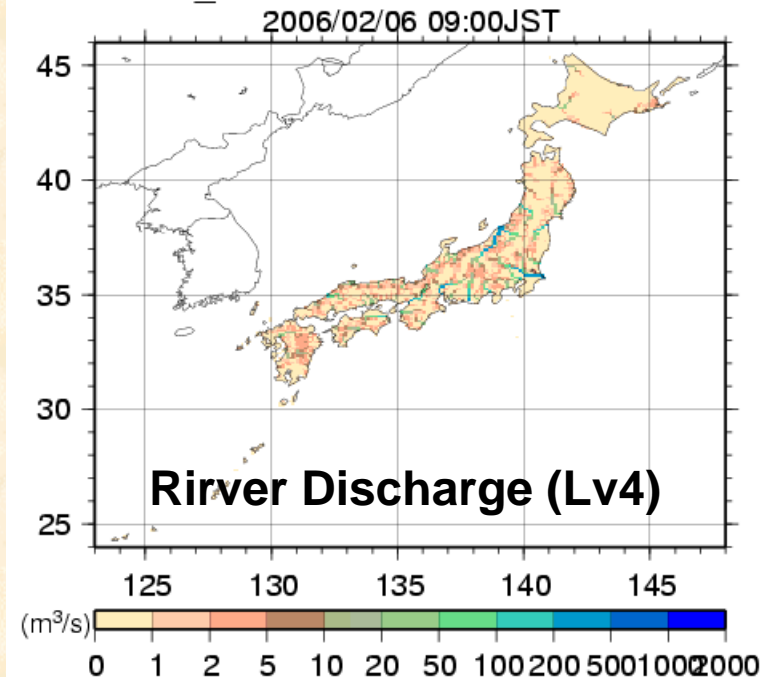
**MATSIRO-
MSM
06/02/06-07**



Regional Version (for Japan)

- 💧 Precipitation associated with cyclone and snow melt runoff are well presented in the simulation.
- 💧 <http://hydro.iis.u-tokyo.ac.jp/Japan>

(Yoshimura et al., submitted)



Validating “Today’s Japan”

---Ishikari Ohashi St., Ishikari Riv., 2004---

