Geoscience WG update
PRAGMA 23

Sornthep Vannarat
NECTEC

In PRAGMA 21

- GEO Grid lead by AIST
- 3D GIS Taiwan Platform & Applications by NARL
- Development of location based service by NARL
- GEO Infra & Application by VAST
- Ocean simulation and Environment Informatorium by NECTEC

PRAGMA 23

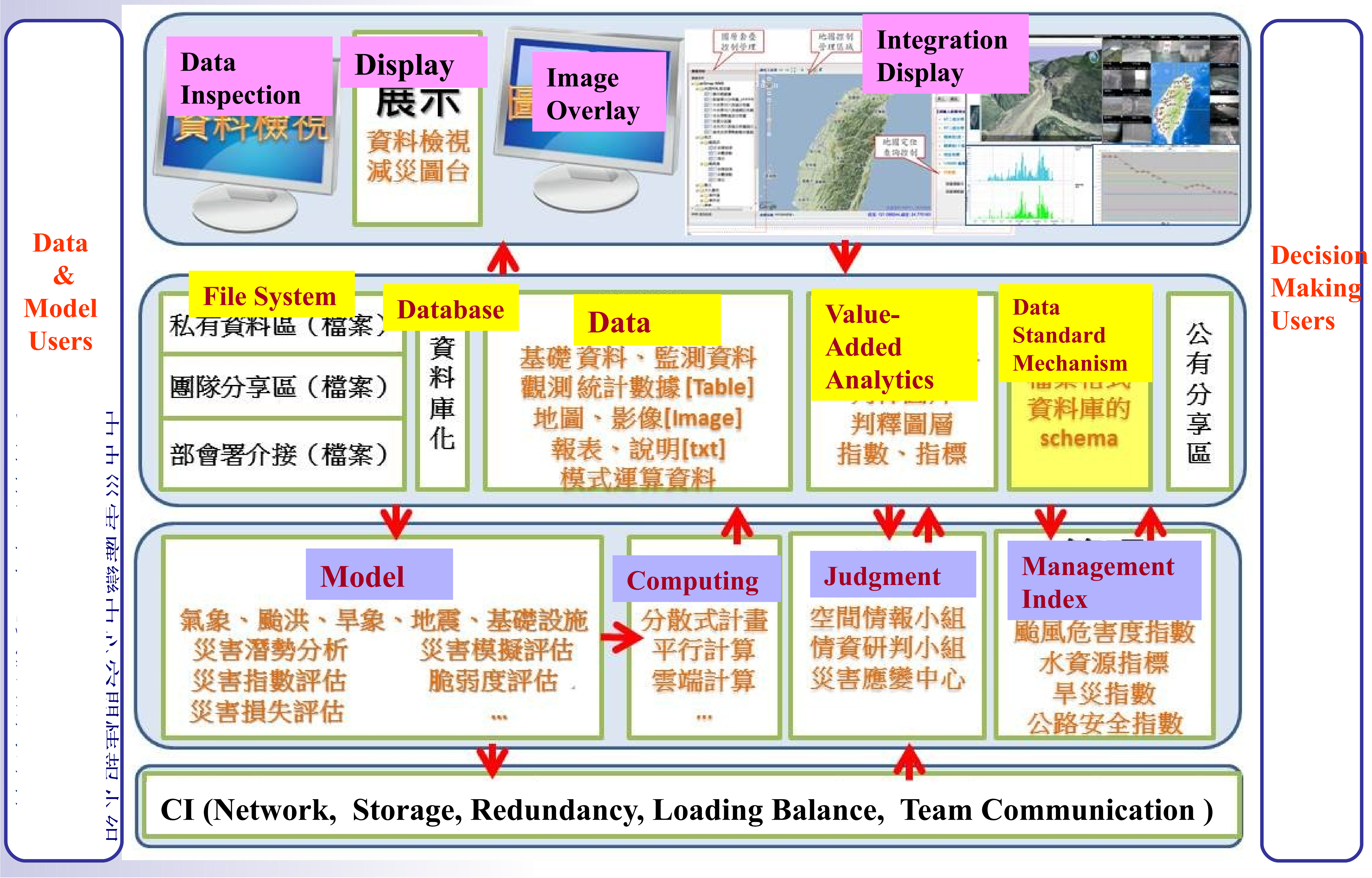
- Cloud based Disaster Management Information Platform
- AIST-NCHC end-to-end 600 mbps bandwidth
- Flood simulation & Satellite+sensor data based river discharge forecast
- Ocean simulation to support coral reef ecology research
- Proposal to discuss WG structure

Display of AIST GEO data at NCHC GEO Lab in Taichung.

Report from GSW break-out

- 2 groups joined the break-out
    - Cloud based Disaster Management Information Platform
    - Ocean simulation
    - River discharge prediction

Cloud based Disaster Management Information Platform



Data & Model Users

Data Inspection

資料檢視

Display

展示

資料檢視

減災圖台

Image Overlay

Integration Display

File System

私有資料區（檔案）

團隊分享區（檔案）

部會署介接（檔案）

Database

資料庫化

Data

基礎資料、監測資料

觀測統計數據[Table]

地圖、影像[Image]

報表、說明[txt]

模式運算資料

Value-Added Analytics

判釋圖層

指數、指標

Data Standard Mechanism

資料庫的

schema

公有分享區

Model

氣象、颱洪、旱象、地震、基礎設施

災害潛勢分析

災害模擬評估

災害指數評估

脆弱度評估

災害損失評估

...

Computing

分散式計畫

平行計算

雲端計算

...

Judgment

空間情報小組

情資研判小組

災害應變中心

Management Index

颱風危害度指數

水資源指標

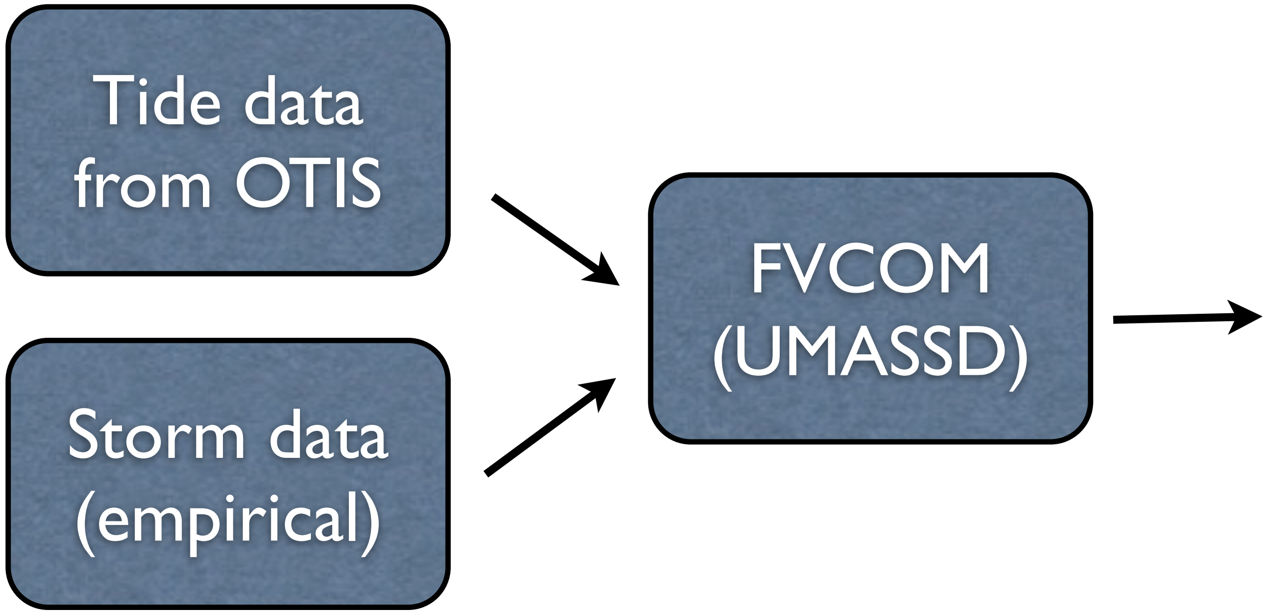
旱災指數

公路安全指數

CI (Network, Storage, Redundancy, Loading Balance, Team Communication)

Decision Making Users

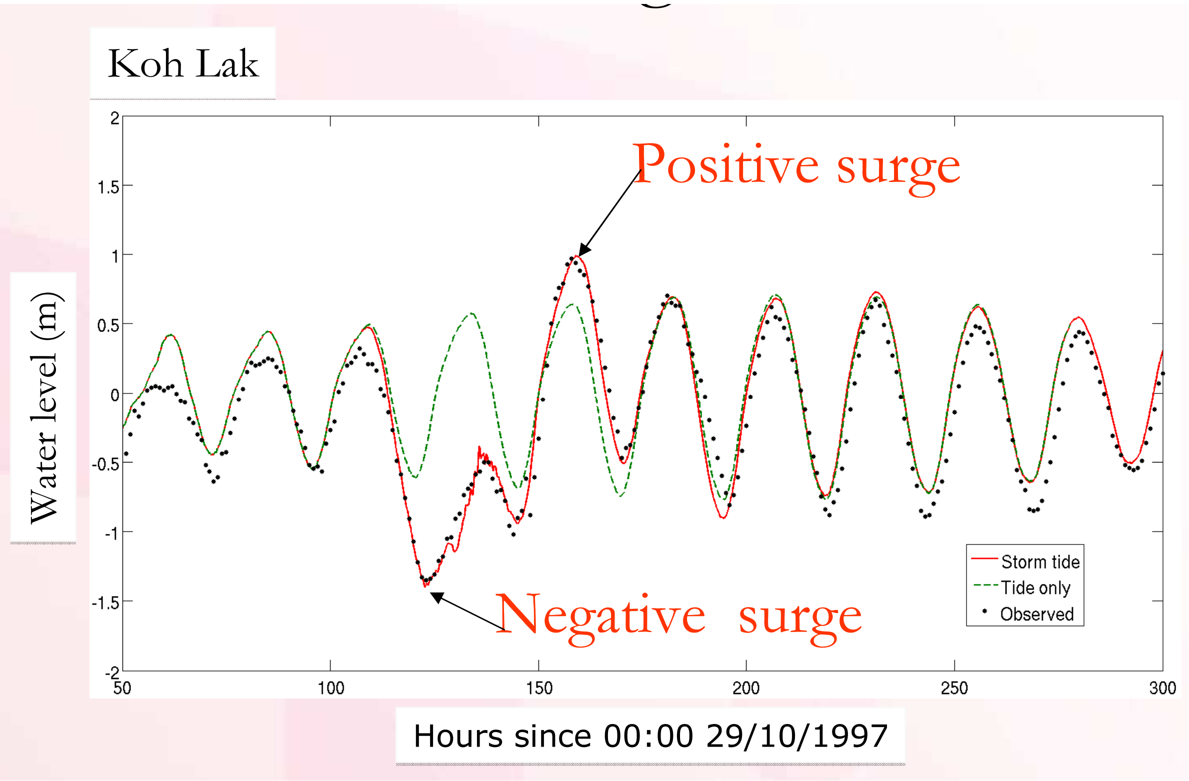
Ocean simulation

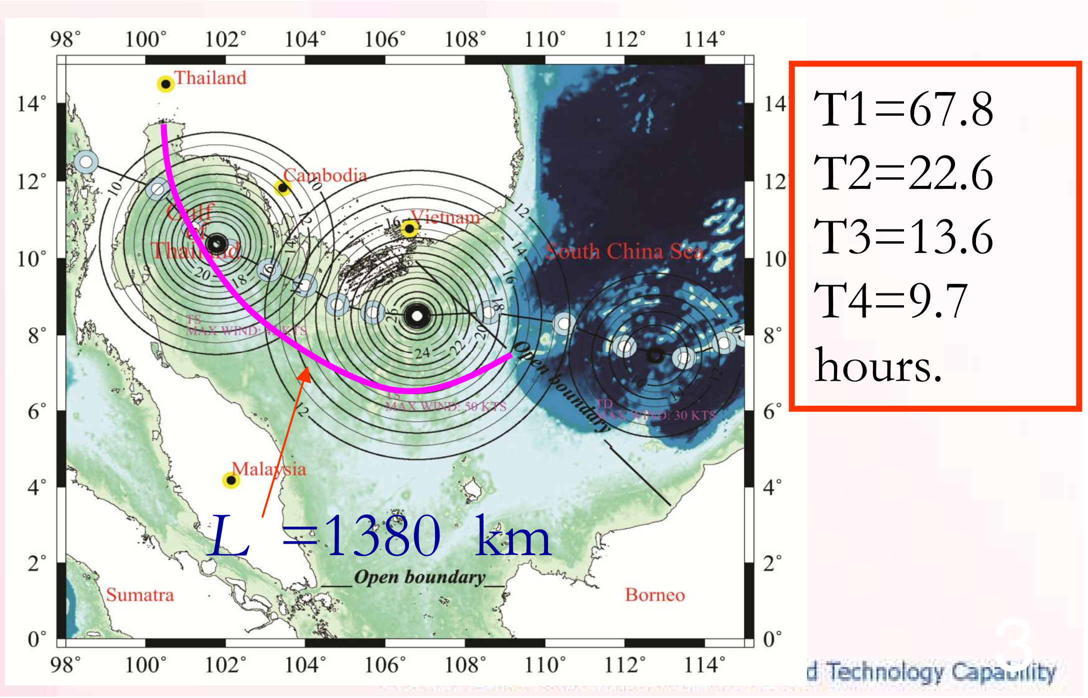


Tide data from OTIS

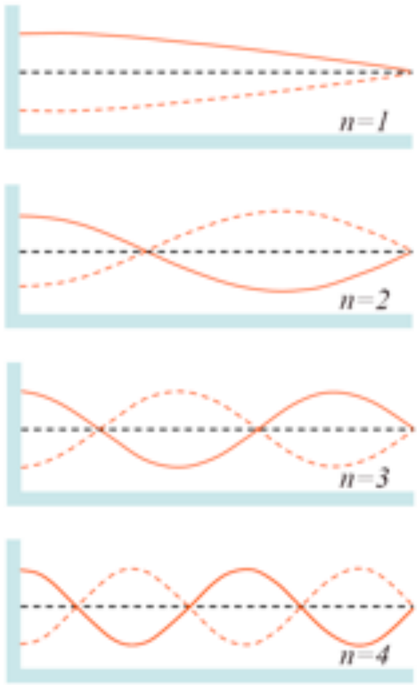
Storm data (empirical)

FVCOM (UMASSD)





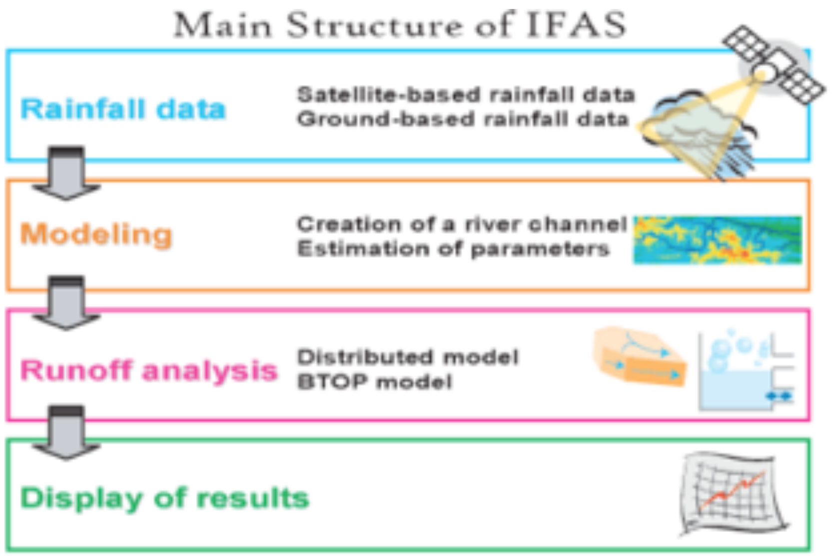
T1=67.8
T2=22.6
T3=13.6
T4=9.7
hours.



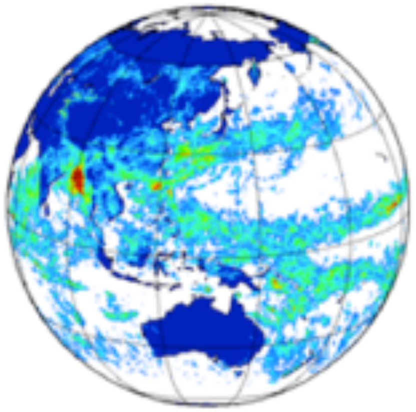
Surge period ~ 54 hours comparable to T1=68 hours

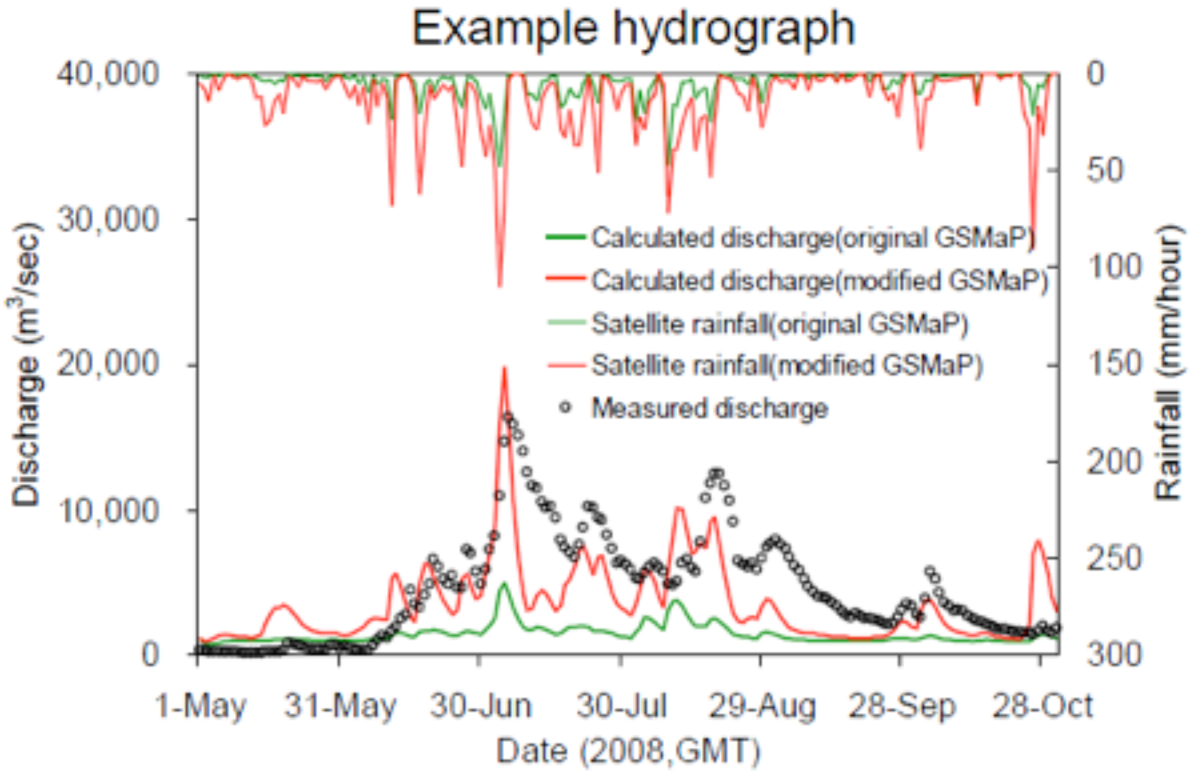
- Can we use PRAGMA's resource to run our simulation?
- Simulated data & lesson learned can be shared.

River discharge prediction



- Rain Gauge Sensor
- GSMaP
  - Global rain fall
  - Interval 1 hrs/delay 4 hrs.
  - JAXA,JP





- NCHC
- OGC Web Processing Service
  - VM-based Cloud
- OGC Data Service
  - -SOS : Sensor
  - -WMS : Satellite data

- AIST, NICT
- OGC Web Processing Service
  - VM-based Cloud
- OGC Data Service
  - -SOS : Sensor
  - -WMS : Satellite data

- NECTEC, HAII, VAST etc
- OGC Web Processing Service
  - VM Cloud
- OGC Data Service
  - -SOS : Sensor

- UCSD
- OGC Web Processing Service
  - VM-based Cloud

--> Flood Prediction using SW like HEC-RAS