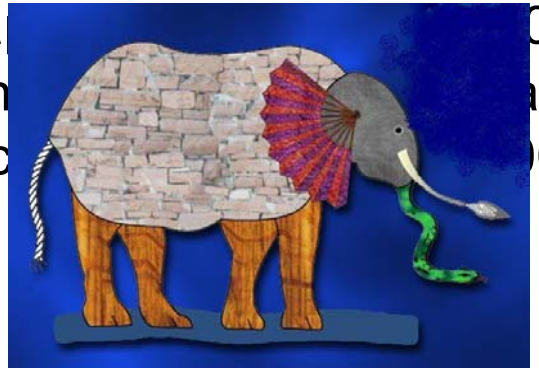
World Conference on Disaster Reduction, Kobe, Ja 05
Ses vations in risk reduction, education als:
field ase stations for implementation sc 005)



contribution to IFI/P

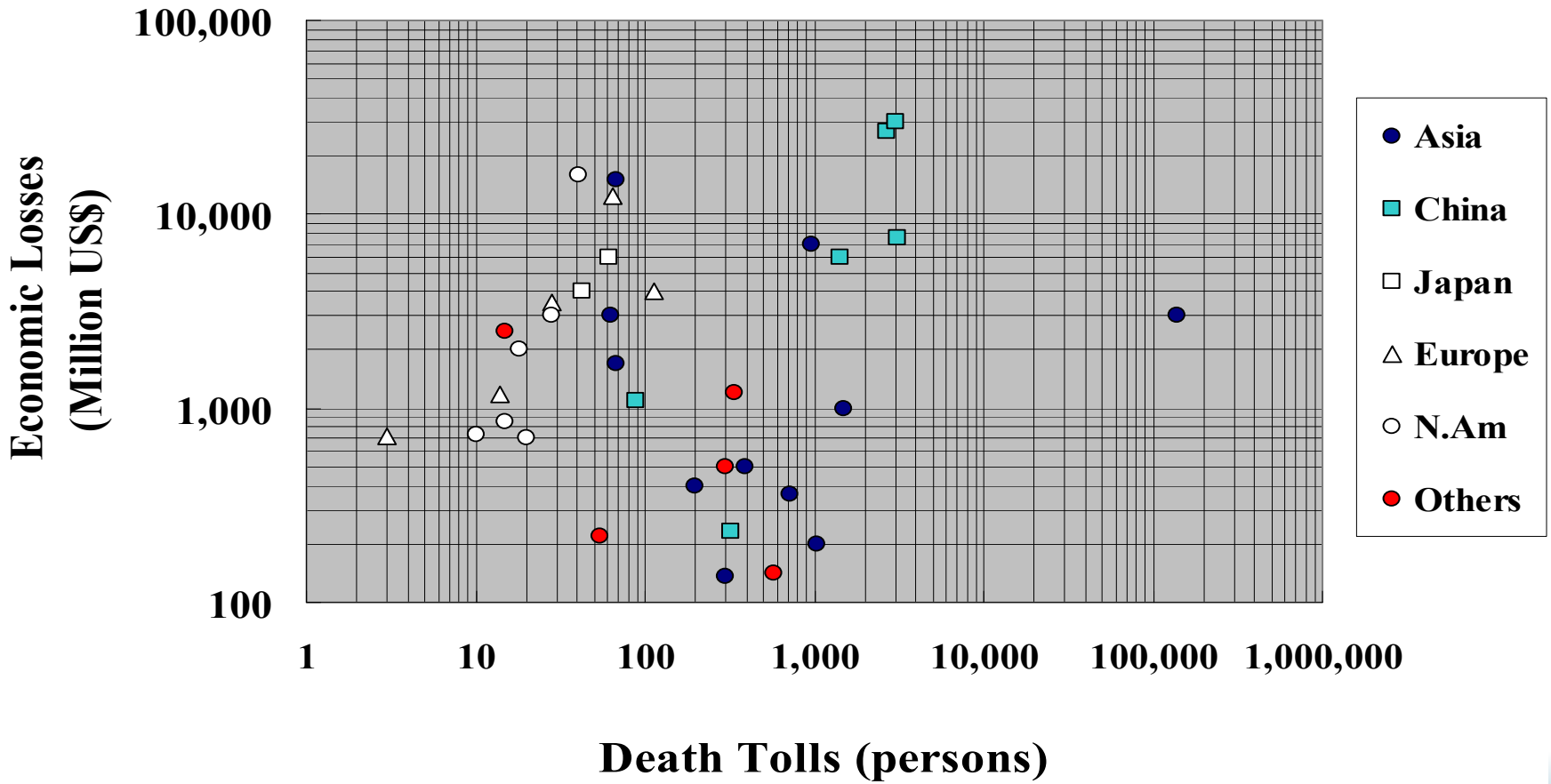
IAHS Decade of Predictions in Ungaged Basins (PUB)

Kuniyoshi Takeuchi

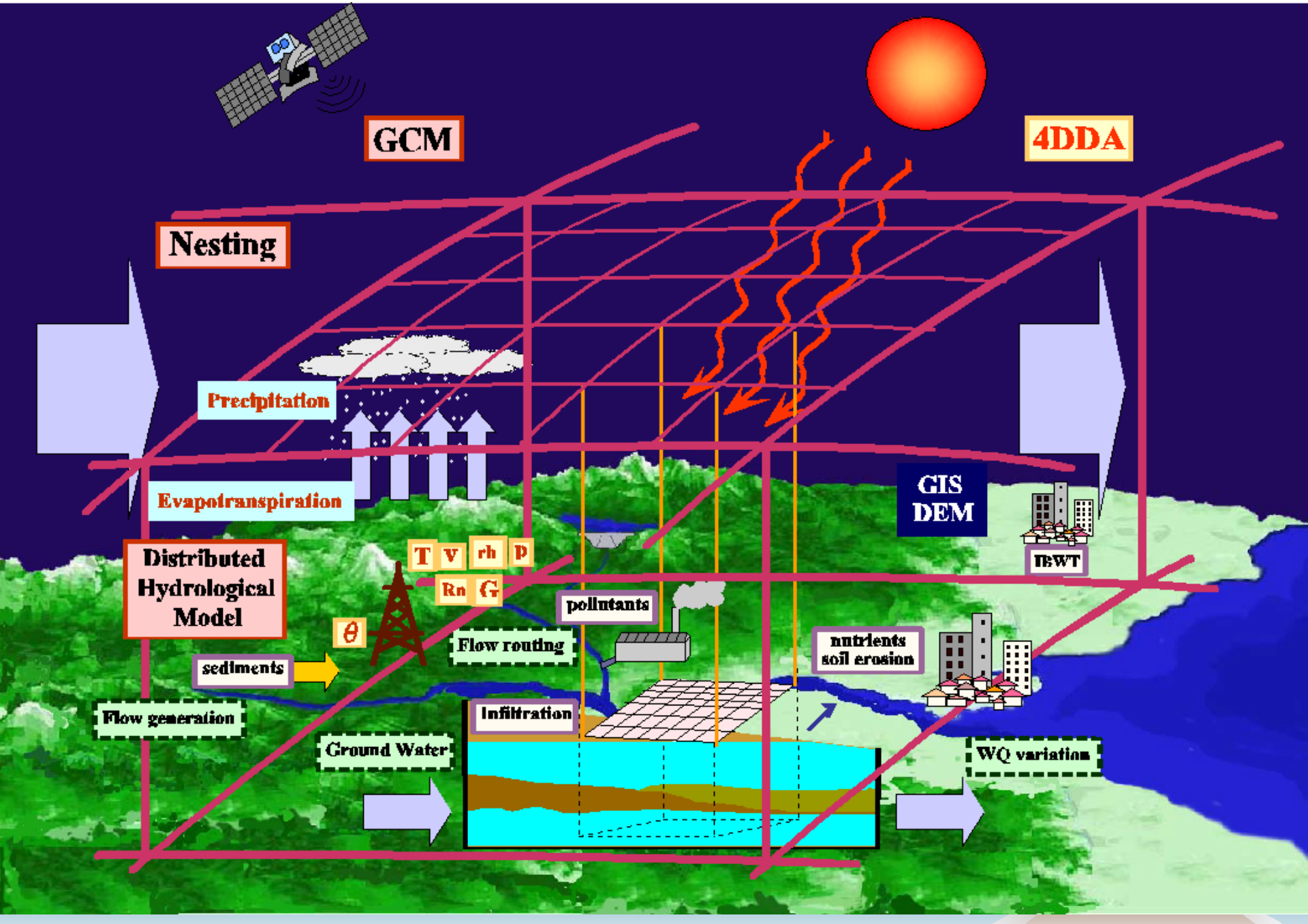
IAHS

University of Yamanashi

Flood Damages in 1990s



Munic Re (modified)


GCM
4DDA
Nesting
Precipitation
Evapotranspiration
GIS
DEM
Distributed
Hydrological
Model
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Rn
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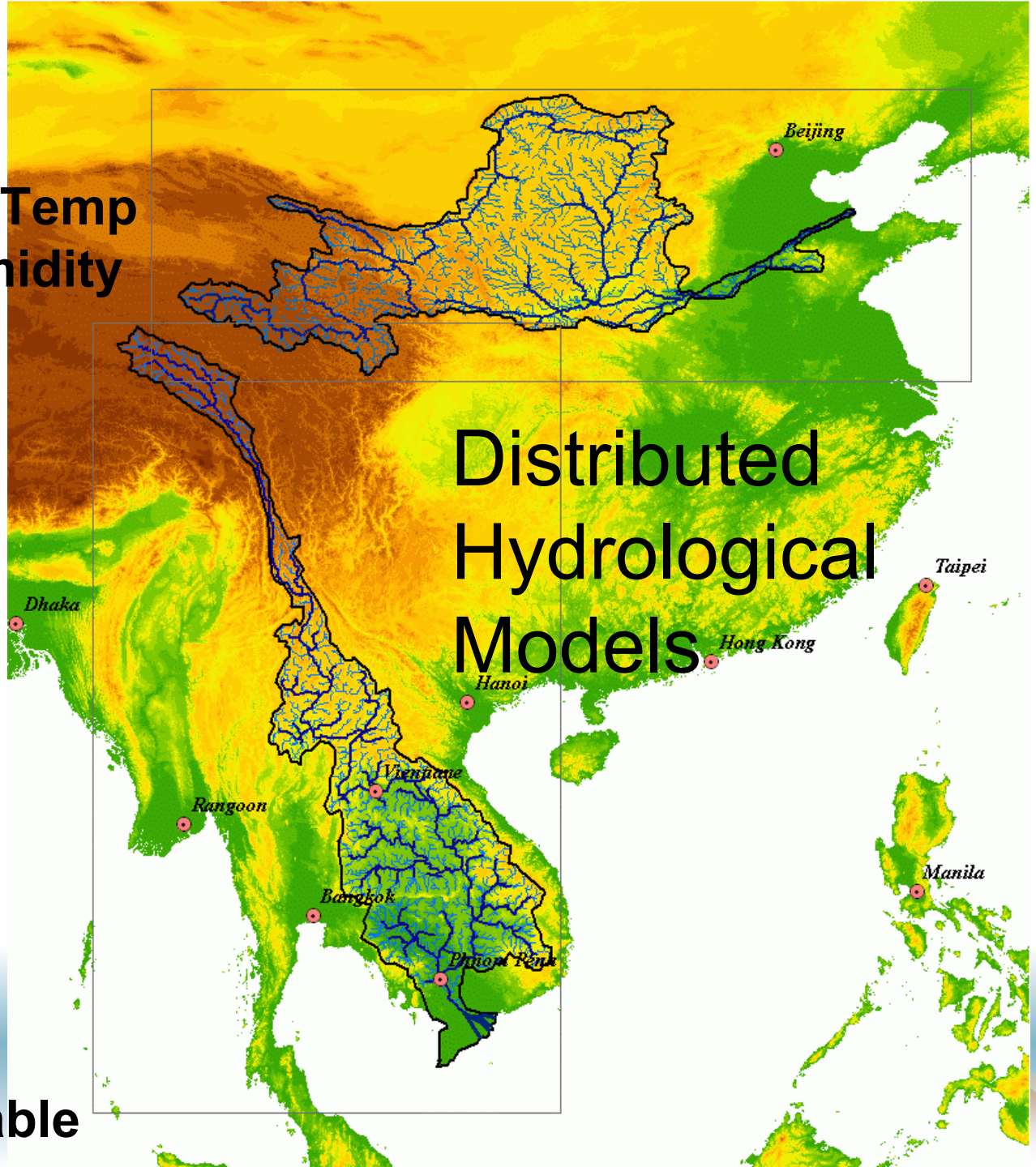
pollutants
Flow routing
nutrients
soil erosion
IBWT
sediments
Flow generation
Infiltration
Ground Water
WQ variation

DEM
Soil Vegetation
Radiation Wind Temp
Rain Snow Humidity
Land use
Water use
Reservoirs

PET Snowmelt
Infiltration

Discharge
Sediments
Water Quality
Soil Wetness
Actual ET
Groundwater Table

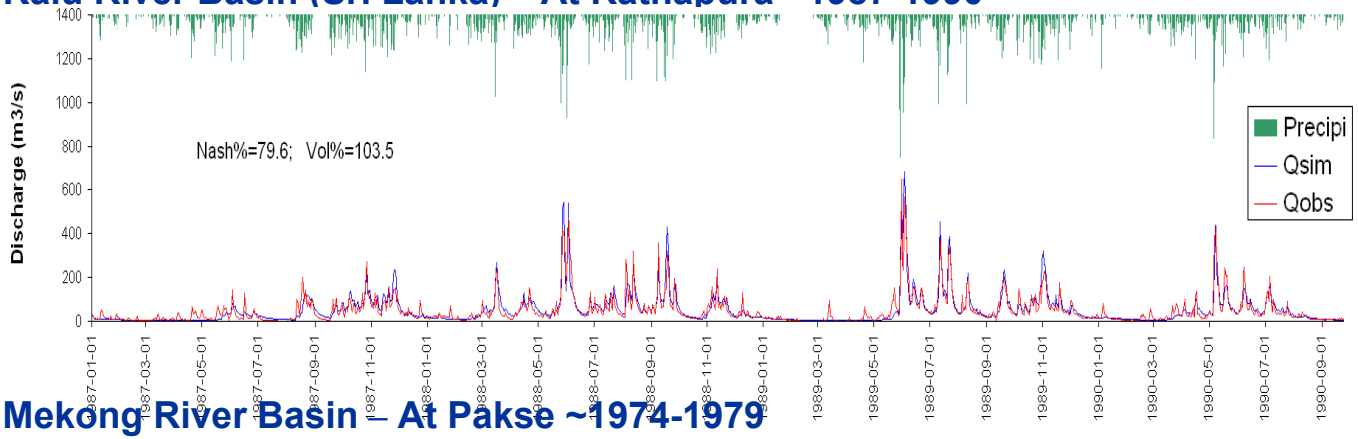


Distributed Hydrological Models

Simulation results of the Kalu River Basin (Sri Lanka) – At Ratnapura ~1987-1990

Area=603 km^2

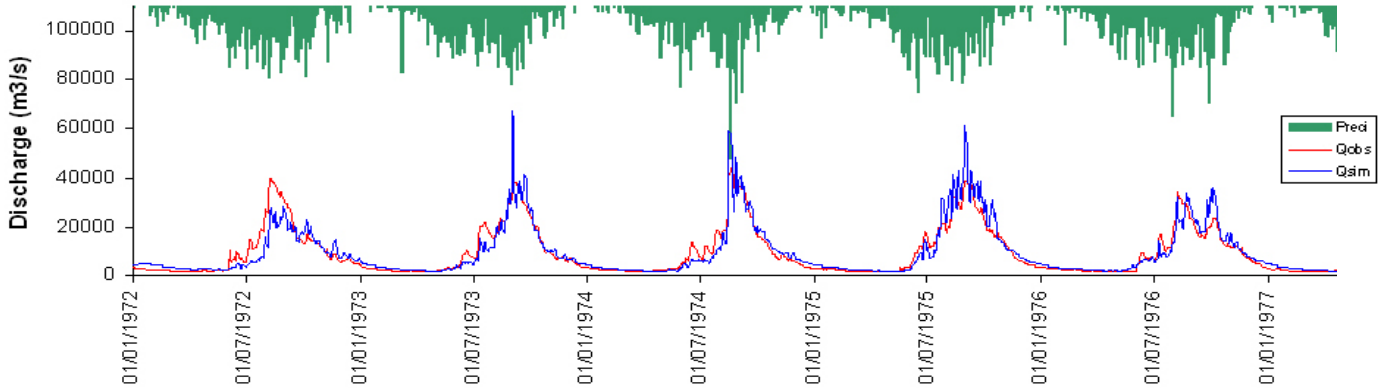
Grid size=1 km (0.5 min.)



Simulation results of the Mekong River Basin – At Pakse ~1974-1979

Area=545 000 km^2

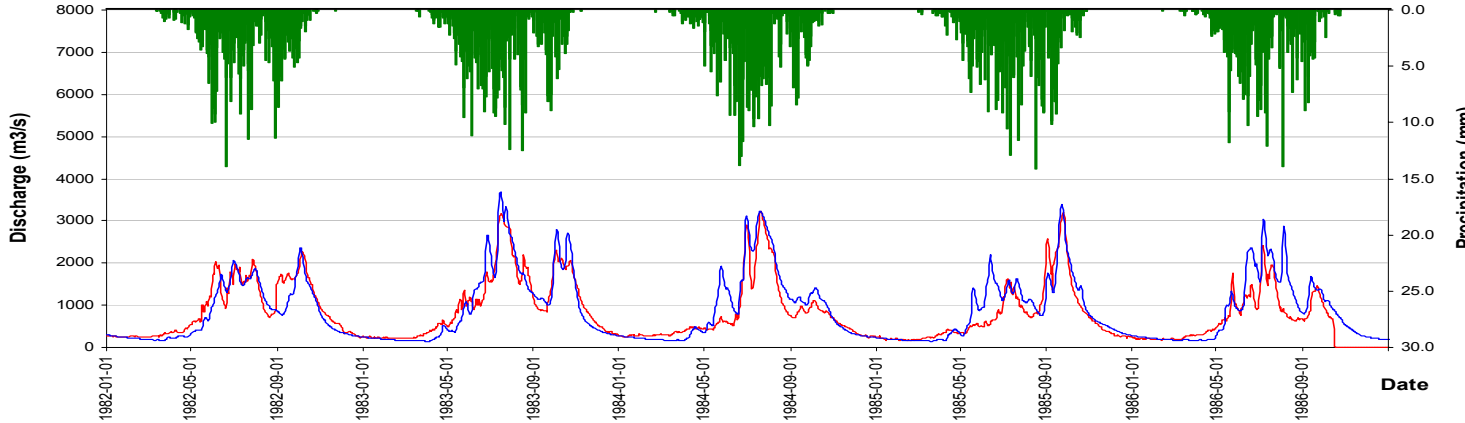
Grid size= 3 min. (6 km)



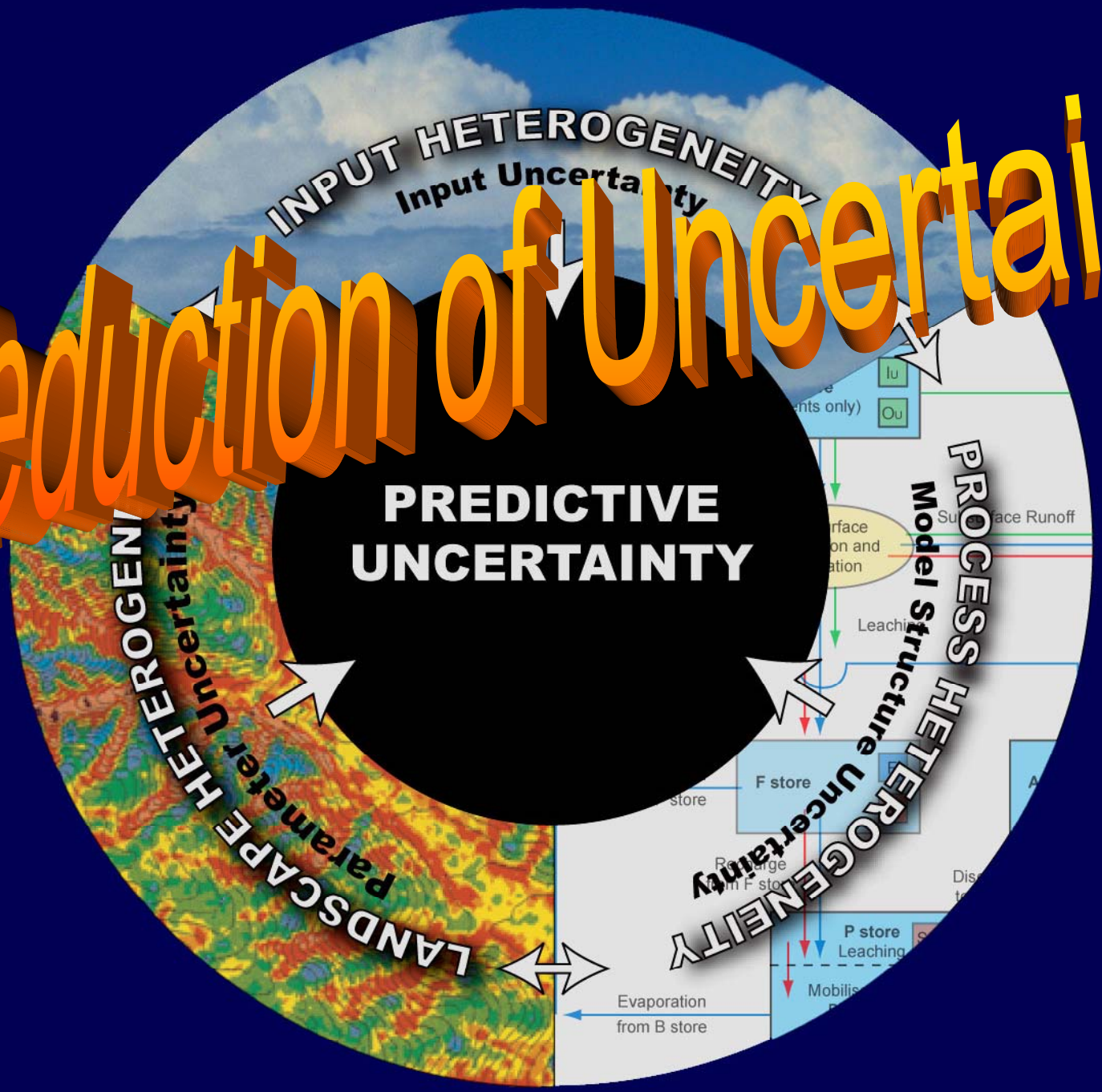
Simulation results of the Yellow River Basin – At Guide ~1982-1986

Area=137 000 km^2

Grid size= 2 min. (4km)

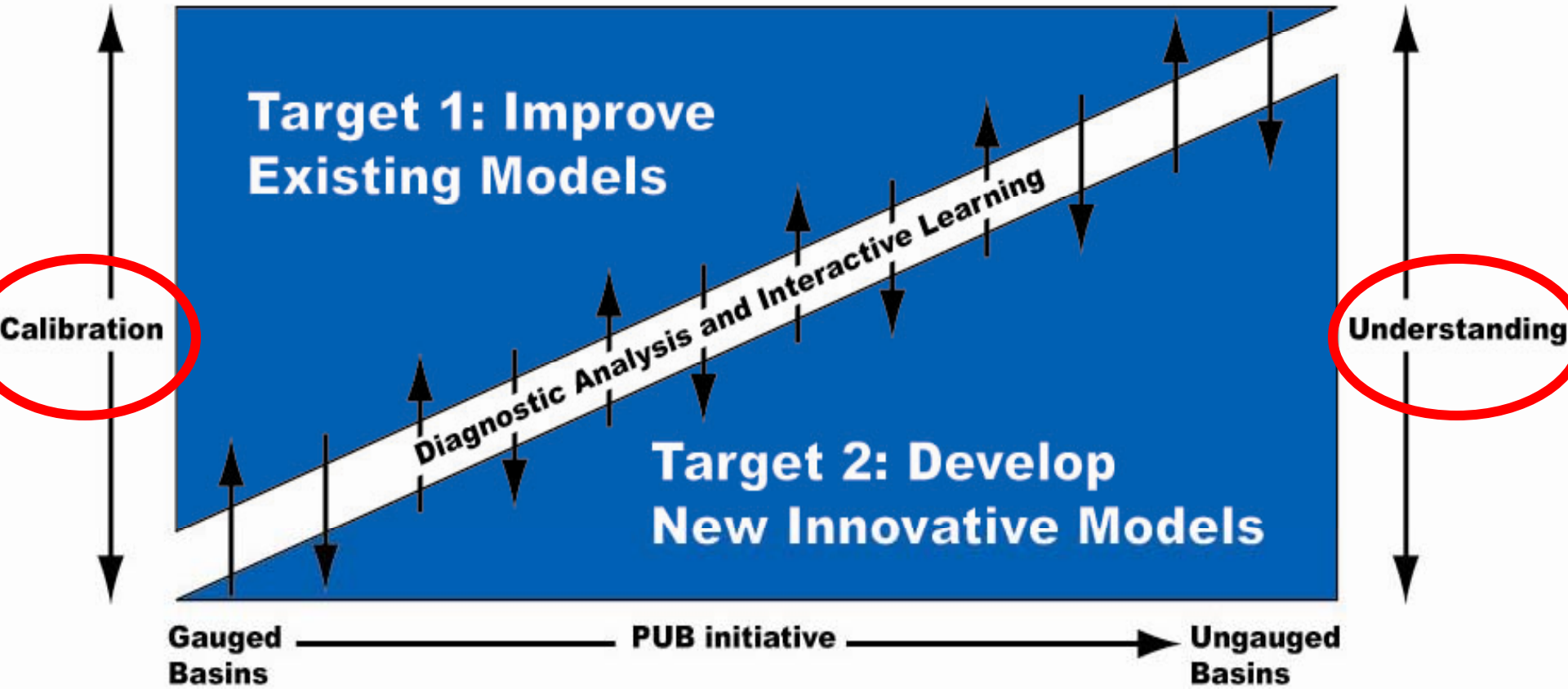


Reduction of Uncertainty



Methodological Strategy

Towards Paradigm Change - From Calibration to Understanding

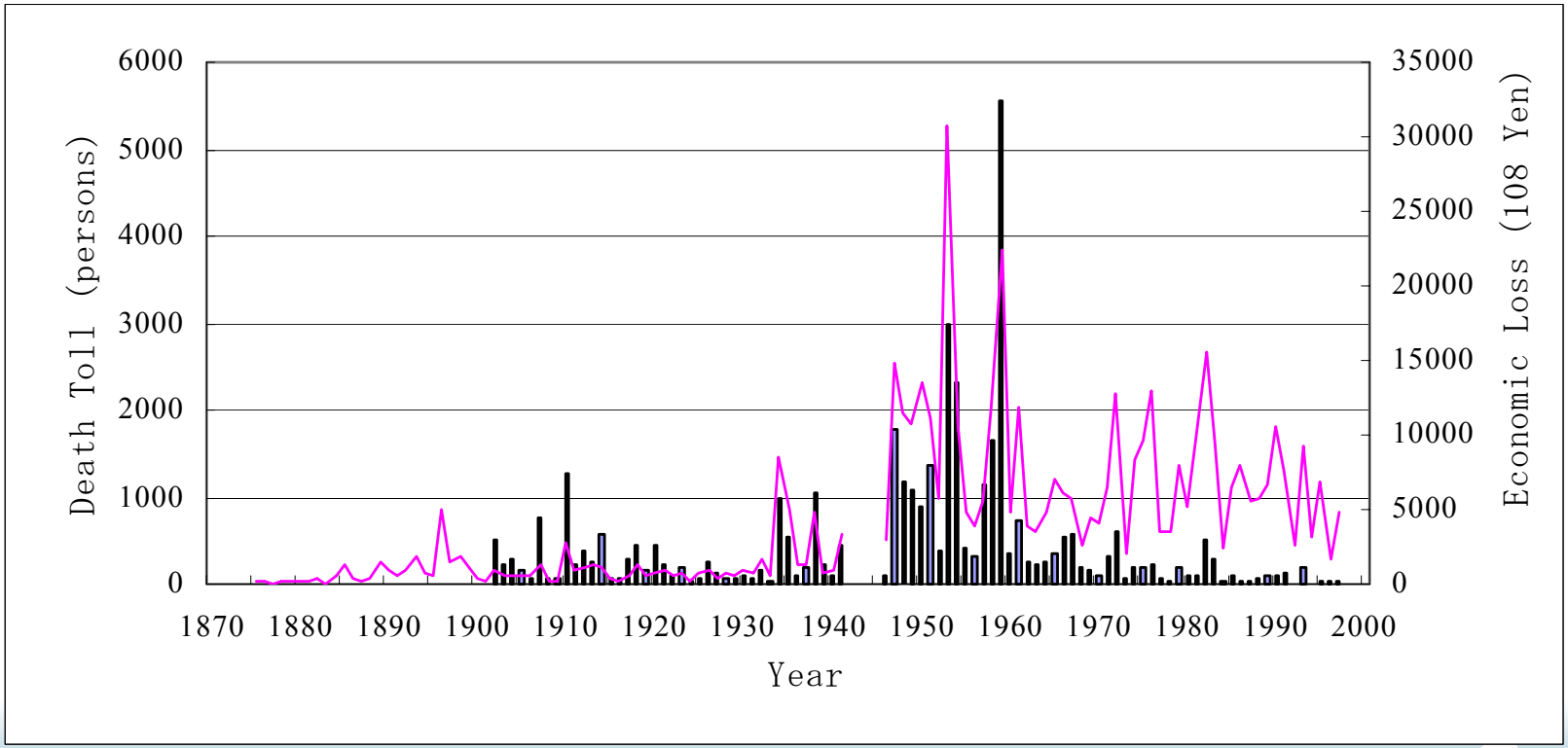


Add a natural disaster clause to UN MDG s

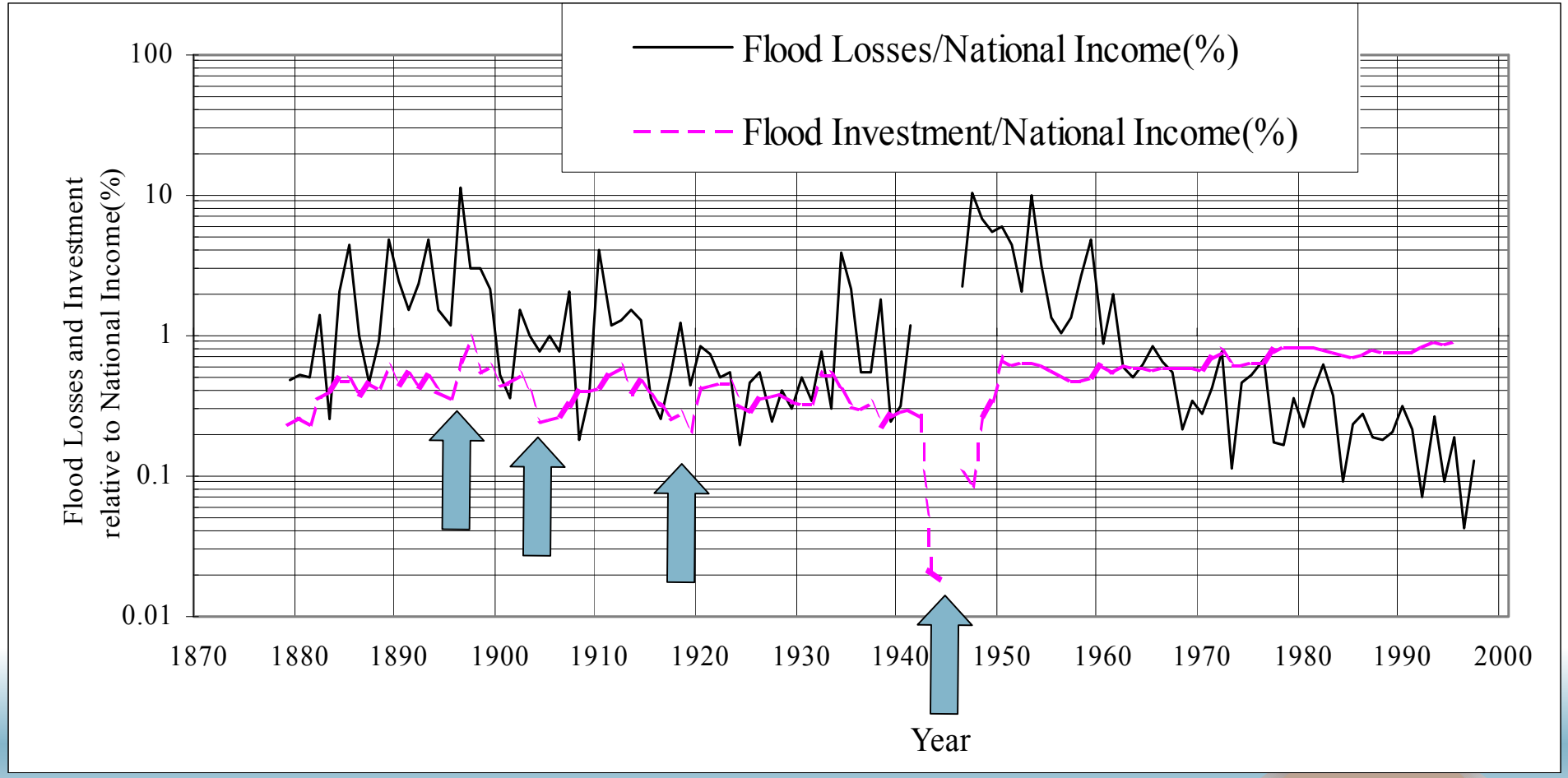
- Halve the population by 2015 who have no access to proper predictive information against natural hazards.

IAHS PUB
2003-2012

Annual Death Tolls and Economic Losses (1990 value) of Floods in Japan



Annual economic losses and flood control investment relative to national income in Japan



DURING THE NEXT DECADE THERE WILL BE AN UNPRECEDENTED NUMBER OF SATELLITES OBSERVING THE EARTH. THEY ALSO HAVE THE POTENTIAL TO ALTER THE WAY IN WHICH SOCIETY MANAGES WATER.