contribution to IFI/P
IAHS Decade of Predictions in Ungaged Basins (PUB)

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Flood Damages in 1990s

Economic Losses (Million US$) vs. Death Tolls (persons)

- Asia
- China
- Japan
- Europe
- N.Am
- Others

Munic Re (modified)
Distributed Hydrological Models

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

Area=603 km²
Grid size=1 km (0.5 min.)

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

Area=545 000 km²
Grid size= 3 min. (6 km)

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

Area=137 000 km²
Grid size= 2 min. (4km)
Reduction of Uncertainty
Methodological Strategy

Towards Paradigm Change - From Calibration to Understanding

Target 1: Improve Existing Models

Target 2: Develop New Innovative Models

Gauged Basins  ---  PUB initiative  ---  Ungauged Basins
Add a natural disaster clause to UN MDGs

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