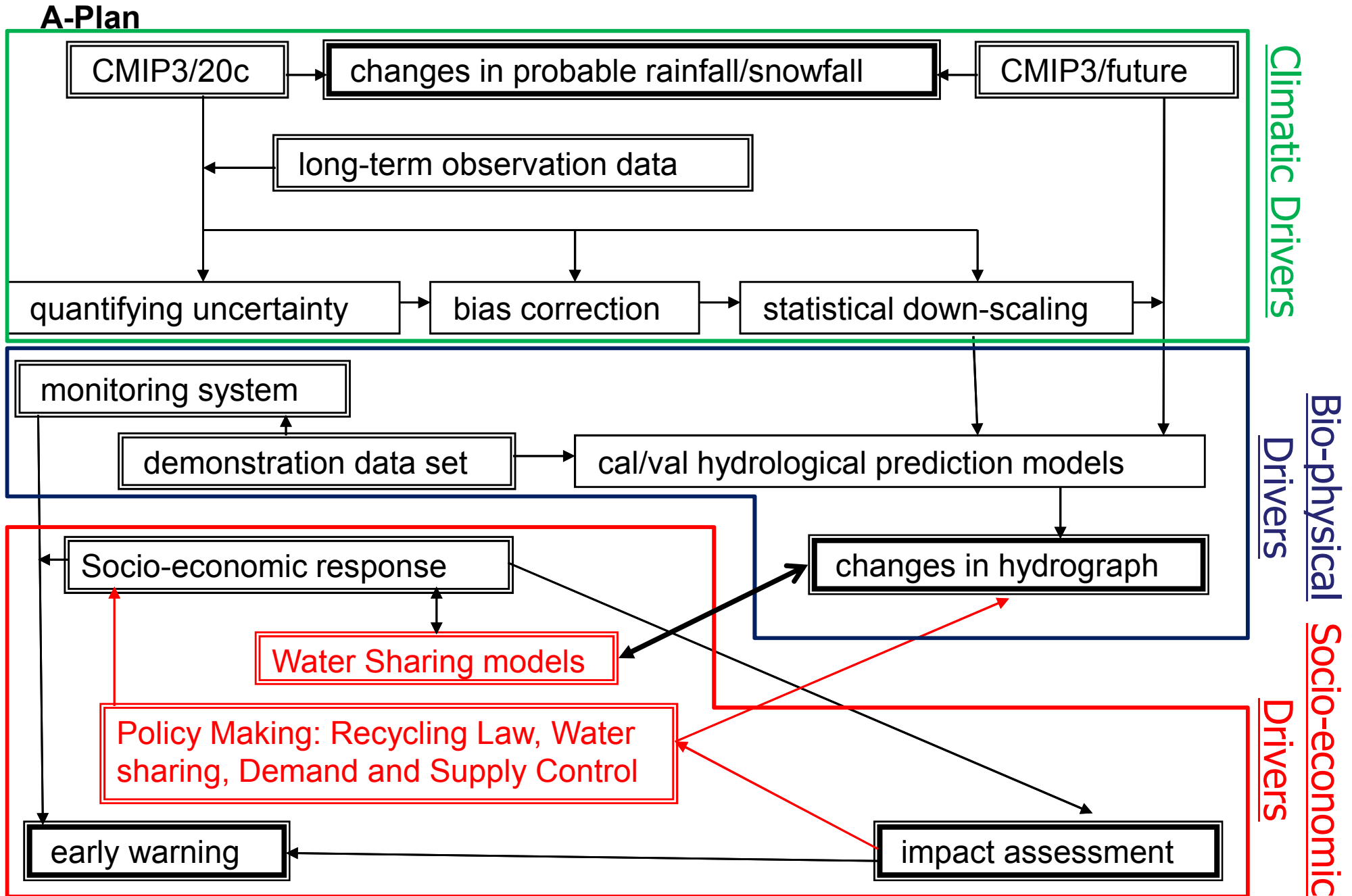


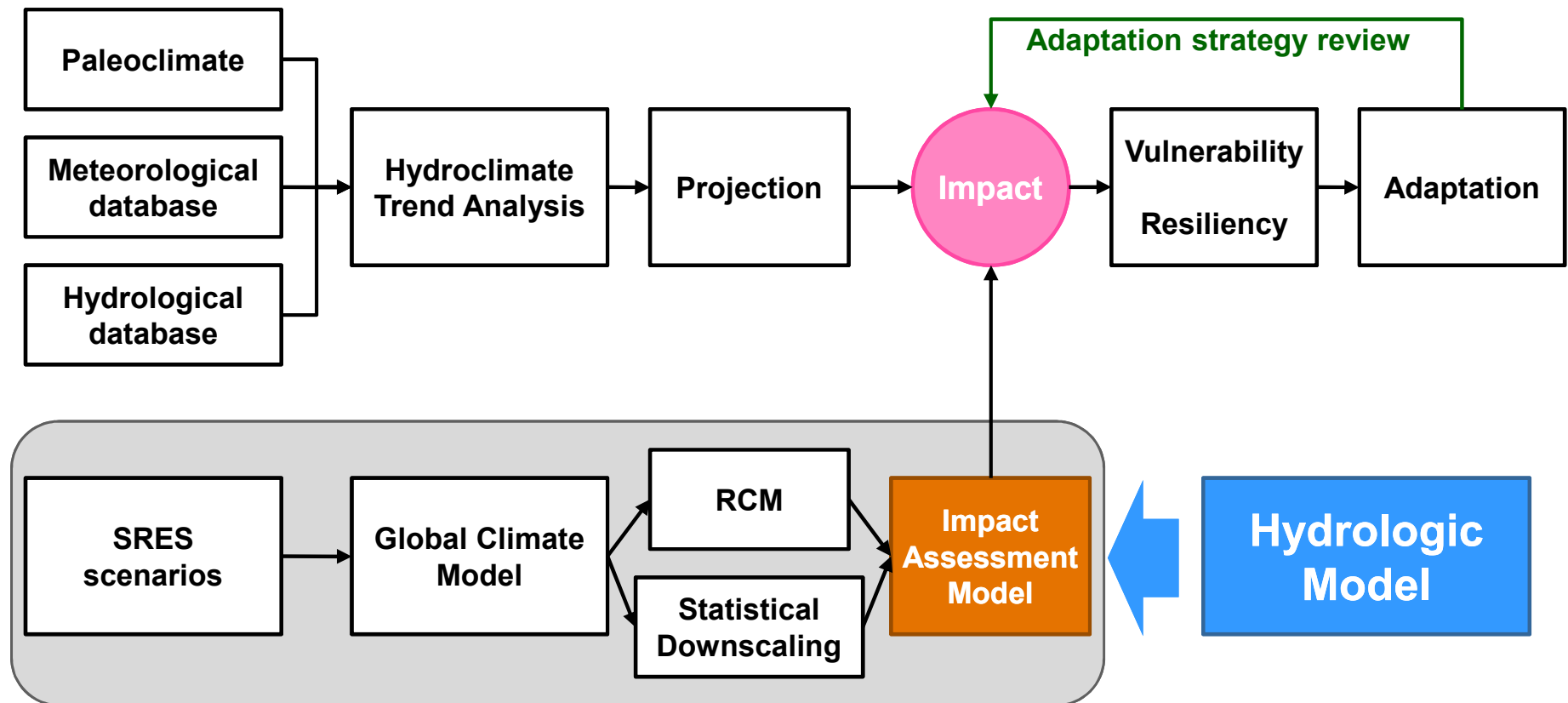
# Implementation Planning

Question 1: What should be added, removed and modified?

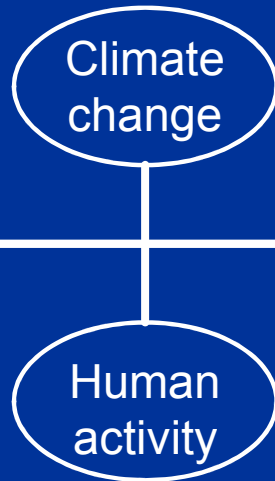
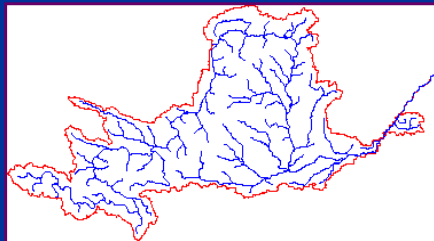
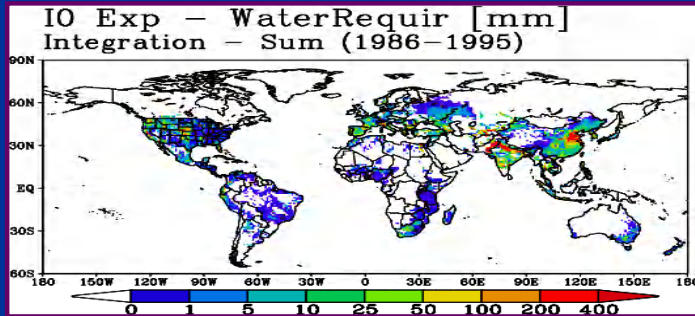


# General Process for Climate Change Study

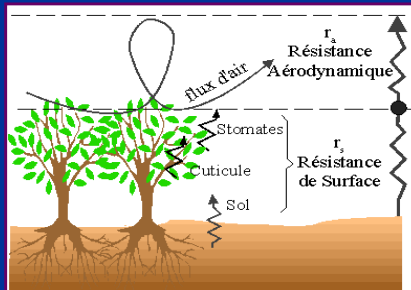
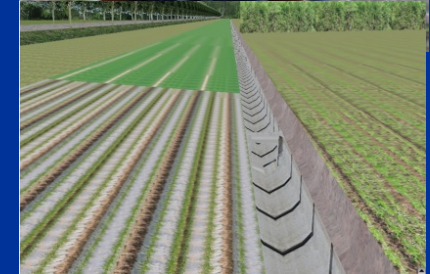
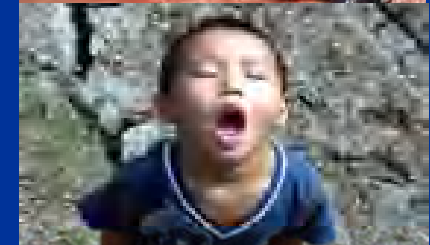
- **Climate change impact, vulnerability and adaptation studies on water resources**



# ➤ Water resources issue under impacts of human activity and climate change is multi scale issue.

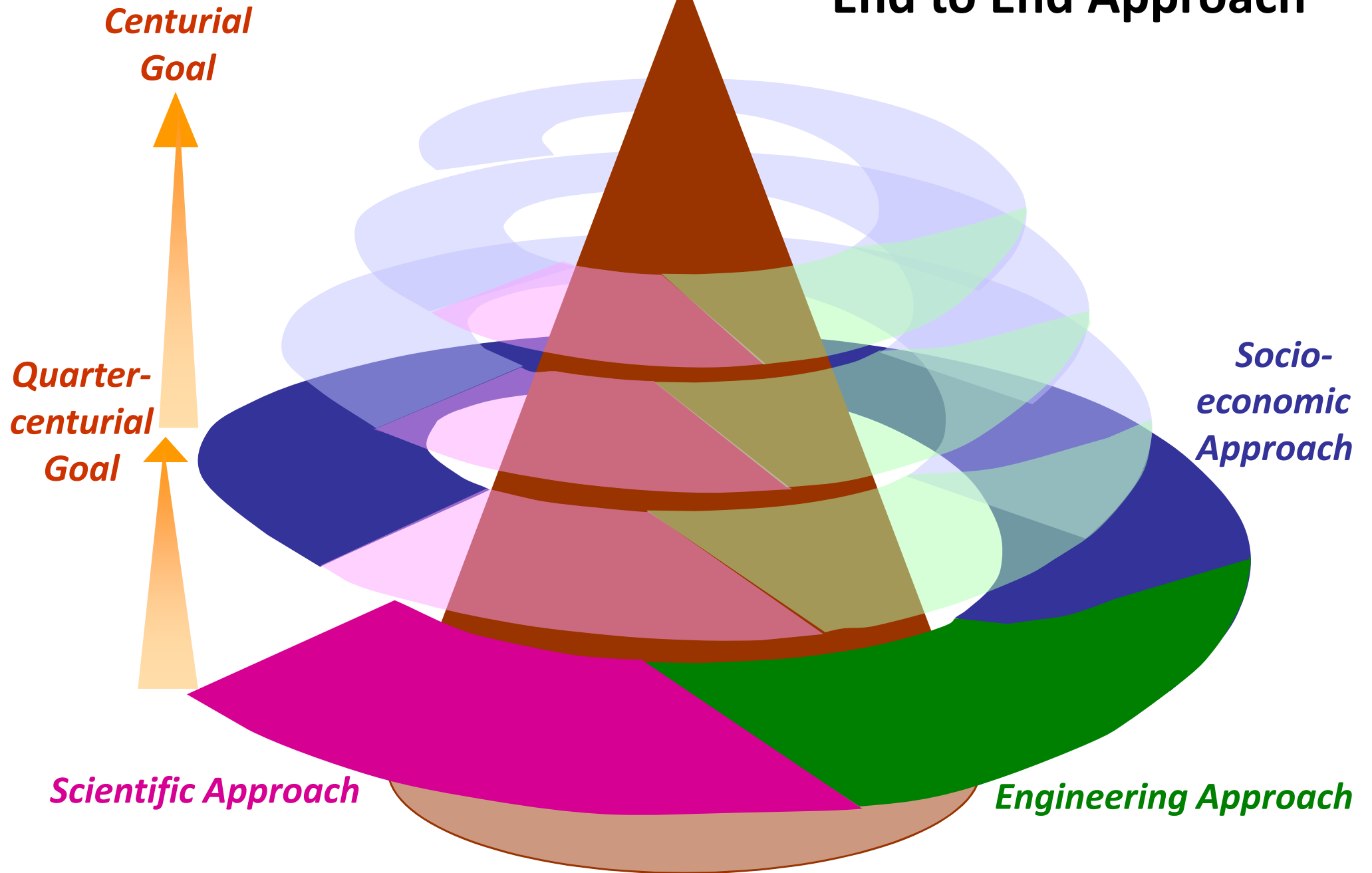


- Hydra-power
- Flood/drought prevention
- Water supply
- Agriculture
- .....



**Hydrological stationarity is dead.**

# Climbing-up Spiral with End to End Approach





# Proposed Method for CCA Planning

## < conventional project >

Objective: to mitigate human and economic losses

Historical hydro-metrological data

### Target setting

To decide target floods scale based on probability analysis

Run-off Analysis

### <Project>

Structural Measures (such as river bank, and dam)

Non-structural Measures (such as flood early warning)

## < Climate Change Adaptation Project >

*Objective: to minimize human loss*

Historical hydro-metrological data

*Climate Change Prediction*

probability analysis on target floods

*Evaluation on Impact on Extreme Events by Climate Change*

Runoff and *Inundation* analysis

*Coping Mechanism Analysis*

### *Target setting*

- 1) Strategic Area Protection by Structural Measures*
- 2) Land Use Regulation*
- 3) Community-based Risk Management*

### <Project>

*River Basin Governance*

Structural Measures

*Urban, Regional Planning (land use regulation)*

Non-structural Measures (early warning, *Evacuation*)

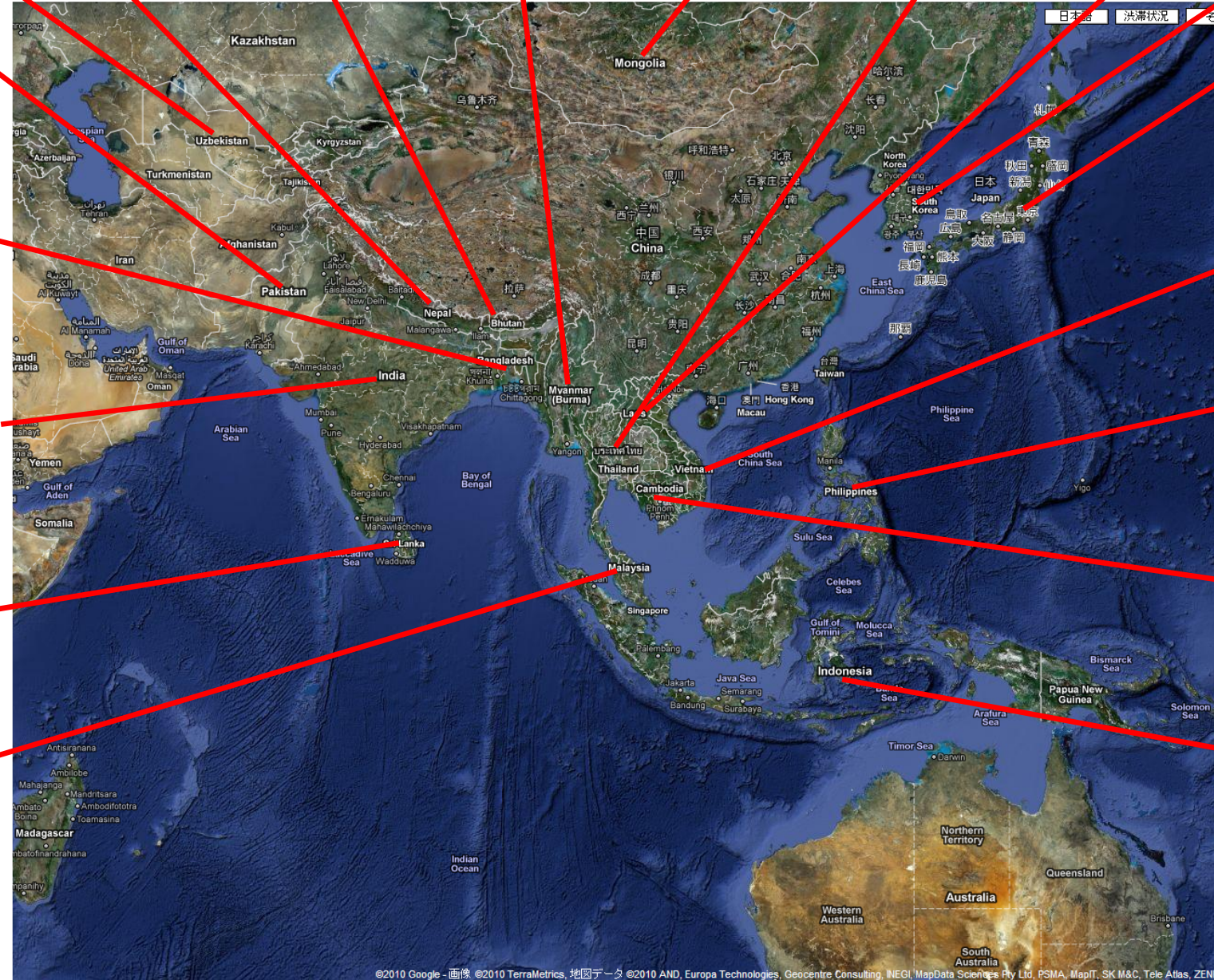
*CBDM*

*Monitoring*

*Poverty Alleviation, Vulnerability Consideration*



# Demonstration River Basins





# Observation Metadata Registration

Complete

Ongoing

# Document Metadata Registration

Complete

Ongoing

# Quality Controlling

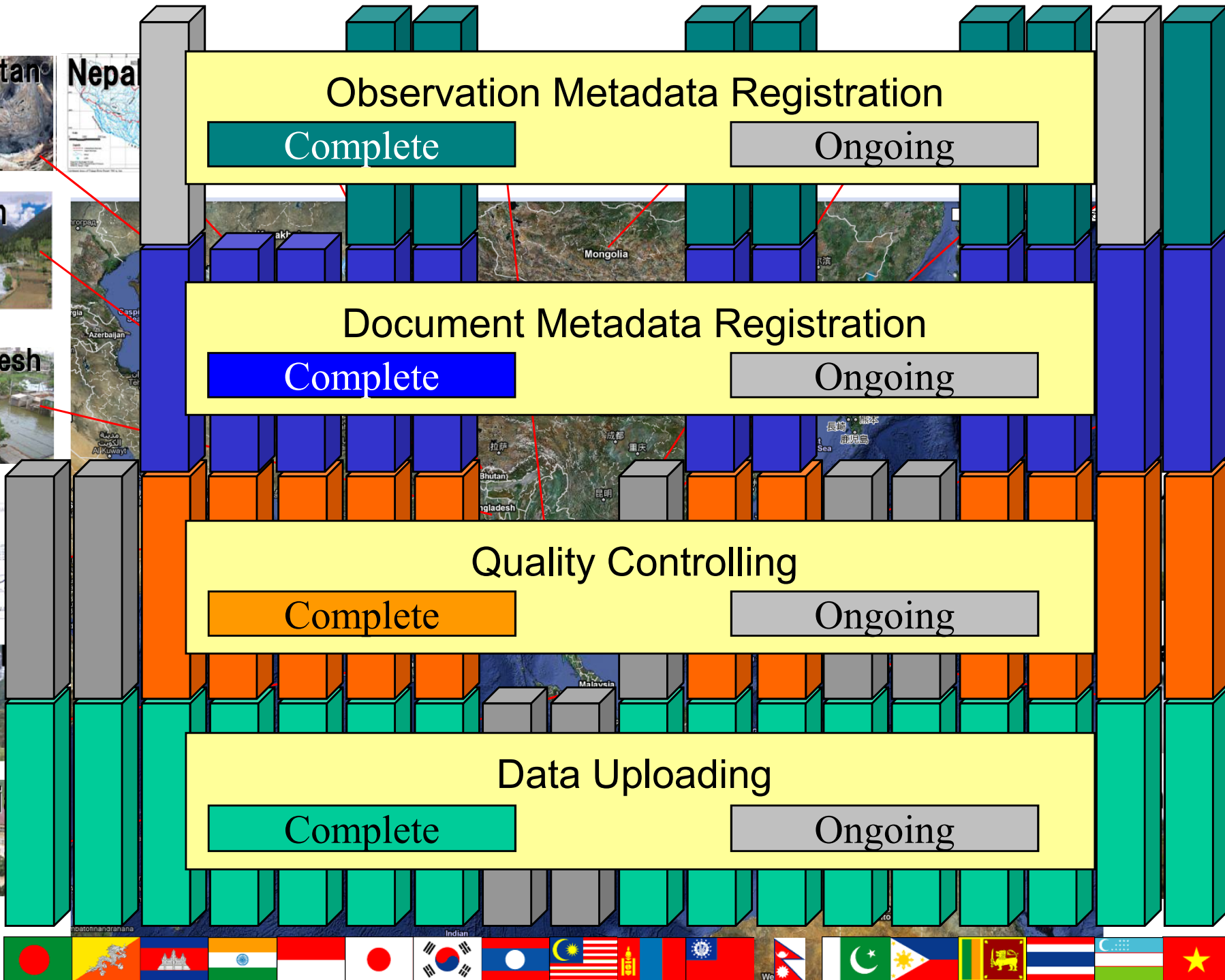
Complete

Ongoing

# Data Uploading

Complete

Ongoing



# CMIP3 Data on DIAS Server

## Filter

**Project**  
  cfmip  ipcc

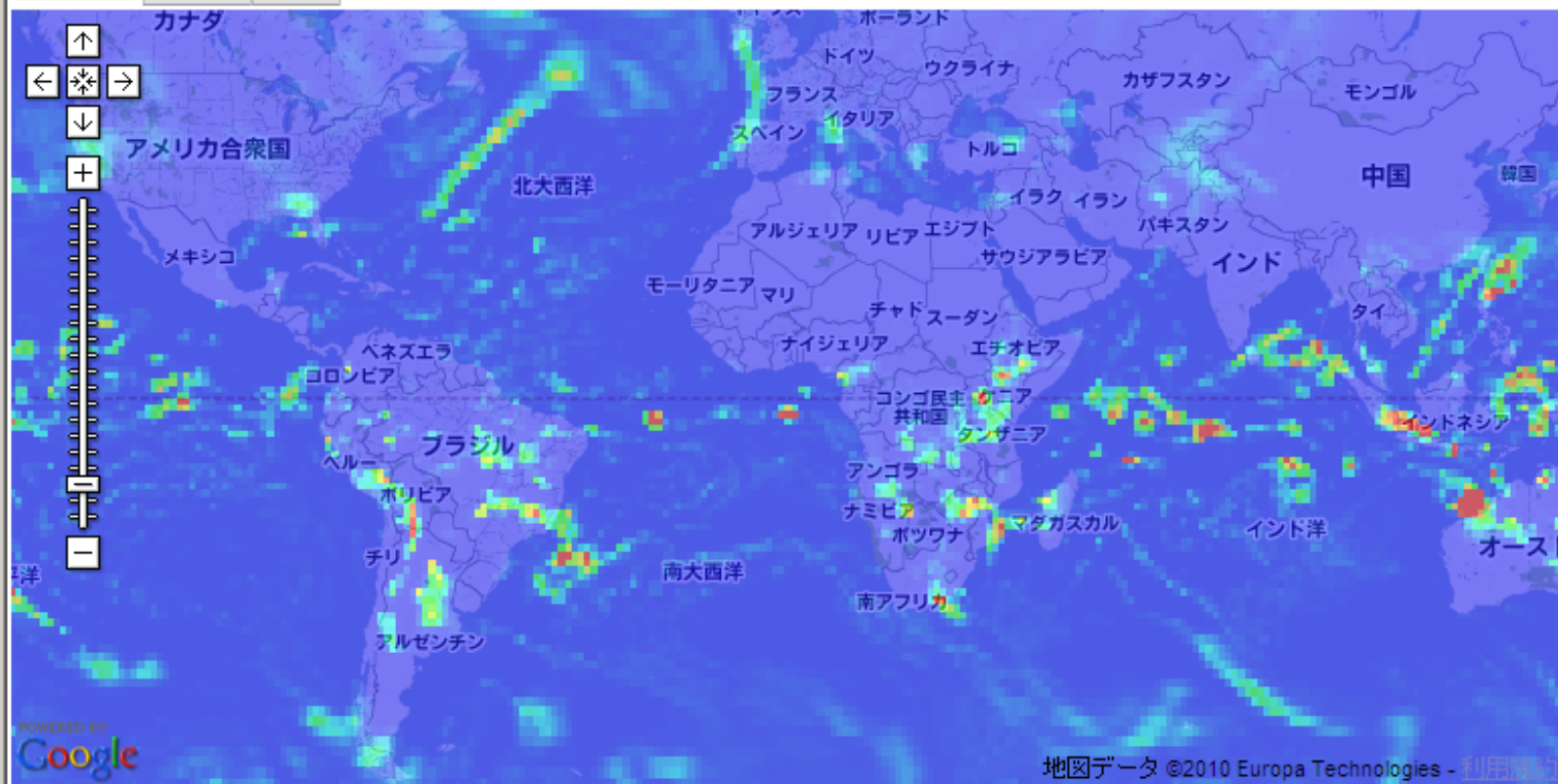
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**Model**  
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 gfdl\_cm2\_0  gfdl\_cm2\_1  gfdl\_mlm2\_1  giss\_aom  giss\_model\_e\_h  giss\_model\_e\_r  iap\_fgoals1\_0\_g  ingv\_echam4  inmcm3\_0   
 ipsl\_cm4  miroc3\_2\_hires  miroc3\_2\_medres  miroc\_hisens  miroc\_losens  miub\_echo\_g  mpi\_echam5  mri\_cgcm2\_3\_2a  ncar\_ccsm3\_0   
 ncar\_pcm1  uiuc  ukmo\_hadcm3  ukmo\_hadgem1  ukmo\_hadgsm1  ukmo\_hadsm3  ukmo\_hadsm4

**Frequency**  
  3h  da  fixed  mo  yr

**atm**  
  cdd  cl  clc  cli  clib  clic  clis  cliscpp  clivi  cls  clt  clw  clwb  clwc  clws  clwi  convpbl  dmc   
 entr  etr  evspsbl  fd  gsl  hfls  hfss  hur  hurm  hus  husm  huss  hwdi  ice  liq  mcm  mrsos  pr   
 prc  prsn  prw  ps  psl  qidt  qldt  r10  r5d  r95t  radpbl  rain  rlds  rldscs  rlfoaa  rlfoaacs   
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 rlfoaa\_cfc12  rlfoaa\_ch4  rlfoaa\_co2  rlfoaa\_g  rlfoaa\_n2o  rlfoaa\_s  rlfoai  rlfoaics  rlfoaics\_cfc11  rlfoaics\_cfc12   
 rlfoaics\_ch4  rlfoaics\_co2  rlfoaics\_g  rlfoaics\_n2o  rlfoaics\_s  rlfoai\_cfc11  rlfoai\_cfc12  rlfoai\_ch4  rlfoai\_co2   
 rlfoai\_g  rlfoai\_n2o  rlfoai\_s  rltropa  rltropacs  rltropacs\_cfc11  rltropacs\_cfc12  rltropacs\_ch4  rltropacs\_co2   
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 rsftoacs\_g  rsftoacs\_n2o  rsftoacs\_s  rsftoaa\_cfc11  rsftoaa\_cfc12  rsftoaa\_ch4  rsftoaa\_co2  rsftoaa\_g  rsftoaa\_n2o

Coloring Region Point



Sync : OFF

time  
51499.0625 [days since 1850-01-01]

Sync : OFF

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	1 files	1 files			1 files	2 files	5 files	1 files				



North -1.23 East 114.697  
West 104.15 South -9.622 Cut Out



time

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新しいスライドの挿入時に表示する

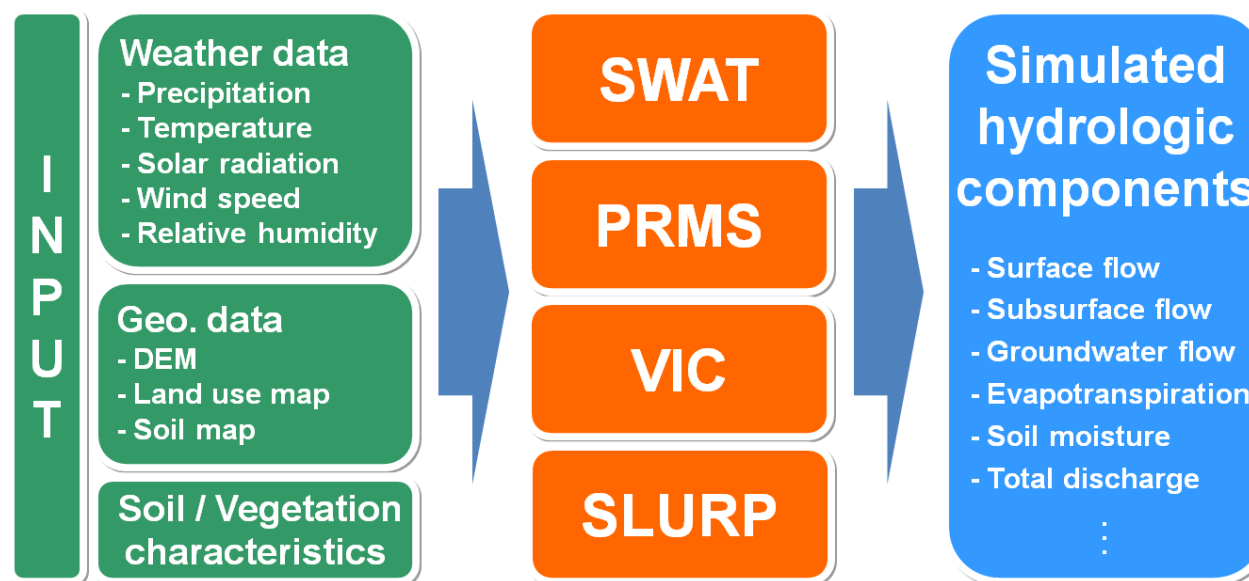
図形の調整(R) オートシェイプ(U) スライド 15 / 53 28.標準デザイン 日本語



## Potential evapotranspiration computation methods

Model	Evapo-transpiration	Snowmelt	No. of soil zones	Runoff components	Routing	Members
PRMS	Hamon Jensen-Haise	energy balance method	2	surface flow subsurface flow groundwater	None	PR-HA PR-JH
SWAT	Penman-Monteith Priestley-Taylor Hargreaves	degree-day method	2	surface flow Interflow groundwater	Muskingum	SW-PM SW-PT SW-HG
SLURP	Penman-Monteith* Morton CRAE Granger * Spittlehouse/Black * Linacre	modified degree- day method	1-6	surface flow subsurface flow groundwater	Muskingum	SL-PM SL-GR SL-SB

## Applications of the models



# Concluding Remarks for Future Study

