

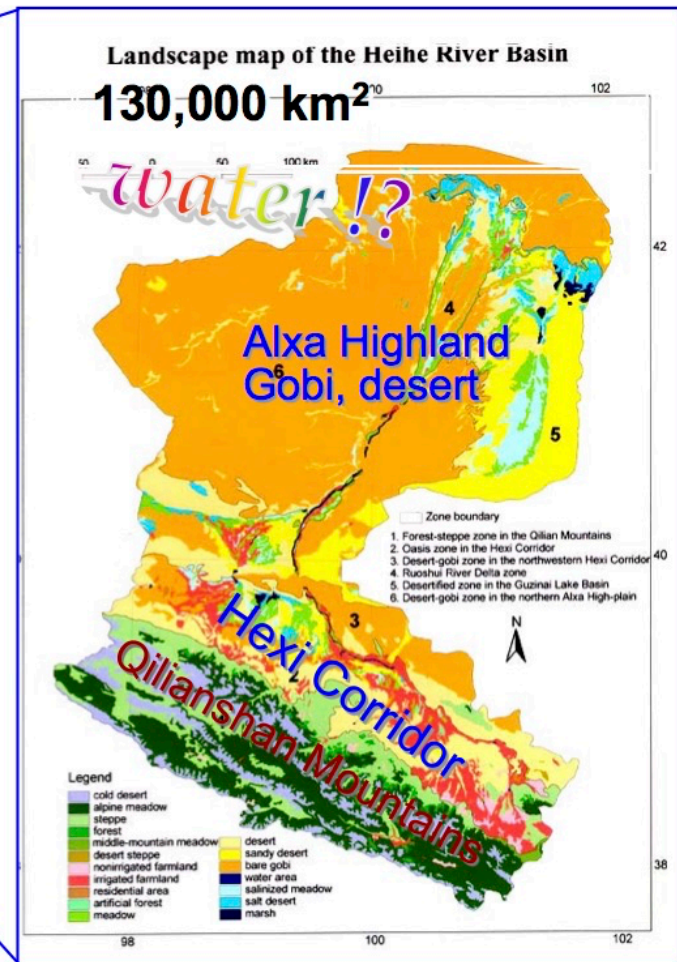
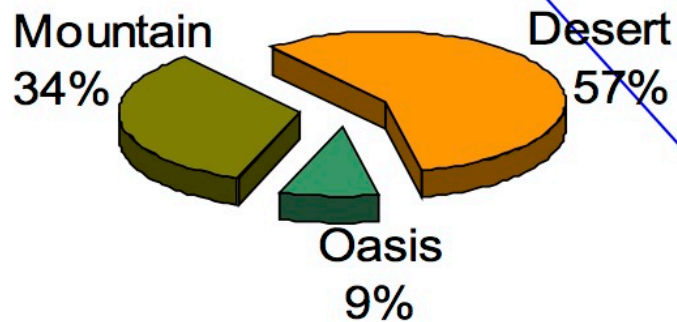
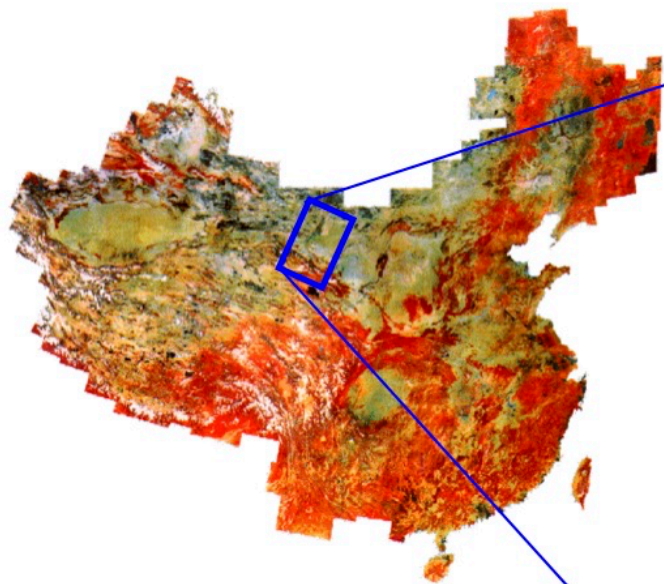
Integration of Eco-hydrological Process in Heihe River Basin

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outline

- Introduce Integration of Eco-hydrological Process in Heihe River Basin
- Dynamic downscaling by high resolution Regional Integrated Environmental Model System (RIEMS) in Heihe River Basin
- Preliminary result simulated by Chymodel in HRB

Study Area: Black River Basin



General Objectives

- **Reveal eco-hydrologic processes on individual plant, community, ecosystem, landscape and watershed scale**
- **Describe the principal of eco-hydrological process in inland River Basin under the impact of climate change and human activity**
- **Develop method of scaling eco-hydrologic processes**
- **Establish integrated model that coupled ecological, hydrologic and socio-economic processes.**

Establish research platform which integrate observation, experiment and simulation

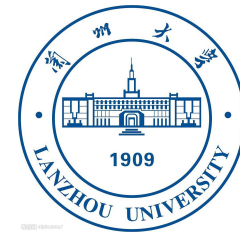
Implementation

- Budget: 24 Millions US\$
- Period: 2011-2018
- Supporting Projects: General, Key and Integrating
- Scientific Committee: Chair is Prof. Cheng
- Management Group: NSFC
- Call proposals for General and Key Projects every year. Integrating project will be start in 2013.

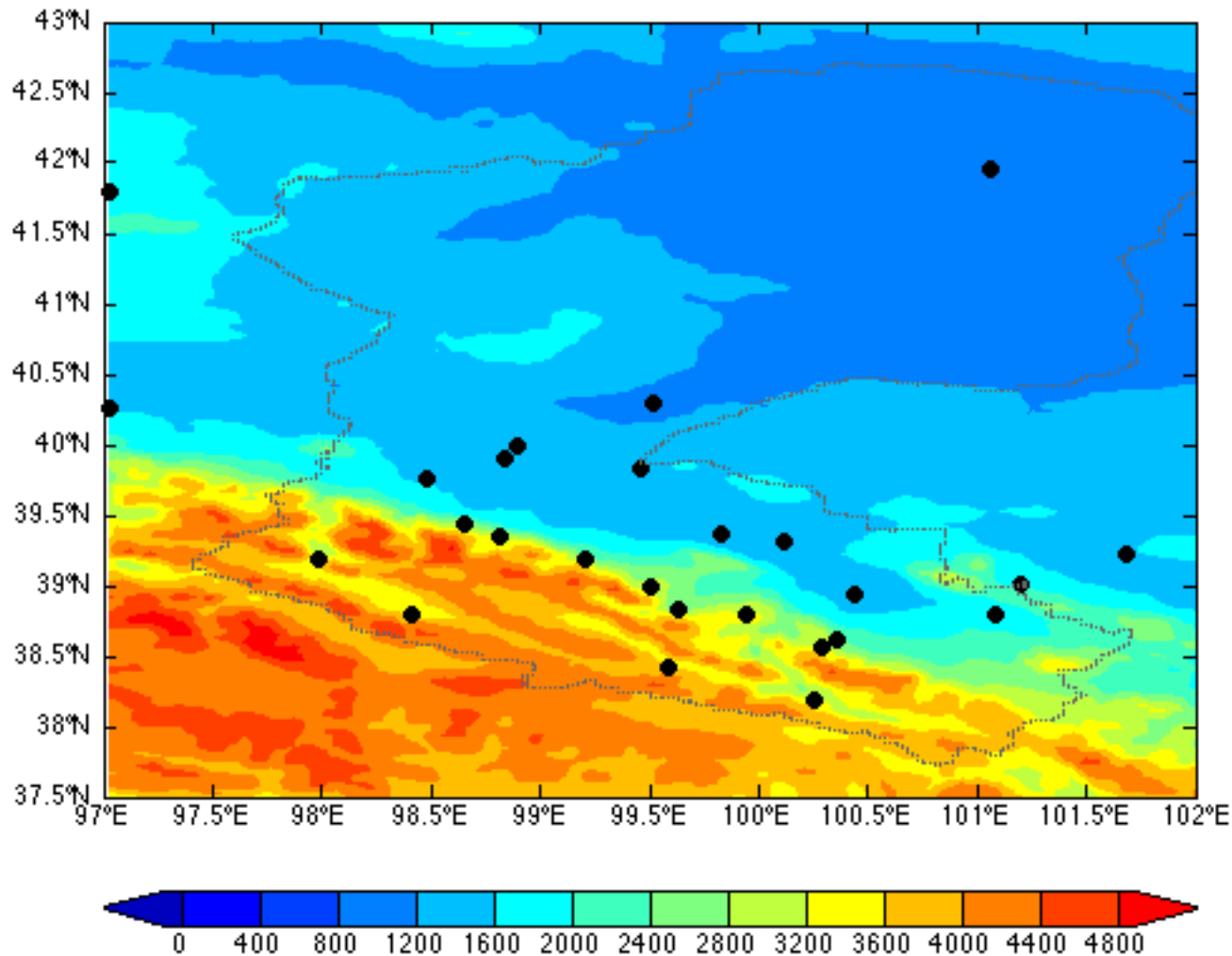
Simulation of high resolution of future climate change scenarios and assessment of uncertainty in the HRB

Budget: 4 millions RMB

Period: 2015-2018

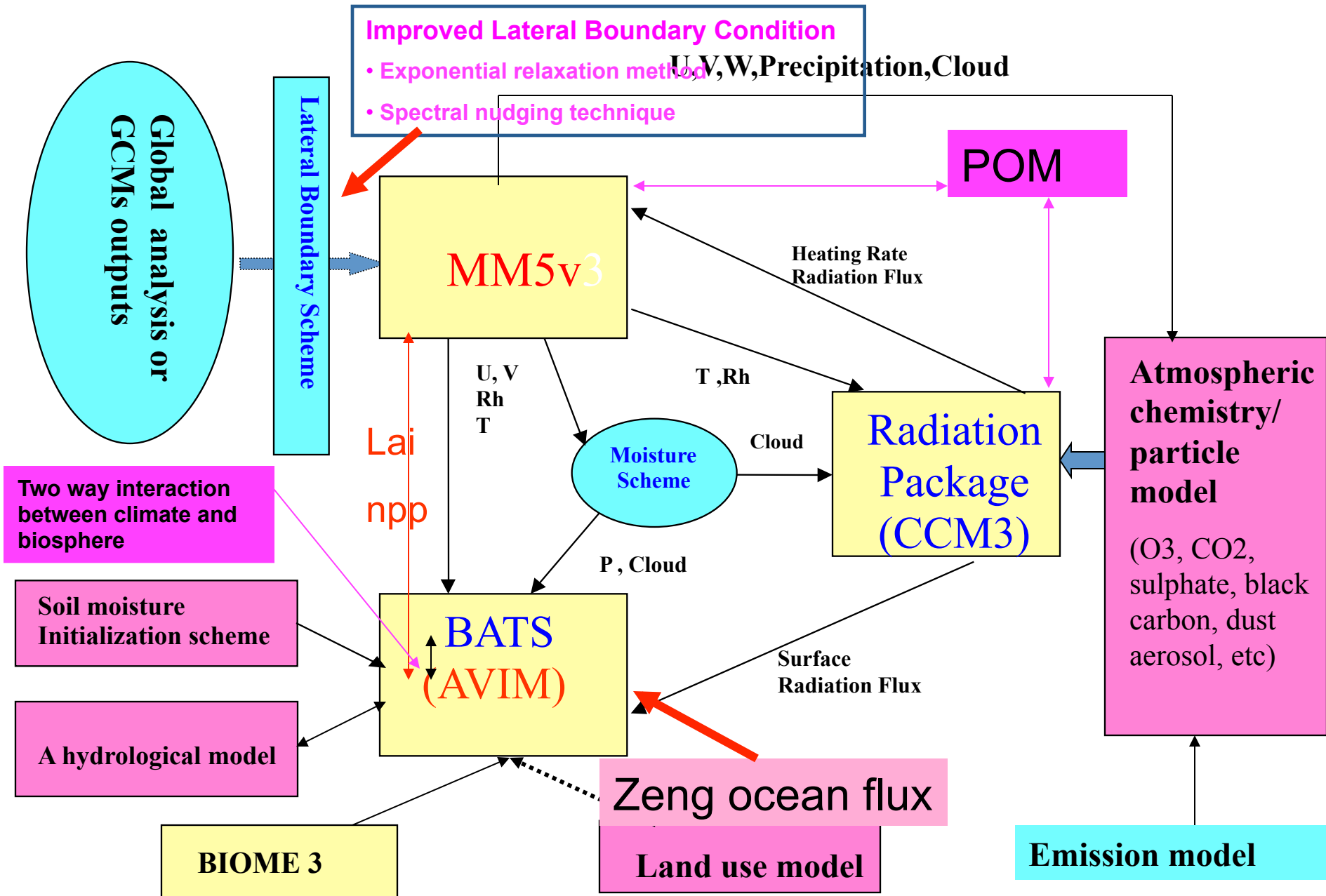


Distribution of meteorological and hydrological observation in the HRB



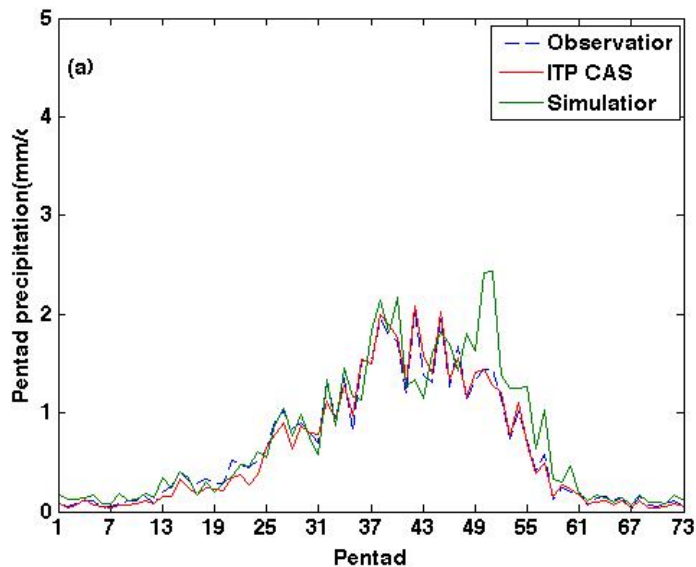
Meteorology: 14, hydrology: 13, time period: 1990-2010

A Schematic Diagram of high resolution RIEMS For HRB

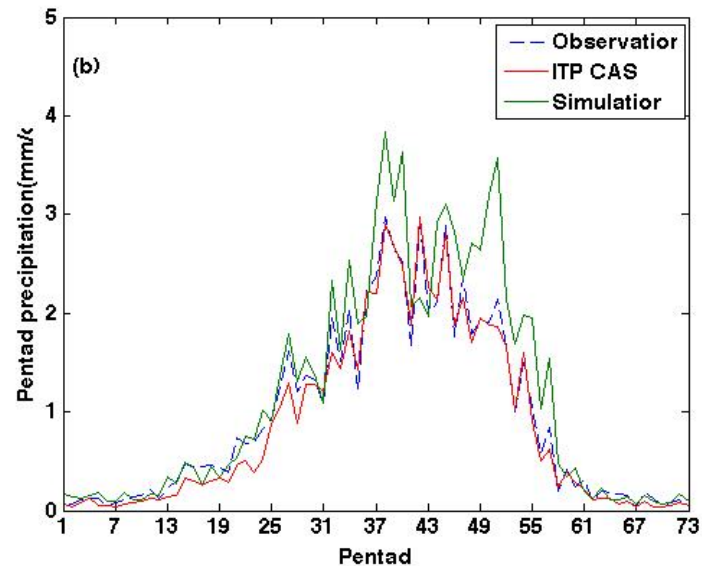


Time series of pentad precipitation in different regions

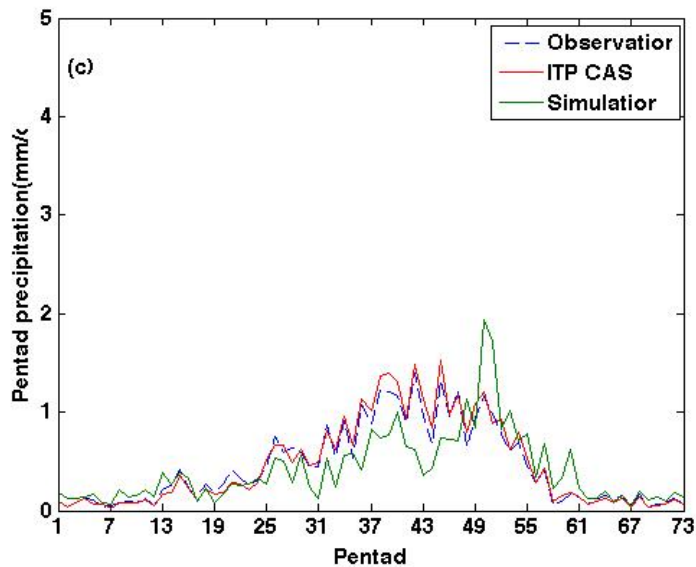
The whole domain R=0.93



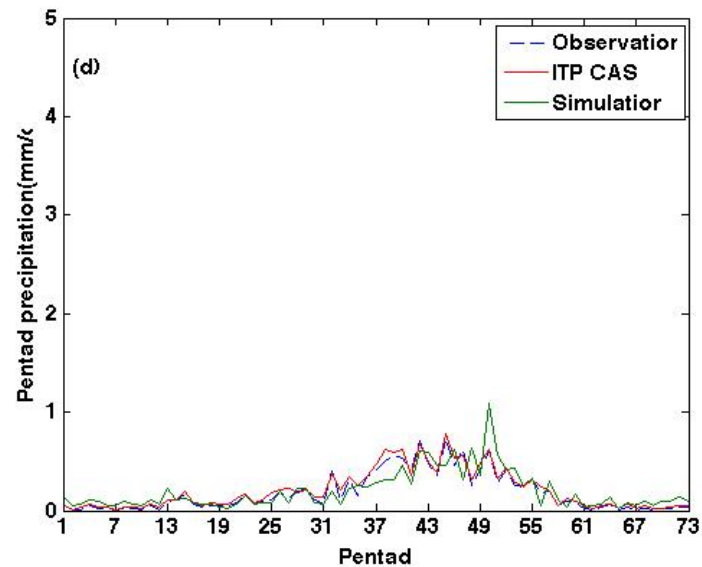
upper stream R=0.95



Middle stream R=0.74

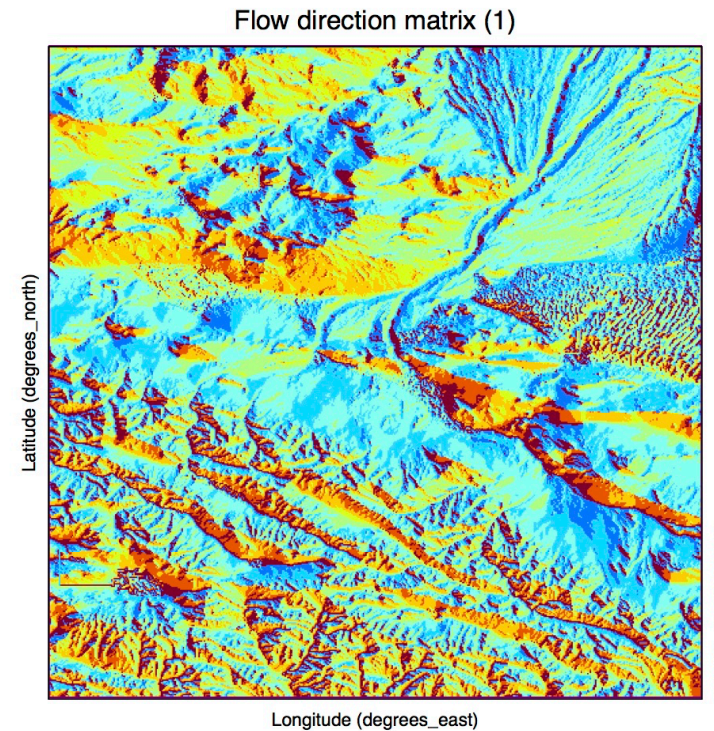
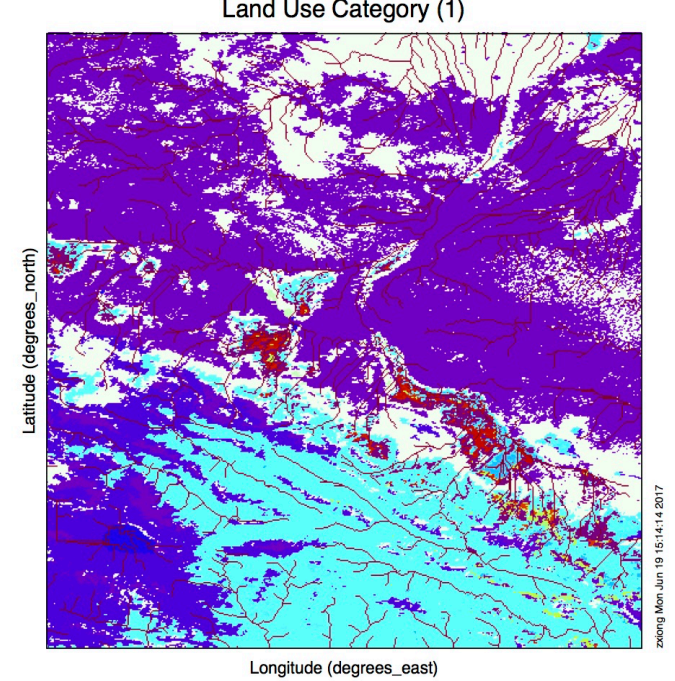
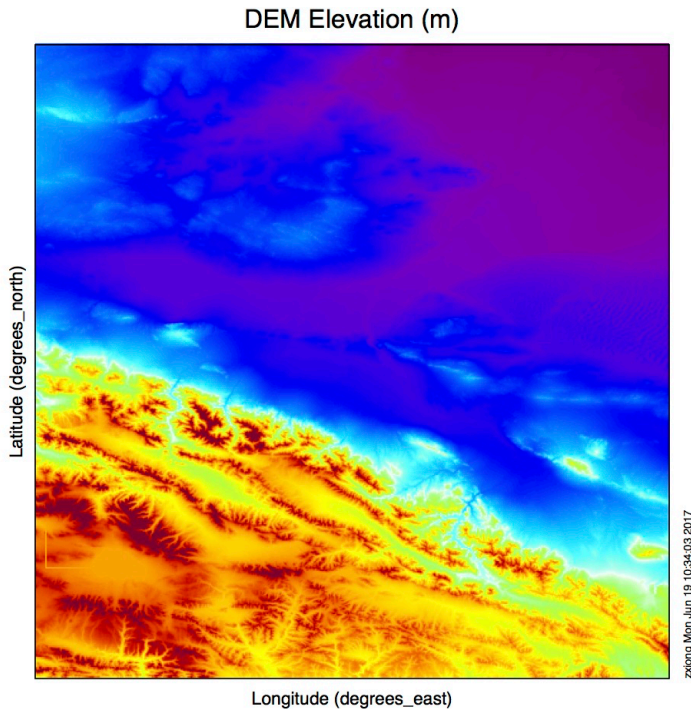


Low stream R=0.80



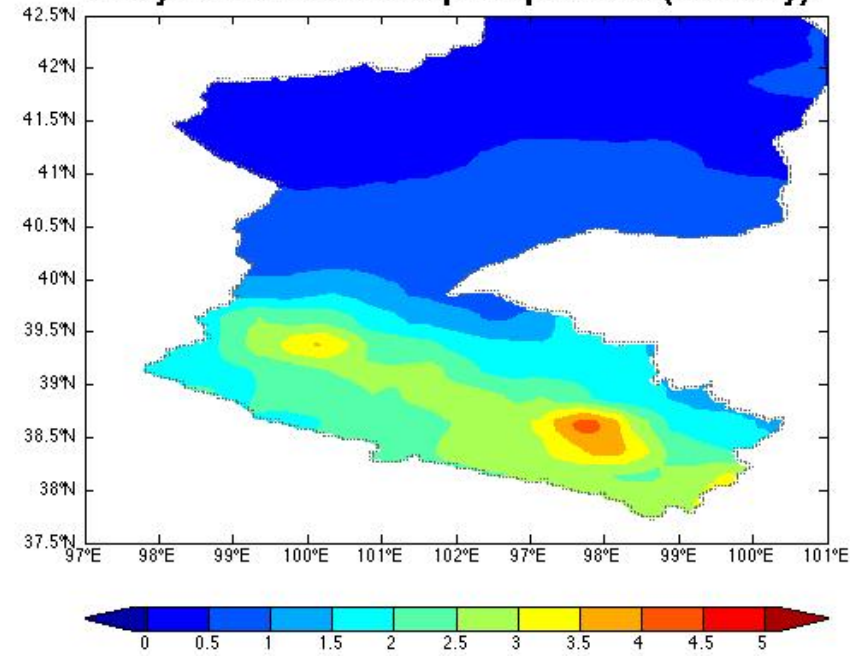
Static field in ChyModel

Input data: TRMM
period:2010-01-2010-12

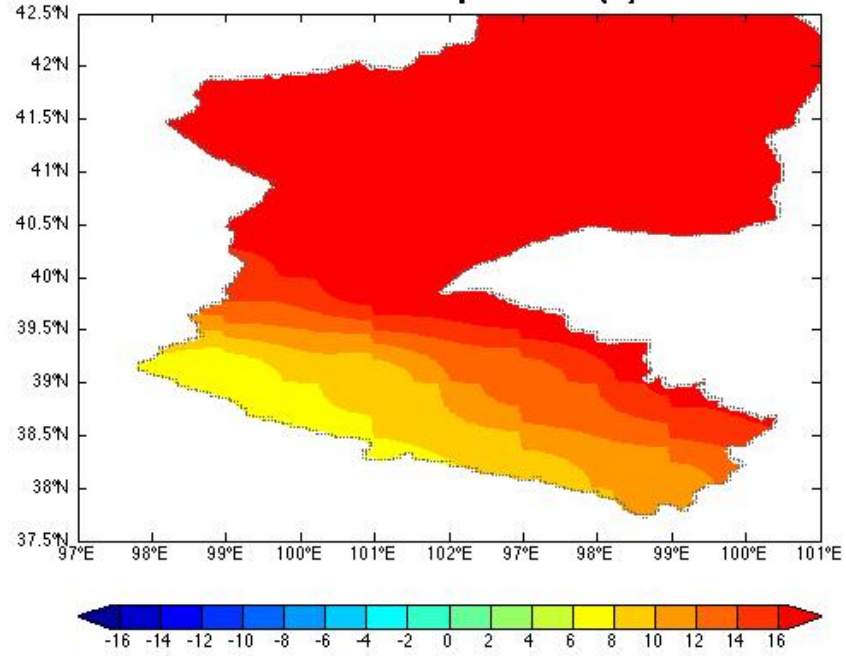


Rainy seasonal mean precipitation, temperature discharge (May-Sept.)

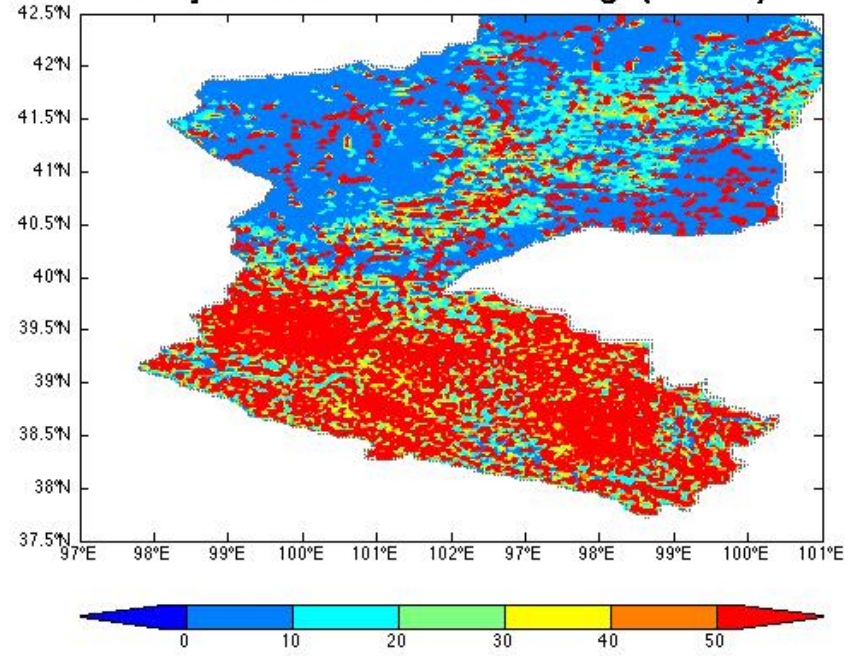
rainy seasonal mean precipitation (mm/day)



surface temperature(c)



rainy seasonal mean discharge(m**3/h)





Thanks!

