## MAHASRI activity plan in NE Asia

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#### RAISE

(Rangelands Atmosphere-Hydrosphere-Biosphere Interaction Study Experiment in Northeastern Asia)

r Period:

2001/12-2006/11 (Obs. 2002-: IOP 2003)

Objectives:

Better understandings of the interaction between hydrosphere, atmosphere in the targeted region, and biosphere and human impact on it.

Target Area: upper Kherlen river basin



"snap-shot" view of hydrologic, ecological and atmospheric system of the region



### MAHASRI NE Asia activity plan

- Research targets:
- "Interannual variability" of hydroclimatorolgy with longer-time series of broader region



#### Background: Large Precipitation Variability – time & space



#### Background: Strong meridional transition of vegetation



#### Projected Decreasing Precipitation in Future



figures by T. Sato, CCSR, Tokyo Univ

### **Research targets**

- Rainfall variability (time & space)
  - Diurnal variation in conjuction with rainfall process
  - inter-annual variations, intra-annual variations in conjunction with the monsoon variability
- Soil moisture and vegetation control of Landsurface processes
  - vegetation variability, soil-moisture dynamics and their control on the landsurface processes
  - the response of larch forest to the external forcing





### **Observation plans 1**



- Kherlen river basin:
  - monitoring continued the 2 tower sites (CEOP2 reference sites, 2007-2010)



# **Observation plans 2**

- ULB region (in cooperation with IORGC):
  - Radar data (near ULB airport),
    - rain gauge mesonet (will be setup)
  - groundwater monitoring (in cooperation with UNESCO-IHP)
- Satellite monitoring of vegetation and soil moisture
  - validation with the surface obs.
- Some data will be open to the public through CEOP 2 data archive.



# Supporting Funds

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  - partial support from TERC (Terrestrial Env. Research Center, Tsukuba University) project fund (FY2006-2010)
  - Grant-in-aid for Scientific Research (FY2007-2010) submitted to JSPS (Japan Soc. for Promotion of Science)
- continuing to applying .....

