ADMIP

Asian Dryland Landsurface Modeling Intercomparison Project KICKOFF MEETING

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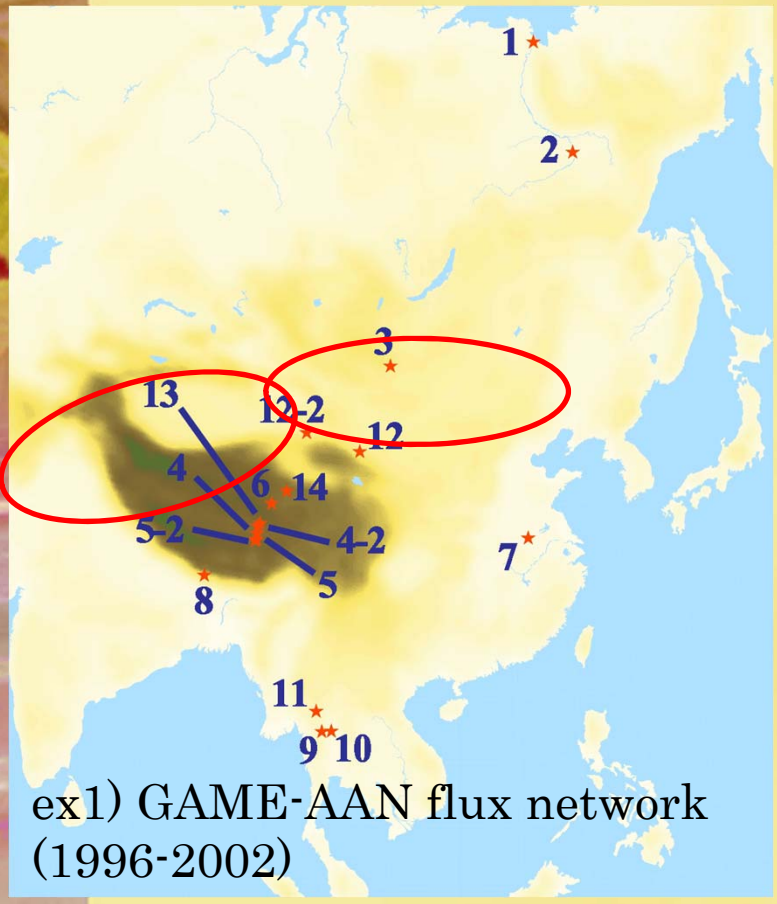
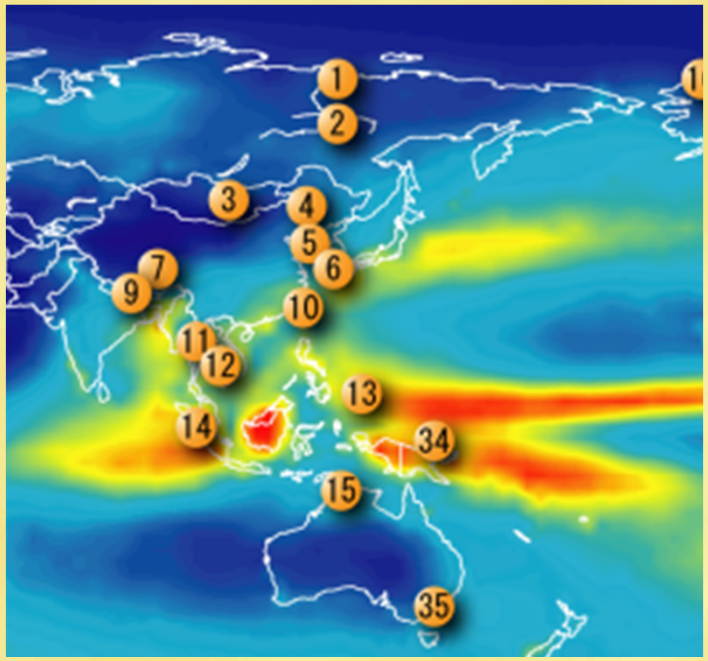
MOTIVATIONS

Asian drylands used to be/are a blank region of observation



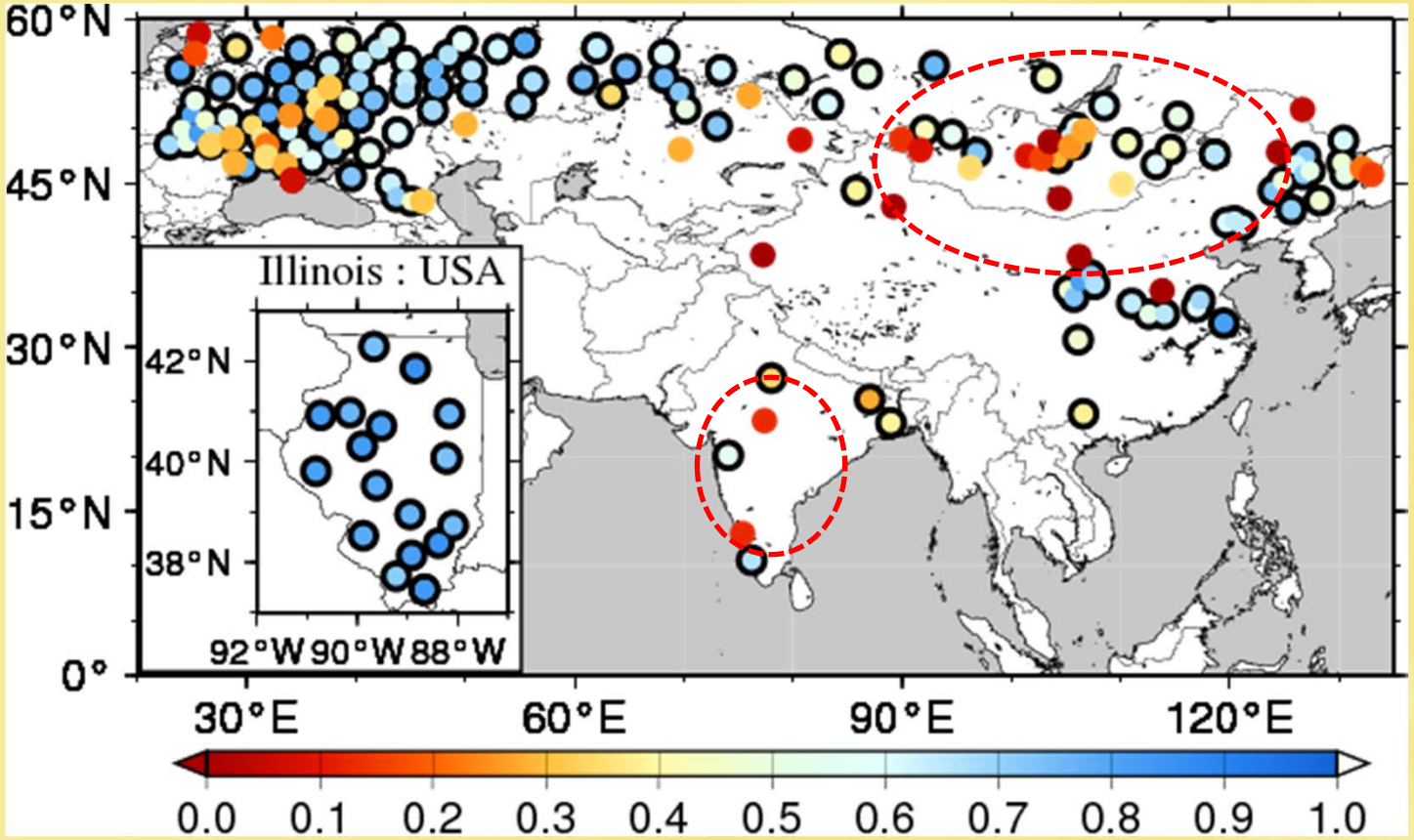
ex1) GAME-AAN flux network (1996-2002)



ex2) GEWEX-CEOP phase 1 reference sites (2003-2005)

What are the consequences?

Model performance at the region ex1) GSWP2 (annual)



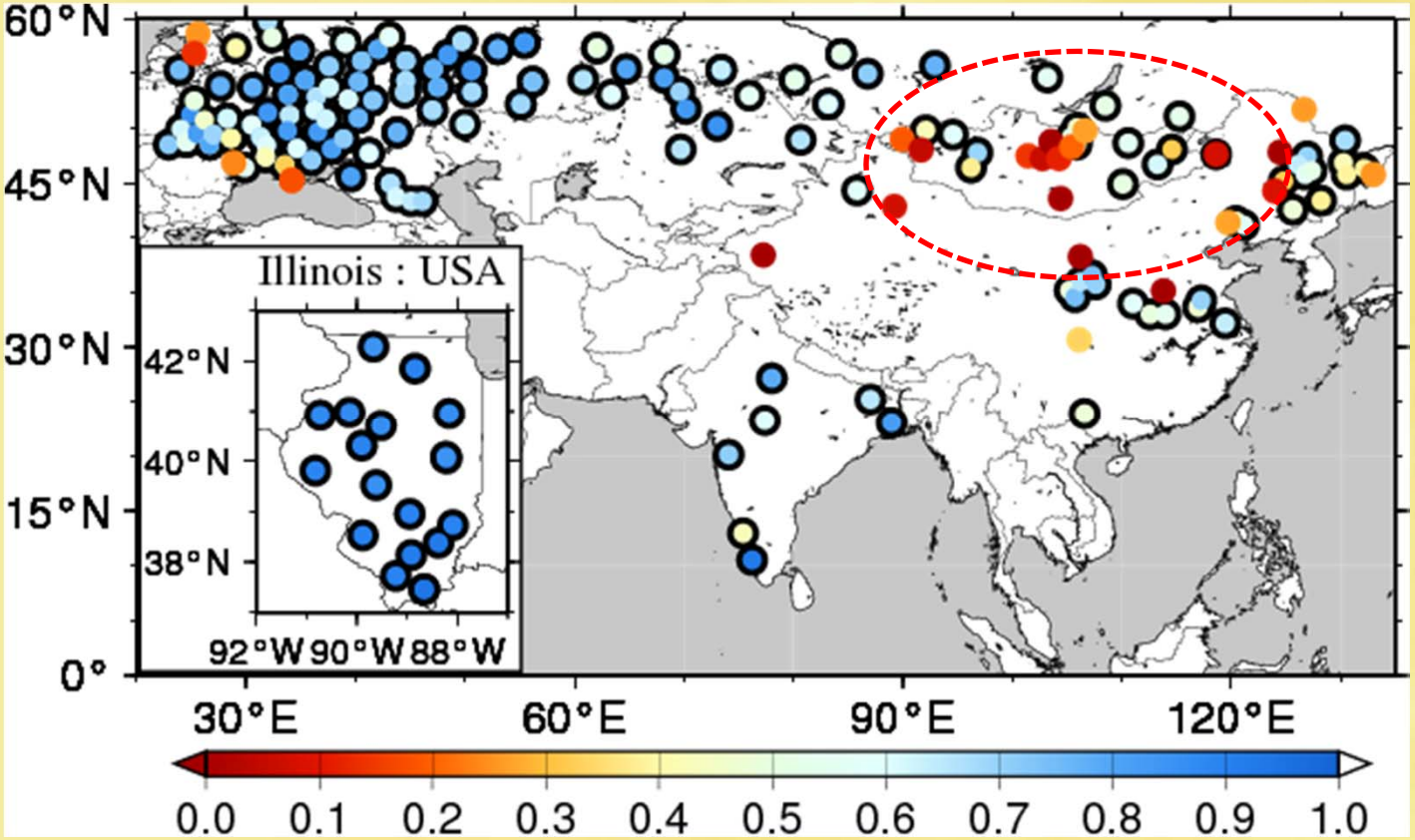
correlation between GSWP2 (multi model analysis) and GSMDB(observation) (annual means)

figures made by Dr. Yorozu at Kyoto Univ.

in reference to Guo, and Dirmeyer (2002) JGR, Vol.111, D22S02

(continued)

ex1) GSWP2 (monthly)



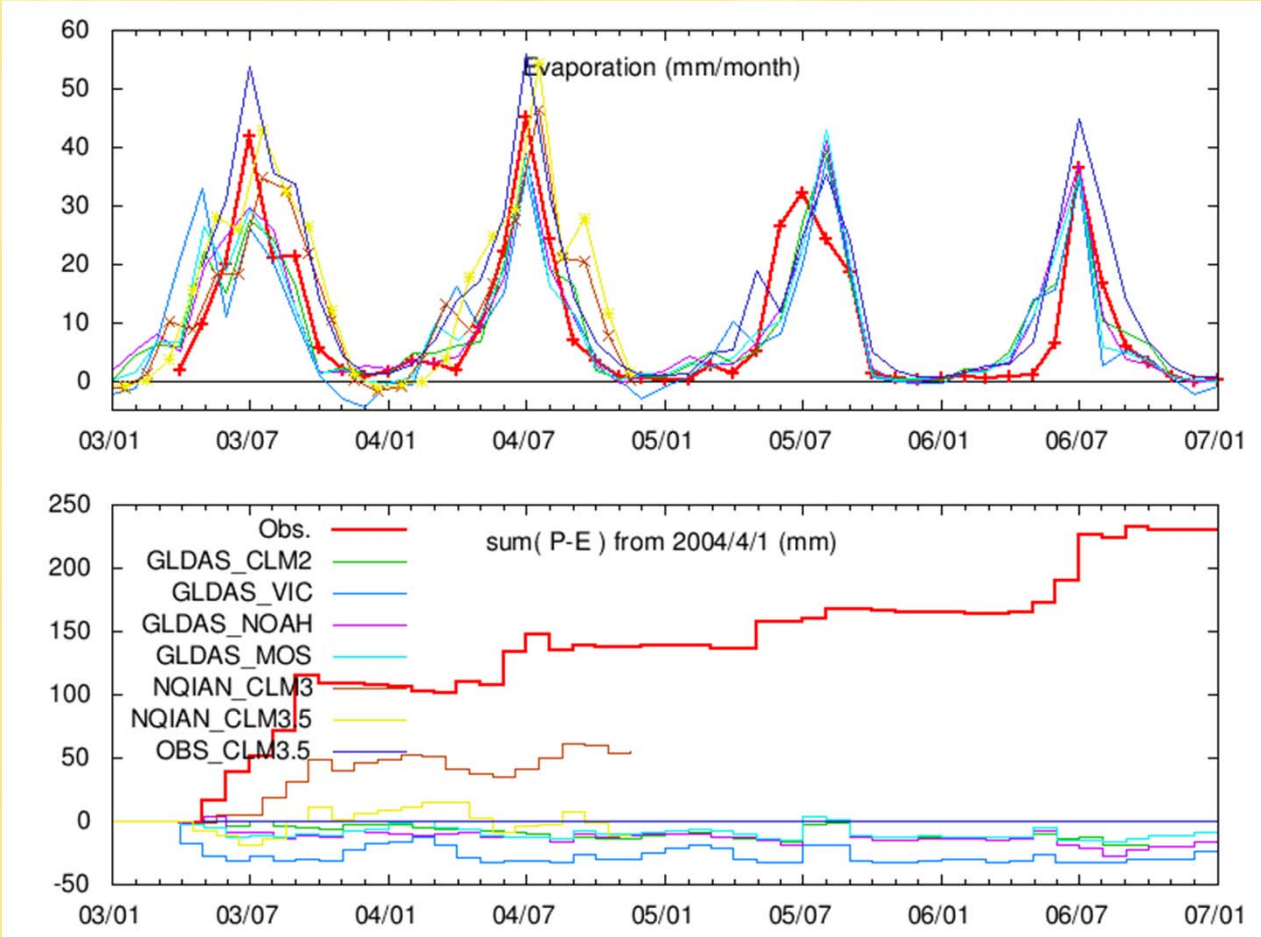
correlation between GSWP2(multi-model analysis) and GSMDB(obs.) (monthly means)

figures made by Dr. Yorozu at Kyoto Univ.
in reference to Guo, and Dirmeyer (2002) JGR, Vol.111, D22S02

Model performance at the region ex2) recent models & data sets

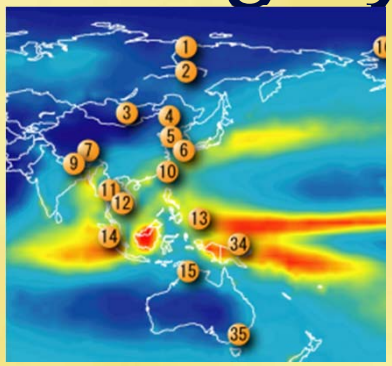
- GLDAS (Global Land Data Assimilation System), NASA
  - Synthesized atmospheric forcing data:
    - merge of surface & satellite observation and reanalysis
  - land use/cover & vegetation: satellite-based
  - models: NOAH, CLM2, MOSAIC, VIC
- reanalysis-driven NCAR-CLM3.0 & 3.5
  - Atmospheric forcing data:
    - Qian et al.(2006): reanalysis corrected with ground obs.
  - land use/cover & vegetation: satellite-based
- compared with observation at Mongolian grassland (monthly)

- Model-to-model variation is large even with the same forcing data
- Surface hydrological budget is not well reproduced.

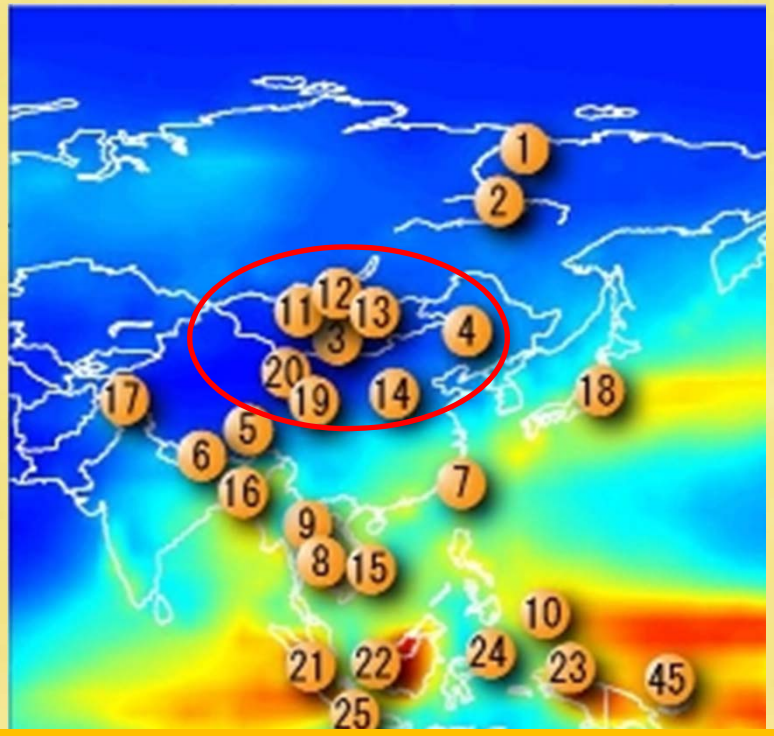


In the last decade, observation networks have grown largely ...

Fluxnet observation sites, Mar. 2010



phase1



GEWEX-CEOP phase 2 reference sites (2007-)

Observation network is being built

- Now is the time for advanced analyses!
- Such as model intercomparison of land surface modeling.
- Yes we can.

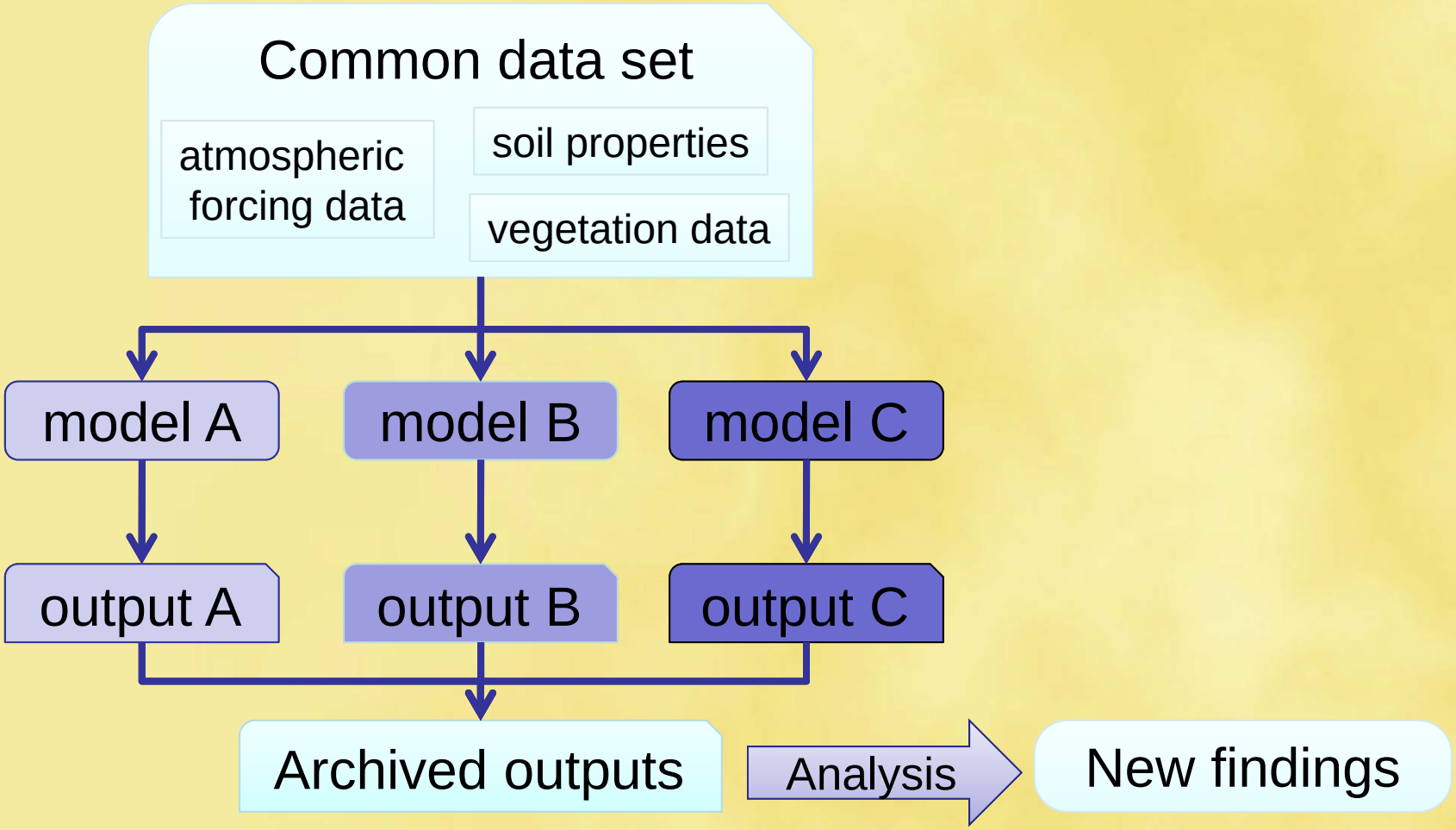
ABOUT ADMIP

Overall Goals of ADMIP (draft)

- Evaluating & improving land surface models (energy and water) & terrestrial ecosystem model (carbon) through offline model intercomparison using data obtained at Asian dryland
  - but not to improve a model/models specific to Asian dryland
- Better reproduction/prediction of landsurface state at Asian dryland using improved models
- and capacity building for them.

back to this later in the discussion session of this late afternoon

What is model Intercomparison?



ADMIP – current framework

- Research framework
  - under MAHASRI, MAIRS-dryland & CEOP-dryland

- Supporting funds (currently)
  - APN (Asia Pacific Network for Global Change Research)

  - ESSP-MAIRS

  - MEXT-JSPS, Japan

ADMIP – possible long term plans

- phase 1 (being started)
  - PILPS2-type intercomparison
  - off line & observation-based drivers and inputs
  - on a point/points basis
  - 2-3 years

- phase 2 (in the future)
  - GSWP-type ensemble & regional analysis.
  - synthesized drivers and inputs
  - regional analysis
  - 2-3 years

SCOPE OF THE MEETING

This meeting is

- to identify
  - project objectives to achieve
  - tasks to be done to achieve the project objectives
  - data (observation sites) to be used in the intercomparison
  - the time line and mile stones to be followed
  - data policies and format to be followed.
- and hopefully
  - draft of project protocols will be presented at the

Agenda – day 1

11 July, 2010 (Sunday)		
DAY 1- morning		
9:00 -	9:05	Welcome address by M. Manton, vice chair of MAIRS SSC
9:05 -	9:20	**Jun Asanuma: Scope of the meeting**
9:20 -	10:00	**Dennis OJIMA: Regional land-atmosphere considerations of arid and semi-arid land systems of Monsoon Asia**
10:00 -	10:40	**Jason EVANS: Land surface model evaluation & suggestions for ADMIP**
		Lessons learned from past model intercomparisons (Chair: D. Ojima)
10:55 -	11:25	**Willliam PARTON: Results from the PILPS and other model comparison efforts**
11:25 -	11:55	**Zongliang YANG: Ensemble-based Methods to Intercompare Land Surface Models**
11:55 -	12:25	**Akihiko ITOH: Intercomparison of terrestrial ecosystem models for clarifying uncertainties in carbon cycle**
12:25 -	12:55	**YANG Kun:**
12:55 -	13:15	**Masayuki KONDO: Lessons learned from Japan-MIP**
DAY 1- afternoon		
		Current Issues in Asian Dryland and its Modeling Perspective (Chair: J. Evans)
14:40 -	15:00	**Moshin IQBAL**
15:00 -	15:20	**Purevjav GOMBOLUUDEV**
		Participating models & Past Intercomparison 1 (Chair: J. Evans)
15:20 -	15:40	**~~Guo-Yue NIU~~ Zongliang YANG: The Noah Land Surface Model with Multi-Physics Options**
15:40 -	15:55	**Kazuaki YOROZU**
15:55 -	16:15	**Jun WEN**
16:30 -	17:30	**Discussion 1: Key processes and questions to be answered (Chair: J. Asanuma)**

Agenda – day2

12 July, 2010 (Monday)			
DAY 2- morning			
			Participating models & Past Intercomparison 2 (Chair: Zongliang YANG)
9:00	-	9:20	**Kazuo MABUCHI**
9:20	-	9:40	**Xia ZHANG**
9:40	-	10:00	**Kaoru TACHIIRI: SEIB-DGVM (Spatially Explicit Individual-Based Dynamic Global Vegetation Model): A model description**
10:00		10:20	**Hisashi SATO:**
10:20	-	10:40	**Jia YANG: Dynamic Land Ecosystem Model (DLEM) -- Data-model intercomparison at LBA and NACP Sites**
			Introduction to target site candidates (Chair: K. Mabuchi)
11:00	-	11:30	**Renjian ZHANG: Tongyu Station**
11:30	-	12:00	**Jun ASANUMA: Kherlen Bayan Ulaan Station**
DAY 2- afternoon			
13:30	-	15:30	**Discussion 2: Target sites & data, and project protocol (Chair: J. Asanuma)**
			1) target sites, 2) time lines and mile stones, 3) data policies & formats, 4) data center, etc

Structure of this meeting

- 1st day
  - 2 key note presentations by Profs Ojima and Evans
  - 5 presentations on past model intercomparisons
  - 2 presentations from dryland countries
  - 3 presentations on introduction to model or/and model intercomparison
  - Discussion on the core of ADMIP
- 2nd day
  - 5 presentation continues to the previous day.
  - Introduction to the 2 observation sites which could provide data for this project
  - Discussion

Before we start ....