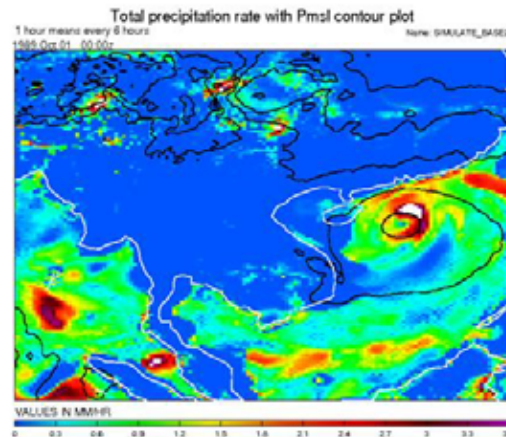




## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin



Suppakorn Chinvanno

Southeast Asia START Regional Center



## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

- Strengthening and Networking of Regional Capacity - Why and how?
- Some examples of work on climate modelling in the region
- Other issues of concern
- Way forward

## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

### **Issue:** Needs for regional capacity and network on climate modelling

- Need for localized – high resolution climate scenarios, requires local expertise
- A lot of works, but limited resources/expertise
- Resource and time consuming task – joint effort in parallel work increase efficiency in resource utilization
- Overlapping coverage – avoid unnecessary redundancy
- Limited access to tool and data – need to share and exchange
- Verification and post process – need good observed data from the region

## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

### **Issue:** Effort in the region and established network

- SEA START RC
- Thailand Research Fund
- Meteorological Research Institute (Japan)

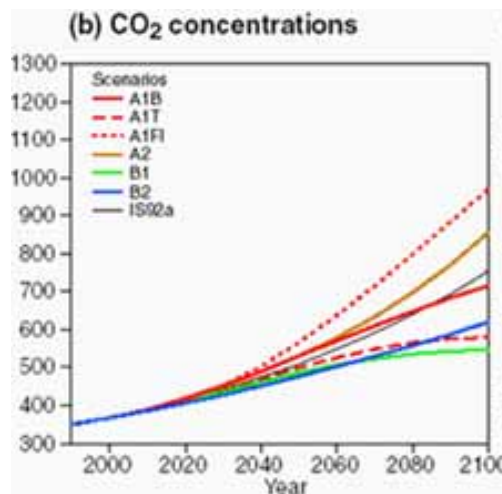
## **Example of climate modeling work in Lower Mekong River countries**

- SEA START RC (Thailand)
- JGSEE (Thailand)
- Chiang Mai University (Thailand)
- Ramkhamhaeng University (Thailand)
- Thai Met. Dept. (Thailand)
- IMHEN (Vietnam)
- Etc.

## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

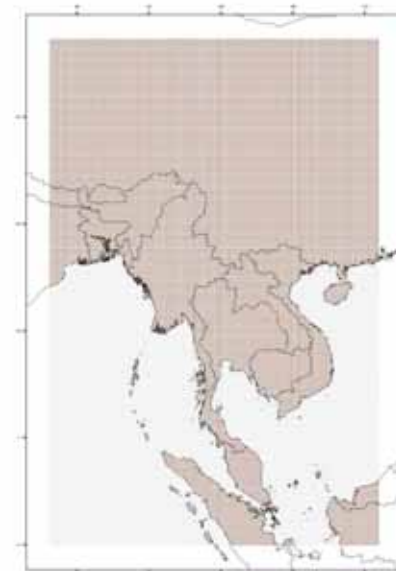
By Mr. Suppakorn Chinvano, et al – SEA START RC

- Dynamic downscaling using ECHAM4 GCM A2 and B2
- Global resolution:  $\sim 2.8^\circ$
- Regional resolution:  $.22^\circ$  and rescale to 20x20km
- Temporal resolution: Daily
- Timeframe - Baseline 1970-1999 / Future 2010-2100
- Coverage
  - Lat.  $0-35^\circ\text{N}$
  - Lon.  $90^\circ-112^\circ\text{E}$



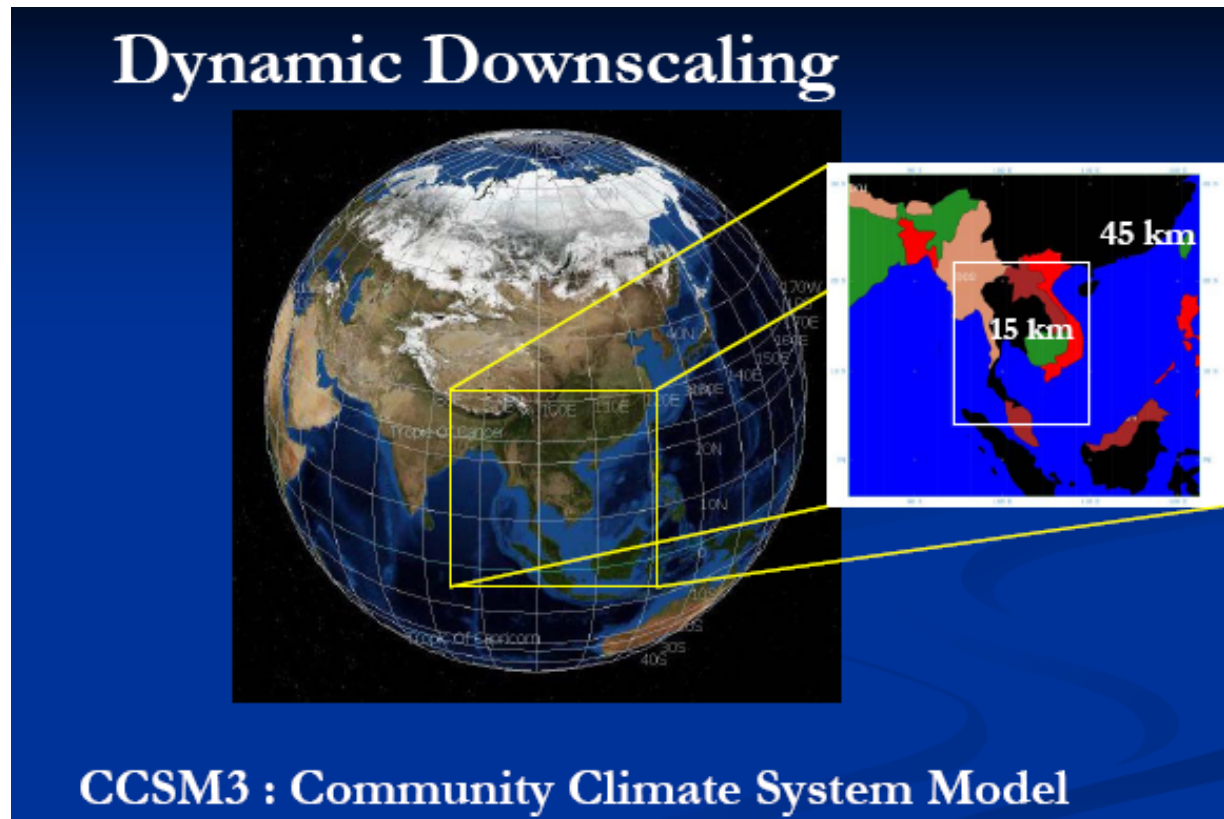
A2

B2



## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

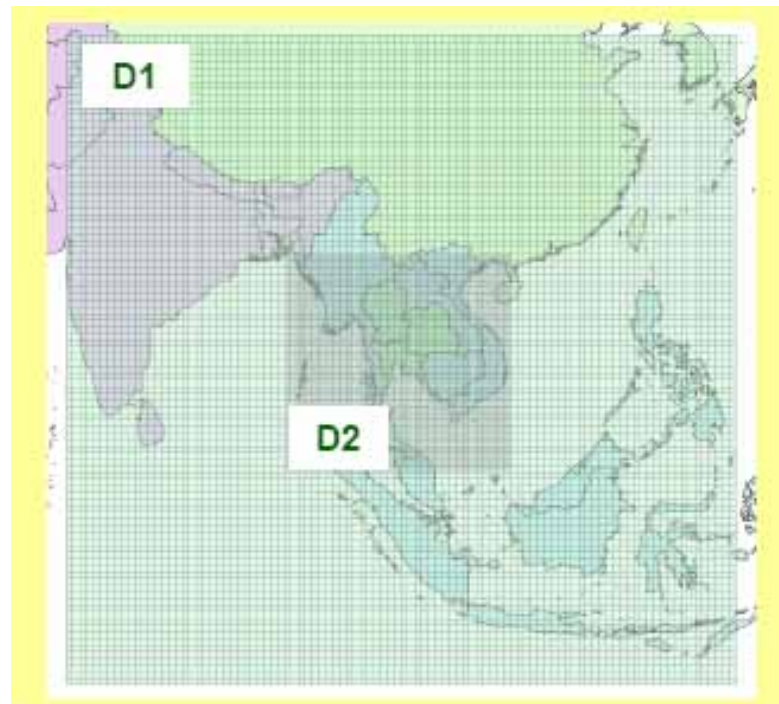
By Dr.Jiamjai Kreasuwan et al – Chiangmai University



Dynamic downscaling using MM5 and CCSM3 A2 & A1B – 2010-2039

## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

By Dr.Kasemsan Manomaiphibul et al – JGSEE



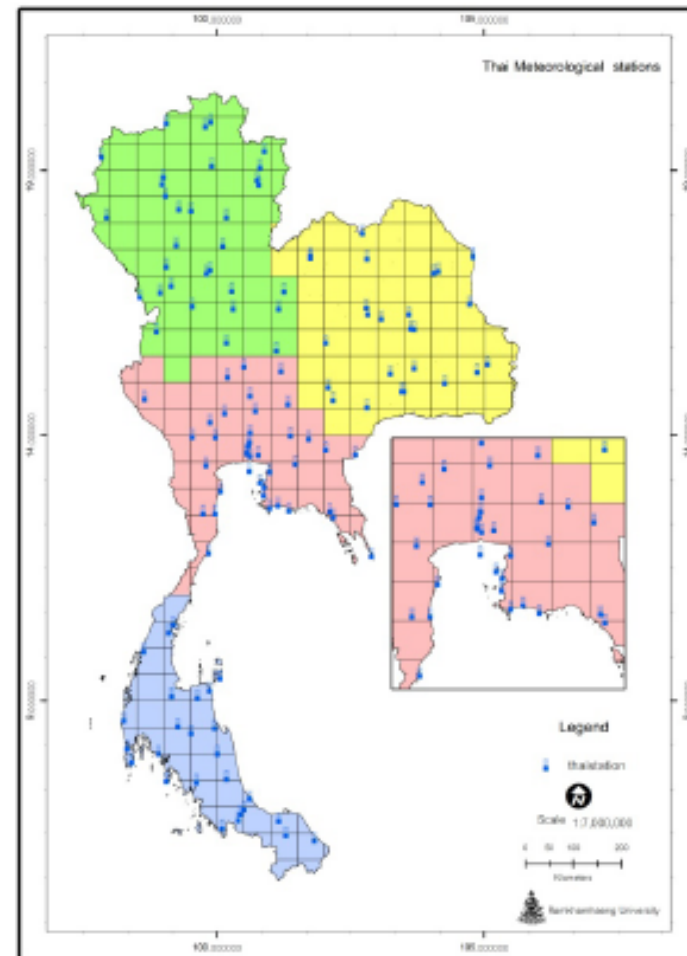
Dynamic downscaling (60km and 20km)  
using RegCM3 RCM and ECHAM5 GCM – 2030-2070



## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

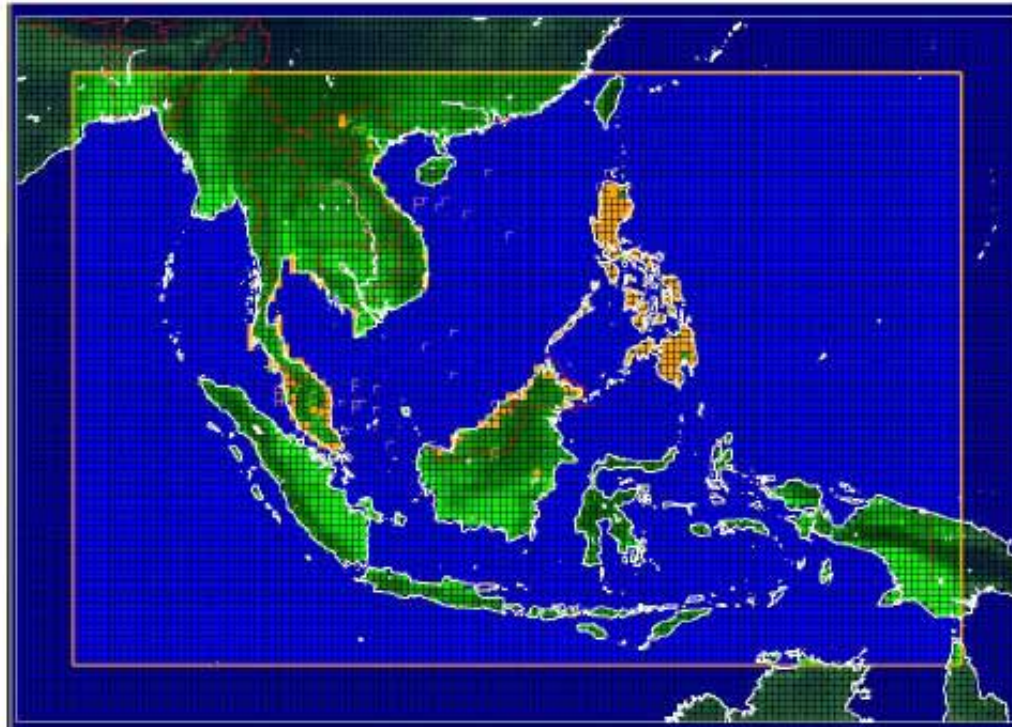
By Dr.Kansri Boonprakob et al – Ramkumhaeng University

Statistical downscaling  
(50km) using GDFL-R30 GCM  
A2 & B2 – 2010-2039



## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

By Mr.Boonlert et al – Thai Meteorological Department



Dynamic downscaling (50km) using PRECIS RCM and ECHAM4 A2  
– 1960-2100

## **Other issues in strengthening capacity on climate modelling**

### Users of climate scenarios data

- Proper understanding on climate scenarios
- Use of multiple climate scenarios for risk assessment
- Interpretation of key climate change concerns in local context
- Access to data – data distribution

# Select and export climate data

The screenshot shows a web browser window titled "START Climate Data Distribution System - Mozilla Firefox" with the URL "http://3dserver.odg.co.th/start/". The main content is a 3D map of the Lower Mekong River Basin, with a red-shaded area indicating the selected region. A toolbar at the top left includes icons for "Climate Data Exporter" (Powered by ArcGIS Server), "Current Action: Export Data", and a help icon. An "Export Data" dialog box is open on the right, featuring a green checkmark icon and the following settings:

Parameters:	Maximum Temperature
GCM:	ECHAM4
GHG Scenario:	A2
Year (1960-2100):	1,960
Email Addresses:	Tanawat

Below the dialog box, a button labeled "Draw & Export Data" is visible. A text overlay on the right side of the map reads: "Maximum Temperature", "GCM: ECHAM4", "GHG Scenario: A2", and "Year: 1960". At the bottom of the browser window, a green banner contains the text "Climate Data Distribution System".

## Strengthening and Networking of Regional Capacity and Experiences on Climate Modelling for the Lower Mekong River Basin

### Way forward:

- Inter-model comparison
- Networking for verification and post-process
- Expanding network – partner with research centers in developed countries
- Interpretation of key climate change concerns in various hotspot throughout the region
- Raise awareness among the potential users for risk assessment
- Continuity in further development and seek for improved new generation model for the region
- Seek for other tools and method to project future climate change



# Thank You



<http://www.start.or.th>

<http://www.sea-climatechange.org>