



# **Dynamical Downscaling**

## **Introduction & Application**

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# *Professional Career*


## ● **National Institute of Meteorological Research [2003-2012]**

- Development of double-nested regional climate modeling system over Korea
- A study on the regional climate change for impact assessment on water resource

## ● **International Centre for Theoretical Physics [2007-2010]**

- Development of Sub-BATS System for very high-resolution climate data without tremendous computational cost
- Its application to climate change study over the European Alps

## ● **Singapore-MIT Alliance for Research & Technology [2012~ ]**

- Improvement of regional climate simulation over the Maritime Continent
  - A study of the West African Monsoon using a regional climate model
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# *Lecture Contents*


## **Regional Climate Model**

### **Scientific Basis**

- Overview of climate system and climate modeling
- Downscaling concept
- Regional climate modeling
  - Some basic issues
- Advanced methodology
  - Double-Nested system
  - Sub-BATS system

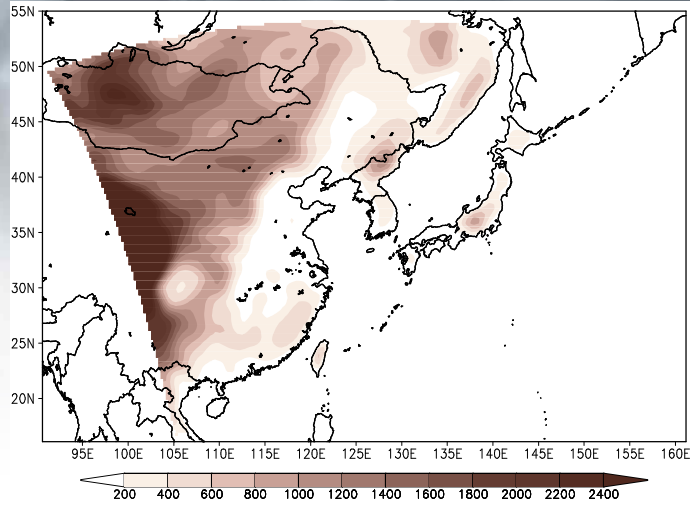


### **Practical Application**

- Regional climate change projection
  - Ensemble short-term forecast (wind power potential)
  - Process studies
    - Irrigation (land-atmosphere interaction)
    - Topographical effect
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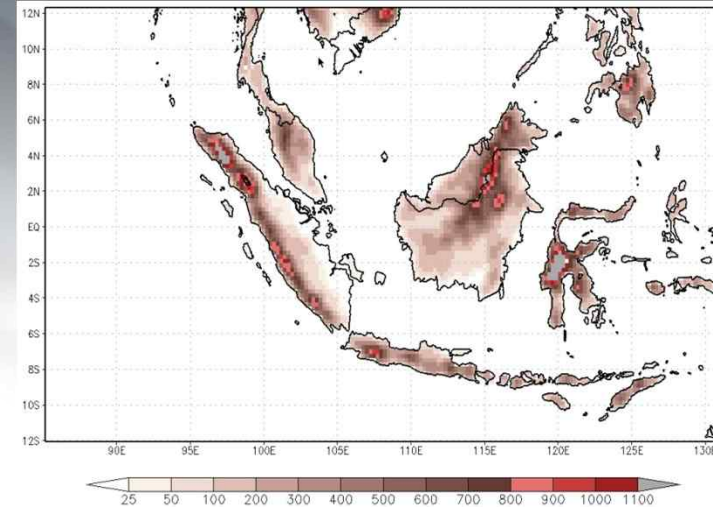


## East Asia

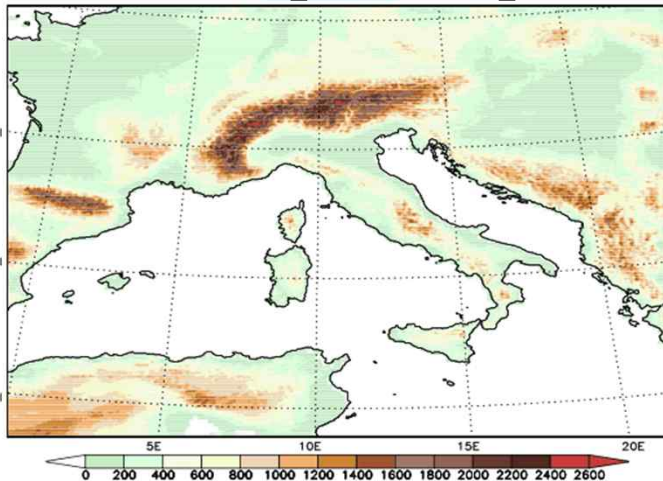


# Target Regions

## Maritime Continent



## European Alps



## West Africa

