

# Capacity building in Bangladesh, Myanmar and Vietnam

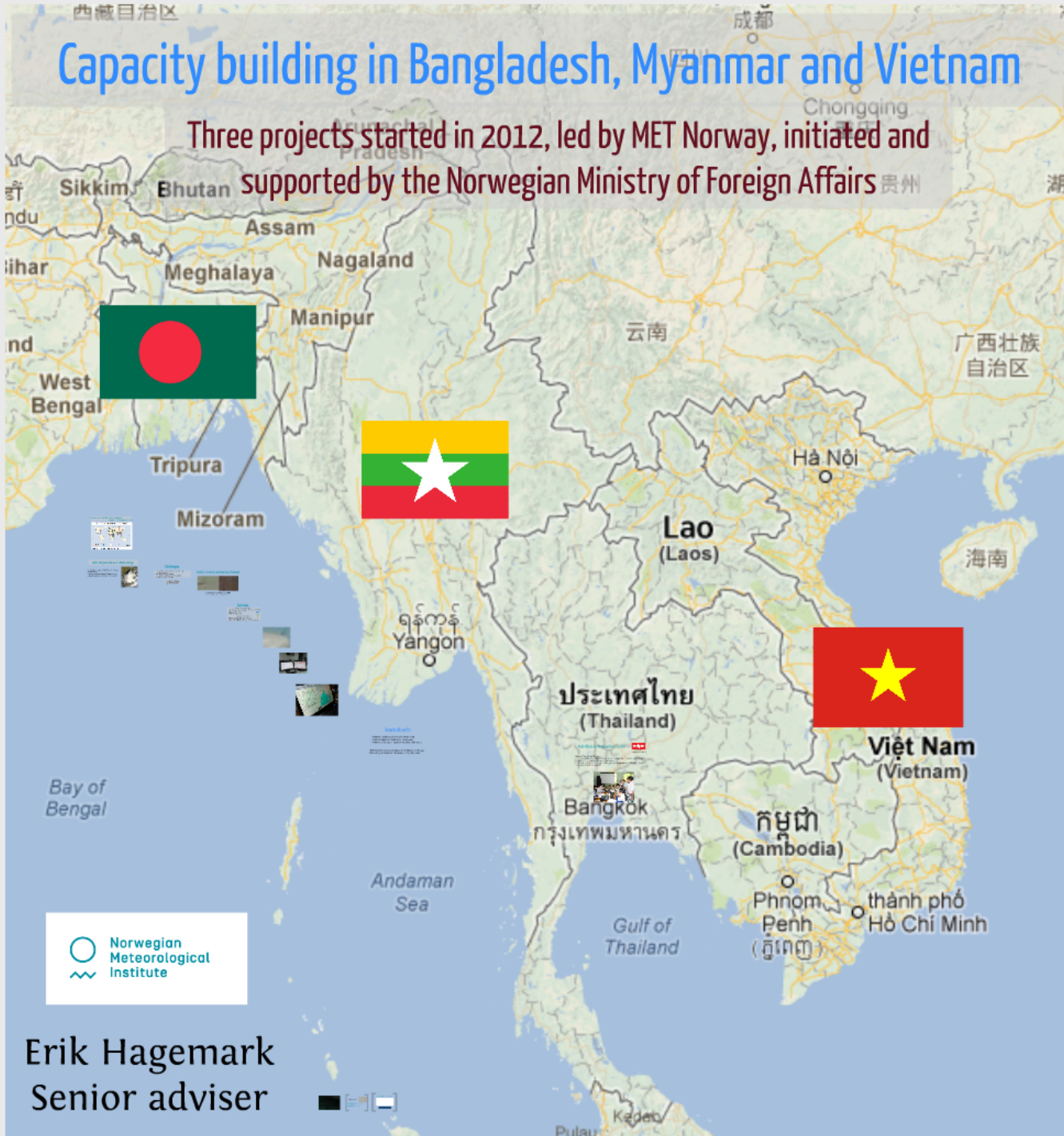
Three projects started in 2012, led by MET Norway, initiated and supported by the Norwegian Ministry of Foreign Affairs

**Norwegian Meteorological Institute**

**Erik Hagemark**  
Senior adviser

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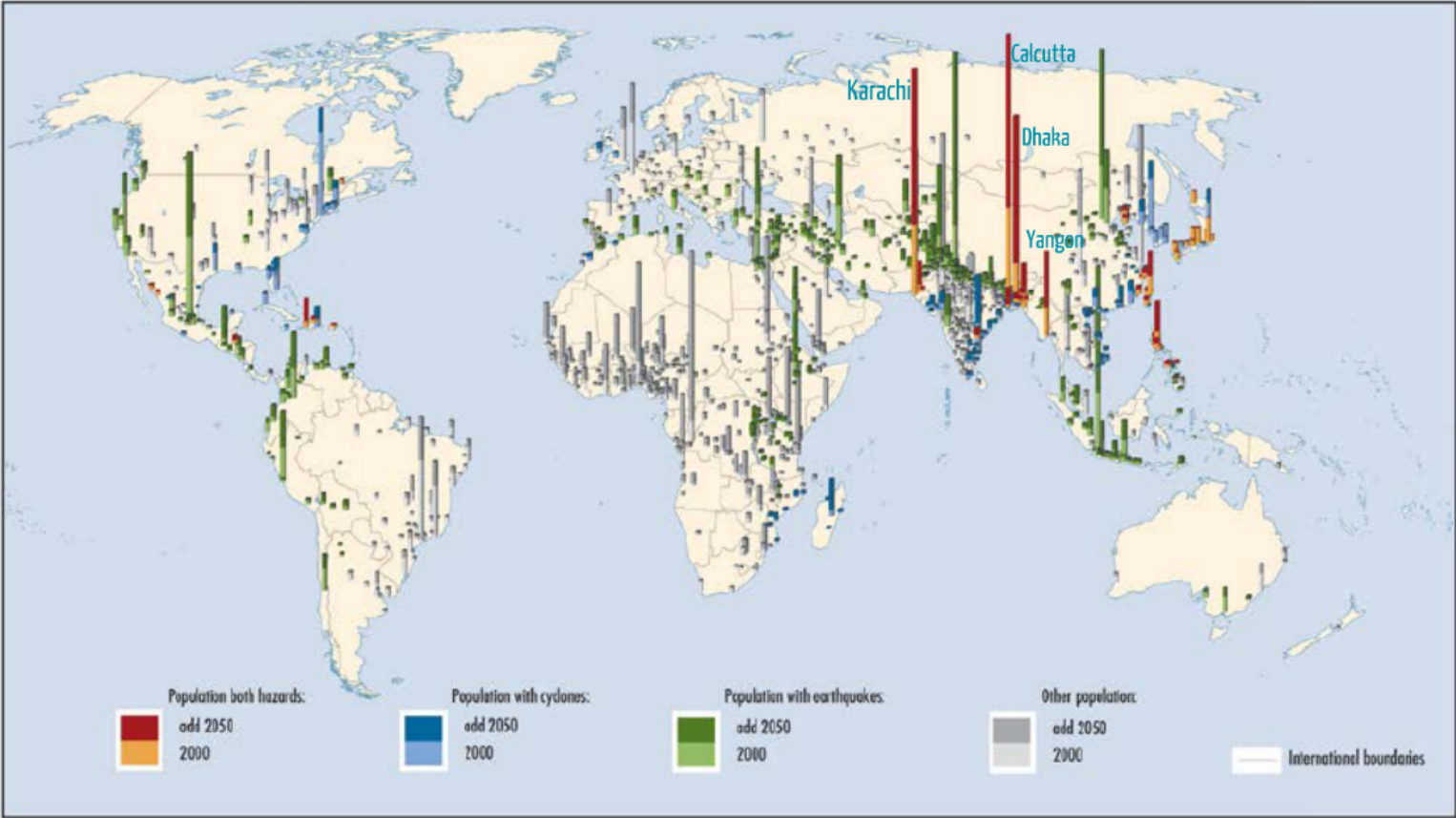


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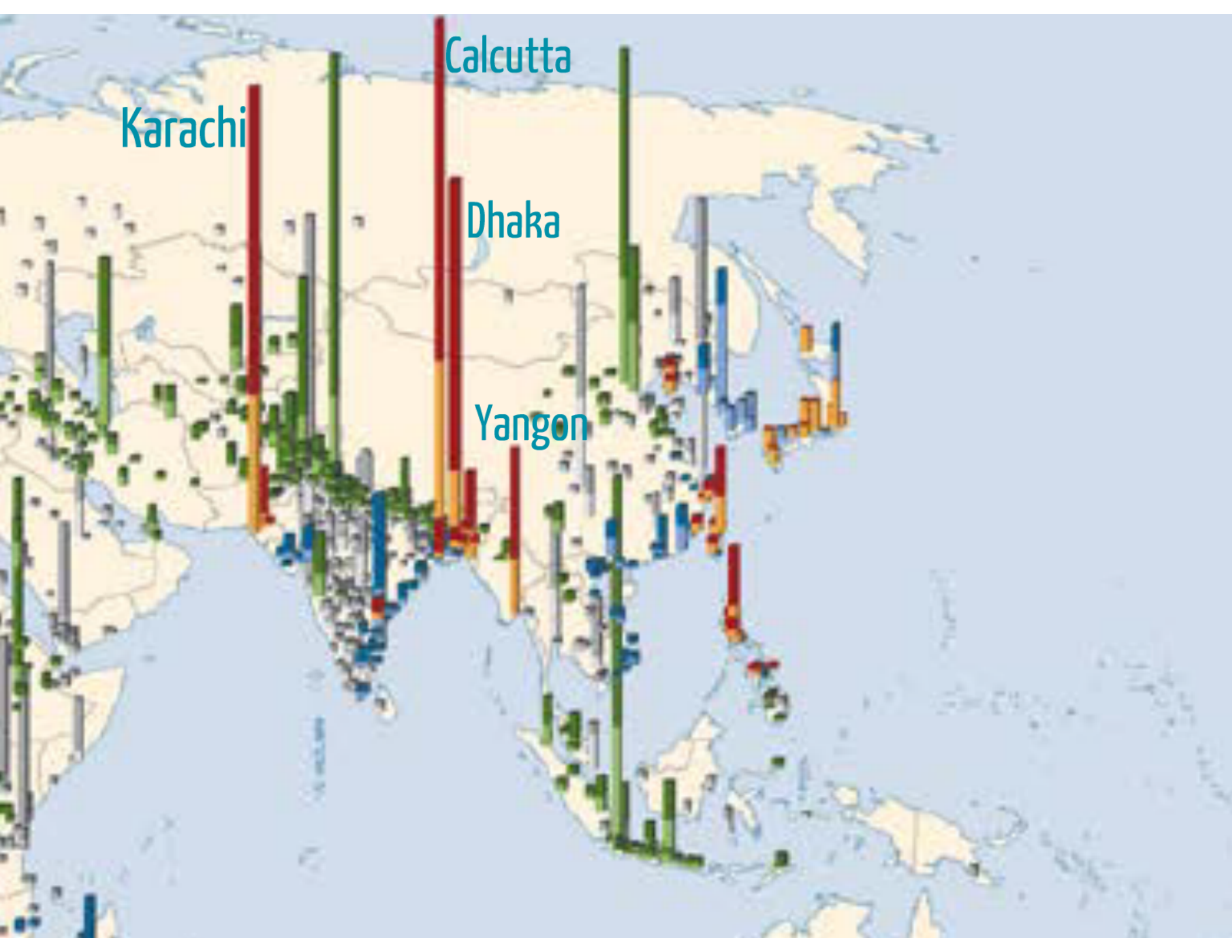


In the future more people will be affected by natural hazards  
- estimated to 1.5 billion people within 2050

Figure 12: Exposure to cyclones and earthquakes in large cities in 2000 and 2050



Note: Map produced by Brian Blankespoor, DECRG; see also World Bank (2010).



Karachi

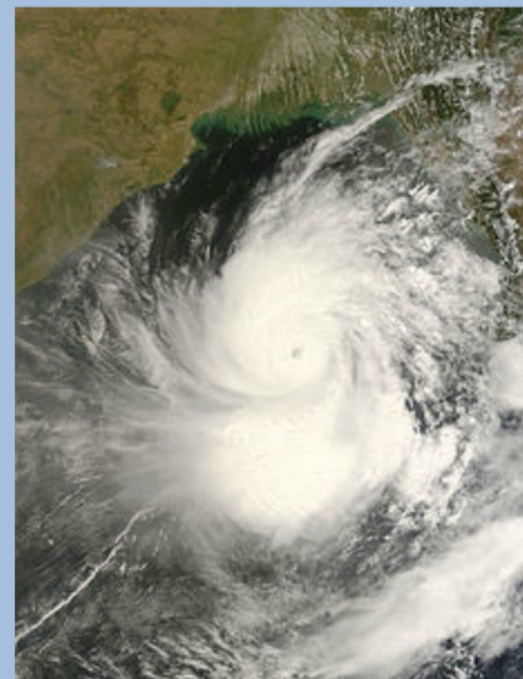
Calcutta

Dhaka

Yangon

# GOAL: mitigate effects of climate change

- Contribute to capacity building and product development
- Focus on **early-warning & climate services**
- Strengthen the social mission of the NMHS



# Challenges

- Little or no integration between obs and forecasting
  - Many data formats
- Black-boxes/commercial software
- No or little technical support (no IT department)
- No systematic forecast verification

- Large distances between us
- Language & culture issues
- Organizational structure

# Building the institution by building the people



Build trust & mutual respect for knowledge  
Listen & understand --> than propose

# Solutions

## Early-warning operational services:

- Implementation and use of a integrated forecasting tool (Diana)
- Build experience in the use of NWP
- Forecast verification
- Ocean modeling (Vietnam)



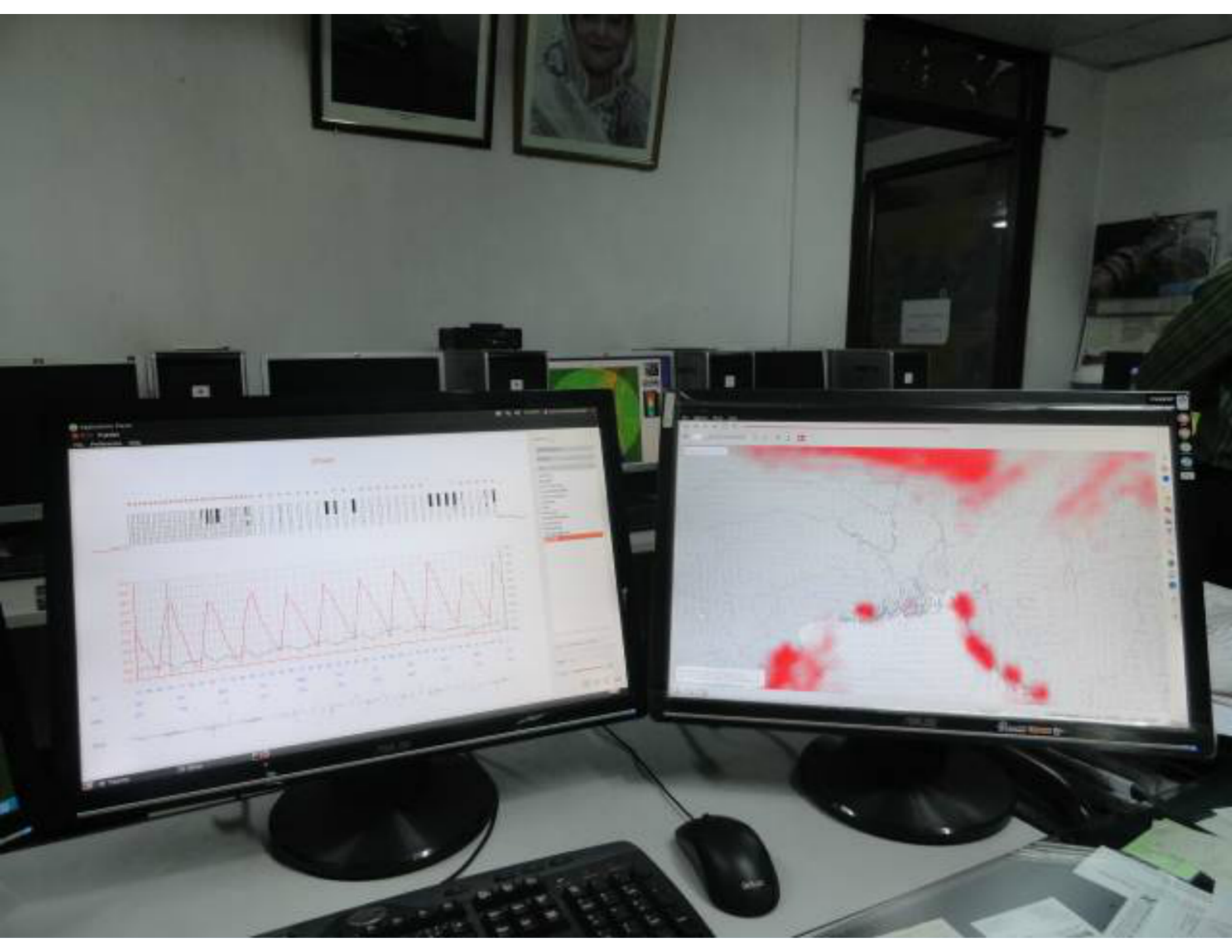
## Climate products and services:

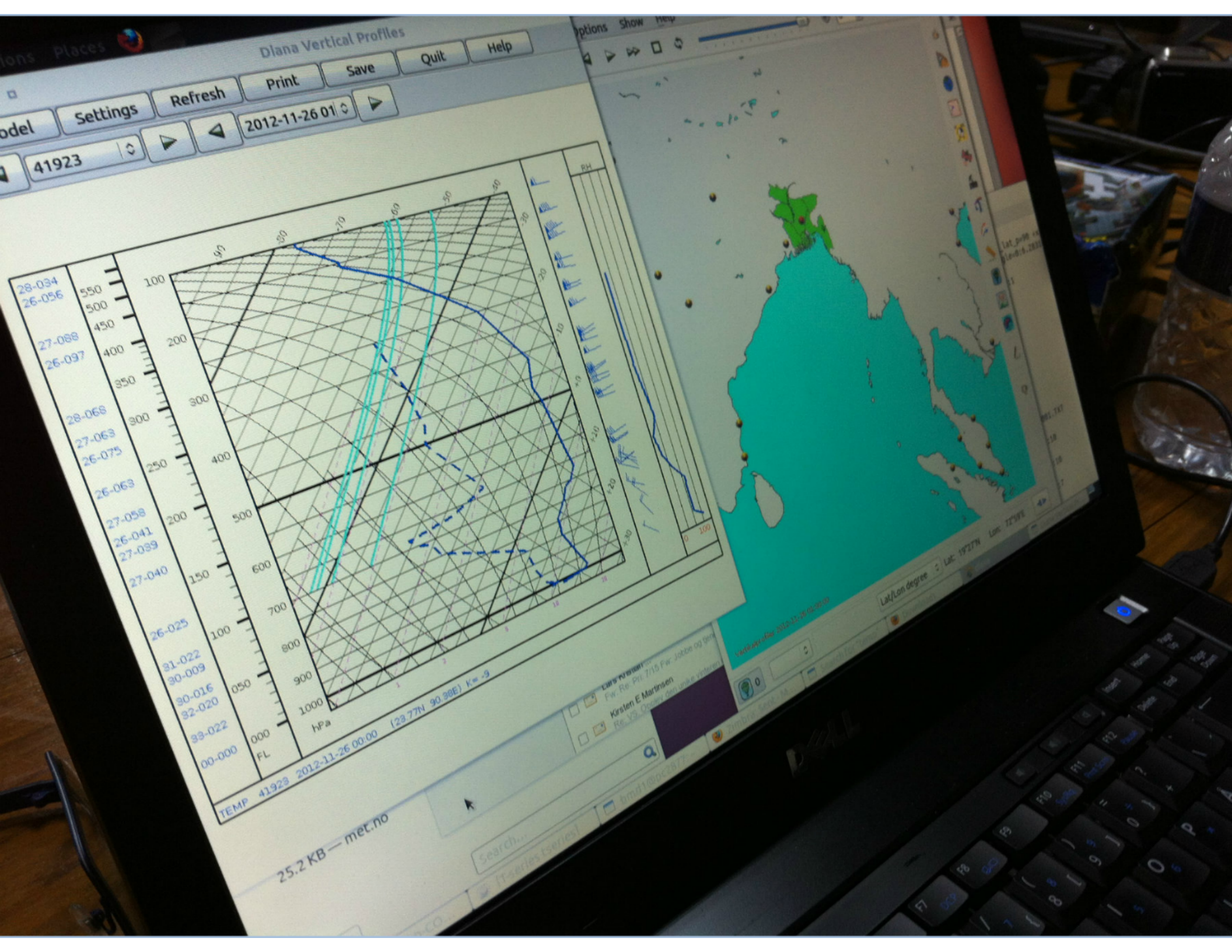
- Digitization and homogenization of climate data
- Climate product generation & R statistical tool
- Assistance in establishing and using a climate database (portal)











Diana Vertical Profiles

Model

Settings

Refresh

Print

Save

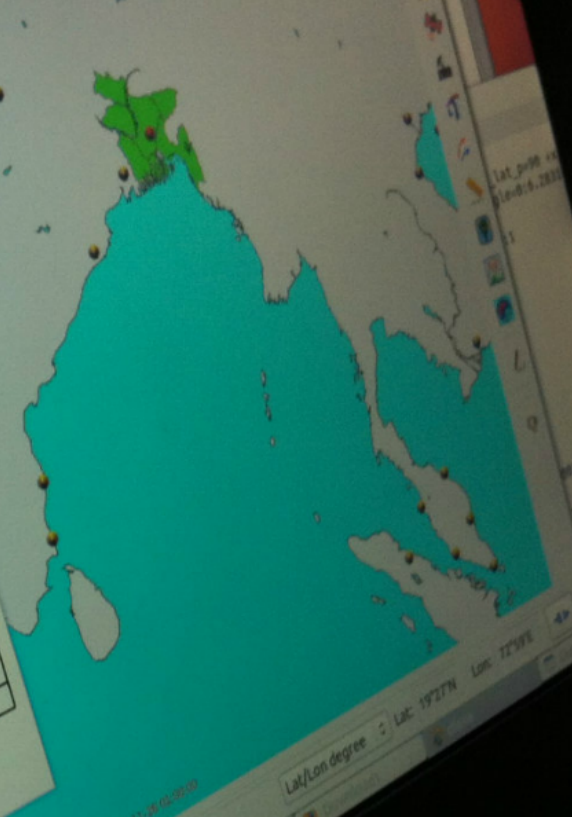
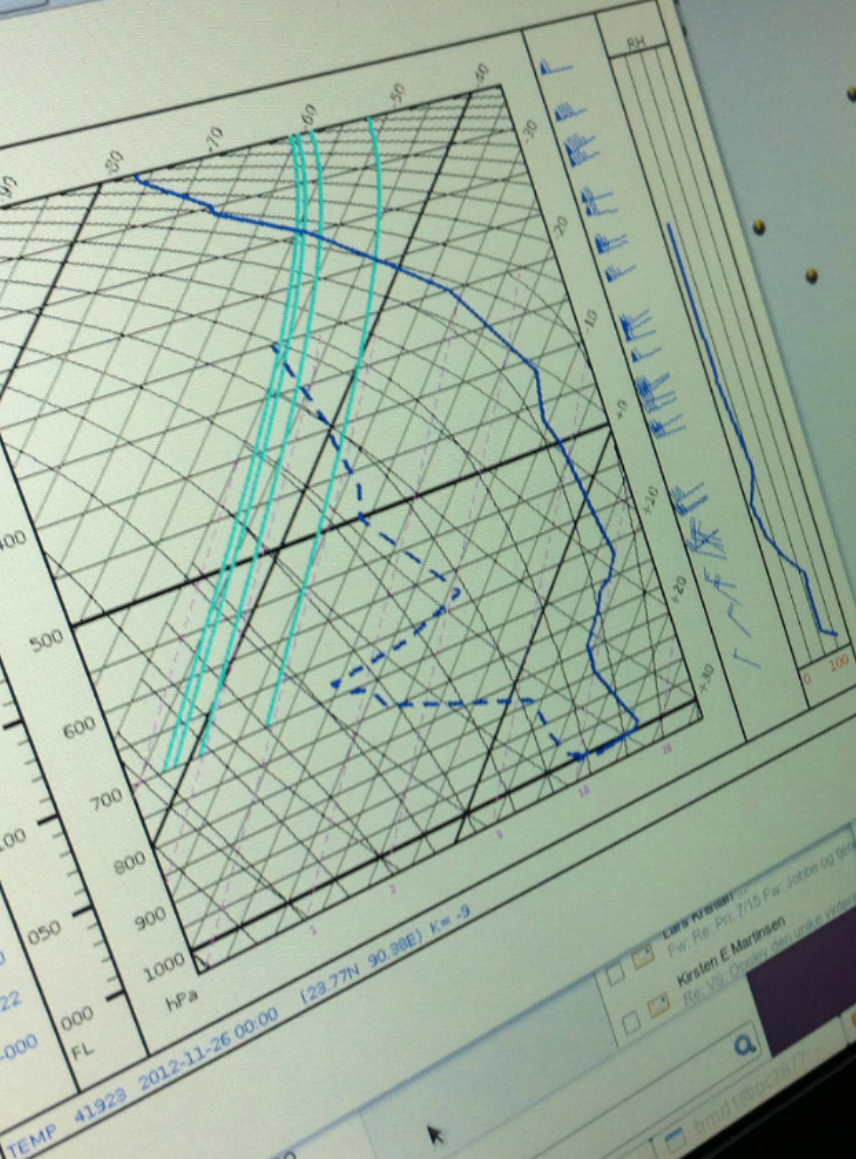
Quit

Help

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- 27-040
- 26-025
- 31-022
- 30-009
- 30-016
- 32-020
- 33-022
- 00-000



25.2 KB - met.no

Search...

Series Series

# Results/Benefits

- Improve weather analysis and monitoring
- Improve decision making for forecasters
- Improve efficiency - spend more time with users

“DMH are able to use and practice in Diana for 10-days forecasting and using in discussion every day now.”

# Asian Disaster Preparedness Center



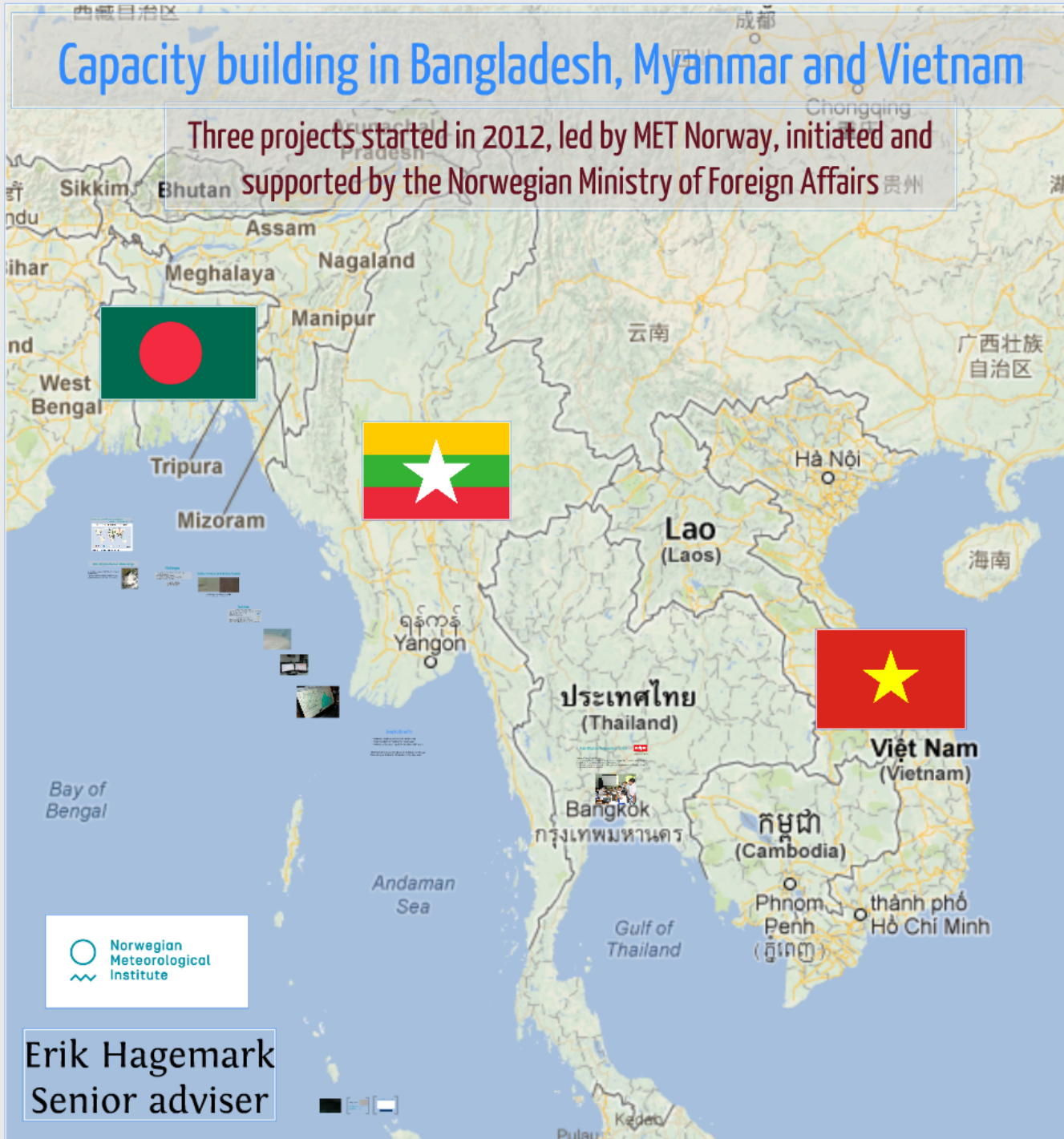
siden 1986  
Bangkok, Thailand

- Support from several donors
- Aim: - strengthen the ability for a country to mitigate the impact of natural hazards
- Provides training and workshops in the region
- Collaborating with the capacity building projects in Myanmar and Vietnam. Plans for collaboration with Bangladesh



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