



# Climate Prediction in Thailand

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# Use of Climate Information and Predictions

**Climate Information is very important. It is applied in many sectors such as government sector, private company, academic institute etc. and used for several purposes for example : education, research activities etc.**

**For climate predictions, they are used mainly for planning and decision making in agriculture and industry areas.**

# Climate Prediction in Thailand

There are 4 kinds of the long range forecasts provided by the TMD,

- monthly weather forecast,
- Seasonal weather forecast,
- four-week weather forecast
- three month forecast.

# Climate prediction techniques used in TMD

## Preterit

statistical method and seasonal prediction products from other climate center such as ECMWF, JMA, APCC etc. including ENSO signal

# Climate prediction techniques used in TMD

## Present

### Statistic downscaling

- downscaled prediction skill using output from a Global Climate Model (GCM) driven with observed SST (CPT Tool from IRI)

### Dynamic downscaling

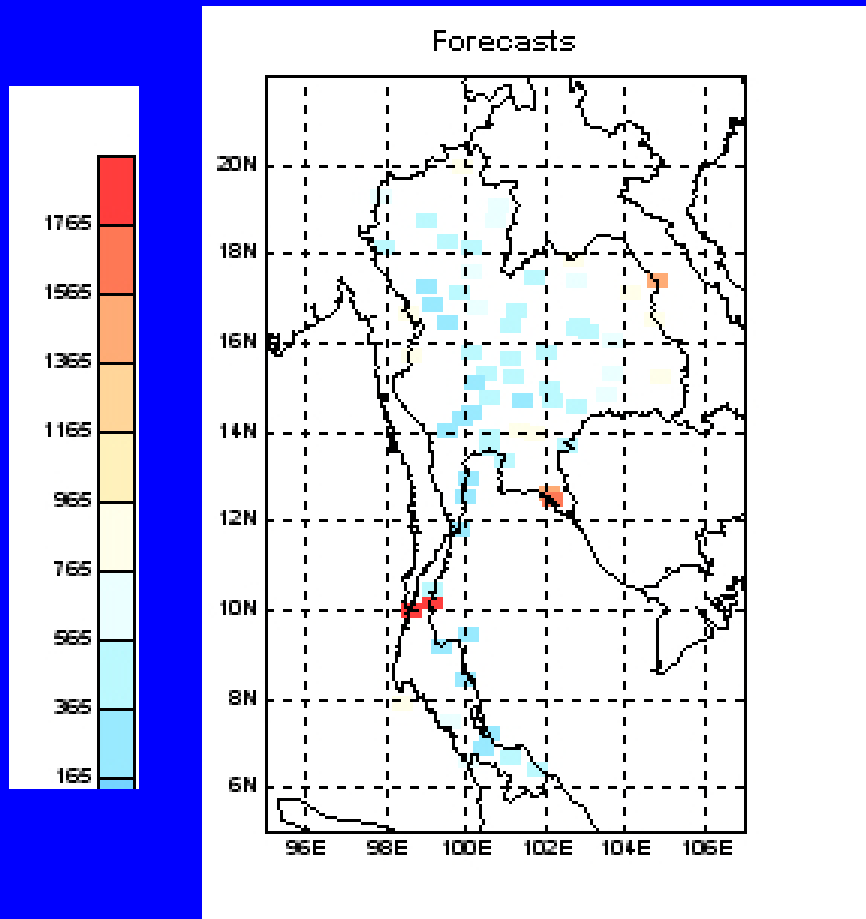
- ECPC Global Spectral Model (G-RSM Model) developed and experimentally applied to regional predictions for 1 month (30 km. )

## Climate Scenarios

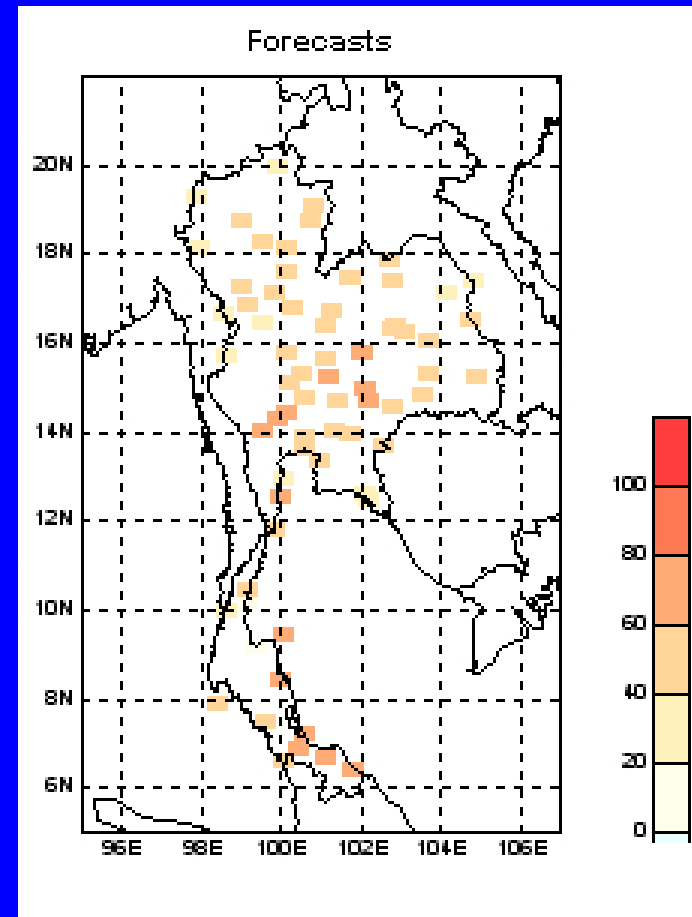
- To generate regional climate scenarios A2 to 2100 (PRECIS , The Hadley Centre's regional climate modelling system)

# Example    Statistic downscaling

Amount of rainfall June-August 2009



Number of dry day June-August 2009

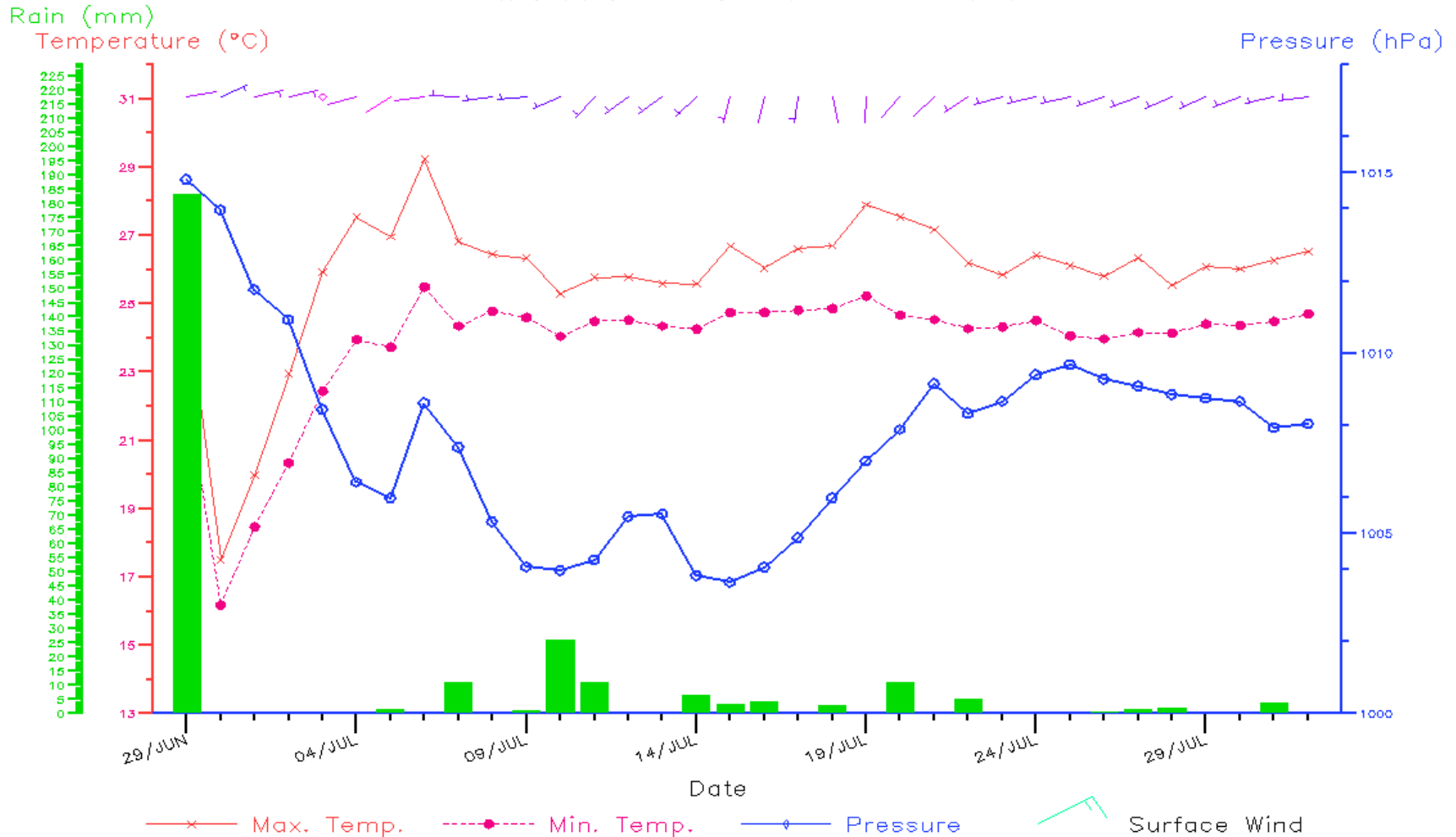


# Example dynamic downscaling (30 km)

G-RSM Forecast Meteogram for MAE SOT (16.66 N,98.55 E)

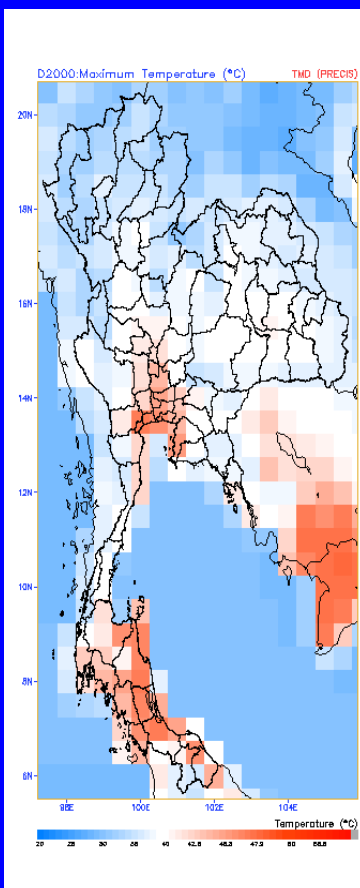
Valid at: 29 JUN 2009 - 01 AUG 2009

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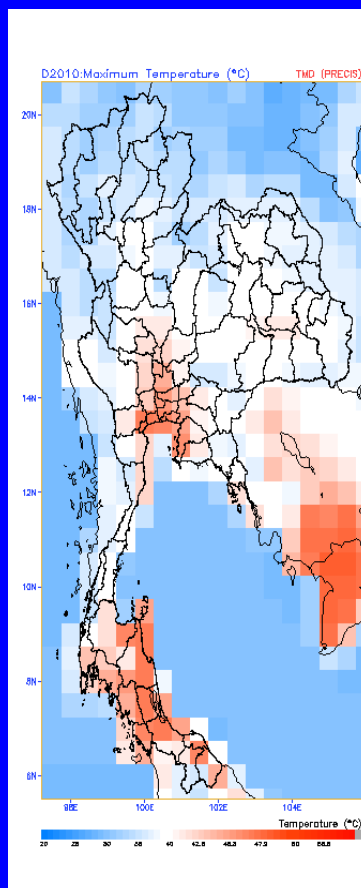


- **Climate Scenarios**

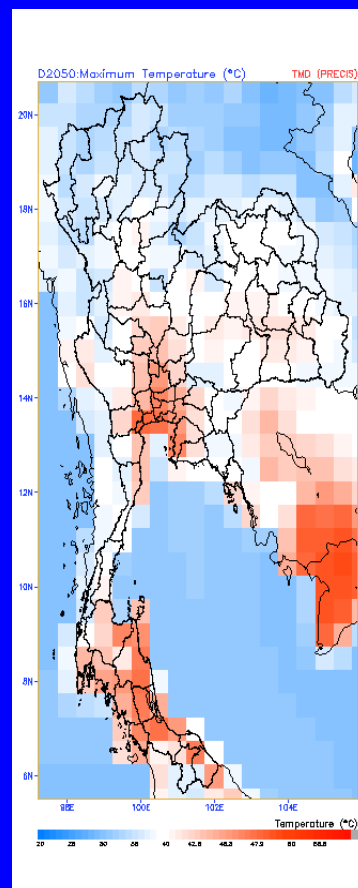
## Max Temperature



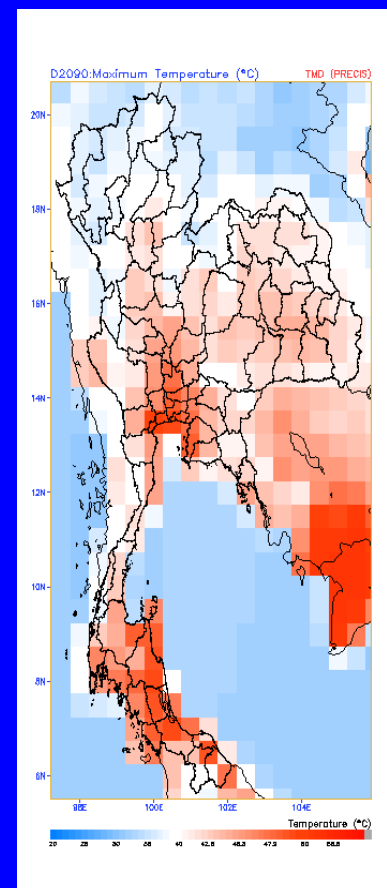
ค.ศ. 2000



ค.ศ. 2010

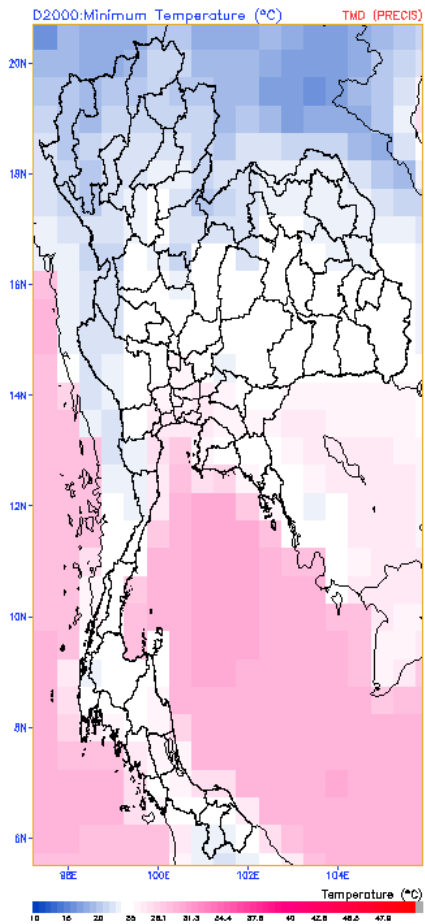


ค.ศ. 2050

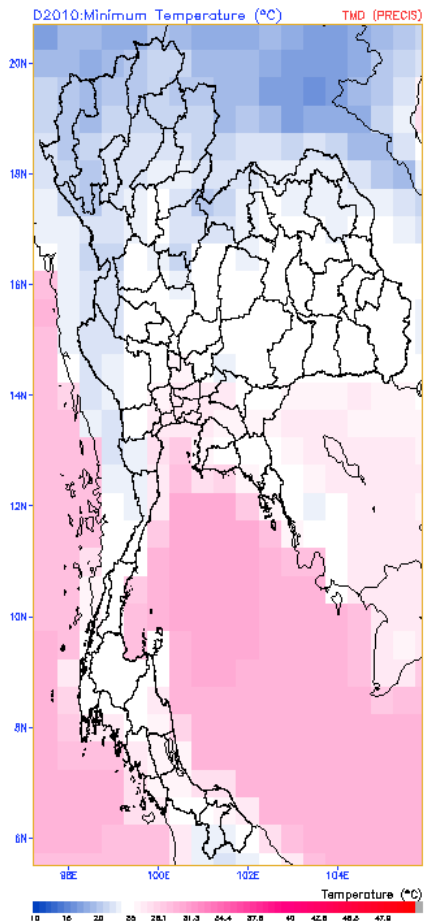


ค.ศ. 2090

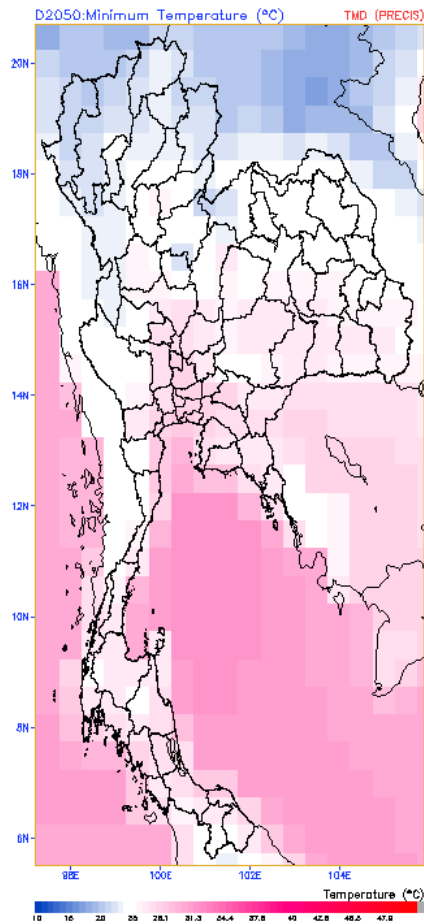
# Min Temperature



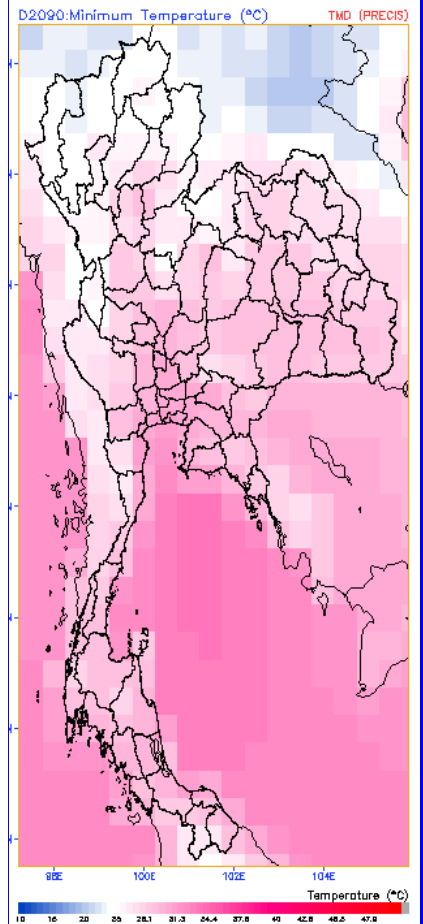
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ค.ศ. 2050

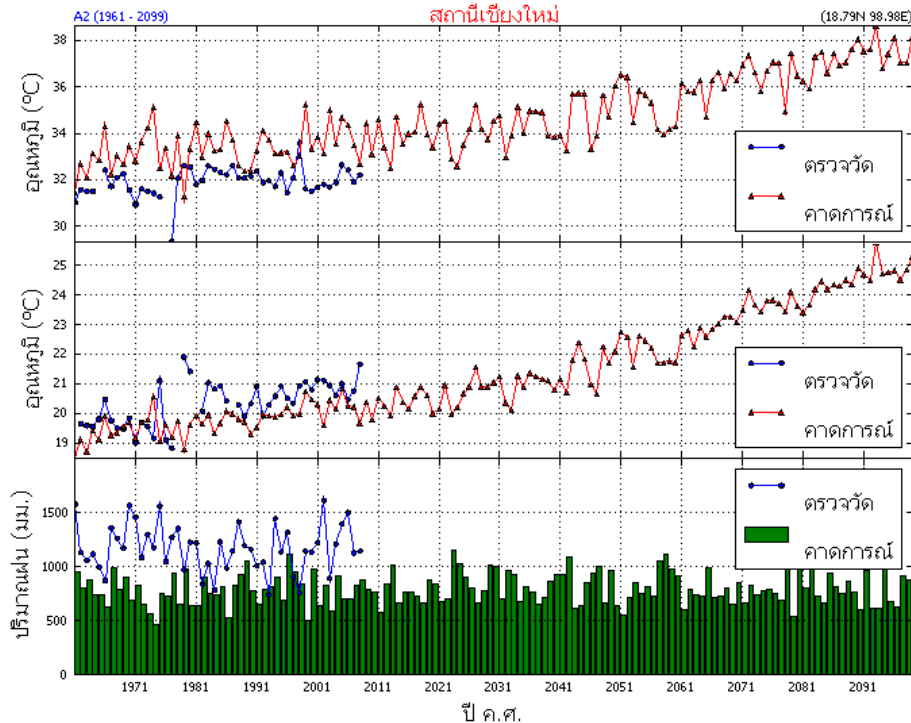


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# Station Scenarios

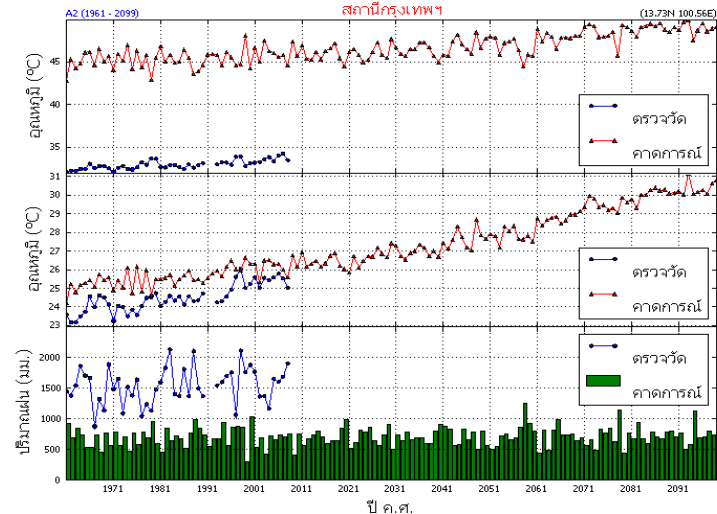
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สถานีเชียงใหม่



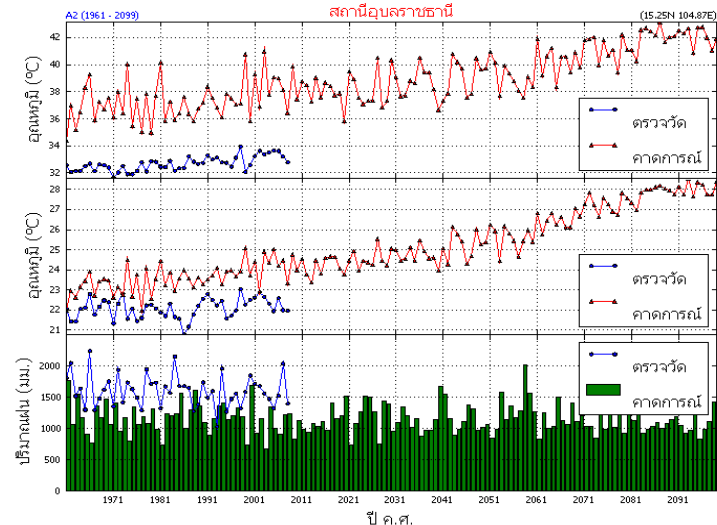
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สถานีกรุงเทพฯ



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สถานีอุบลราชธานี



# Future Plan Climate prediction techniques

- It is planned to improve climate prediction, one month and three months with a coupled ocean – atmosphere model.
- It is planned to use and analyze statistic downscaling techniques from APCC (CLIK)
- **Climate Projection**, we have plan to change other climate scenarios
- It is planned to initiate a collaborative research with universities and research institutes for developing and evaluating climate prediction.



**Thank you for your attention**

**Climatology Academic Group  
Meteorological Development Burue  
The Meteorological Department**

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