

HighNoon Delivery Report

Title	RCM Simulations of the Recent Past
Work Package Number	1
Delivery number	1.2
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Organization	MOHC/MPI
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Date of listed	

RCM Simulations of the recent past

REMO and PRECIS (HadRM3) are used to downscale the ERA-Interim reanalysis to the fine 0.25 grid use in the WATCH/HighNoon programs (Deliverable 1.1). ERA-Interim is a reanalysis product of the past state of the atmosphere and is our best available observationally based data. However, the ERA-Interim dataset is not a fine enough resolution and neither does it provide the necessary variables for this project. It is therefore necessary to dynamical downscale the reanalysis data with an RCM. Furthermore, comparing the re-analysis driven RCM with the re-analysis is a useful tool for understanding the biases in the climate models.

The simulations available cover the period 1989-2007. Data are available from:

<ftp://ftp.wur.nl/WP1%20Boundaryconditions/>

The data (daily and monthly means) are made available in CF compliant NetCDF (please note this is the only format made available – it is a very user-friendly format for large data sets). Although the models are made on the native RCM grids (e.g. Fig 1), the data made available are on the smaller Ganges grid as agreed at the first meeting. The full data (many Terabytes for the full set of simulations planned for this project) will be archived at the respective modelling centres for analysis in WP1.

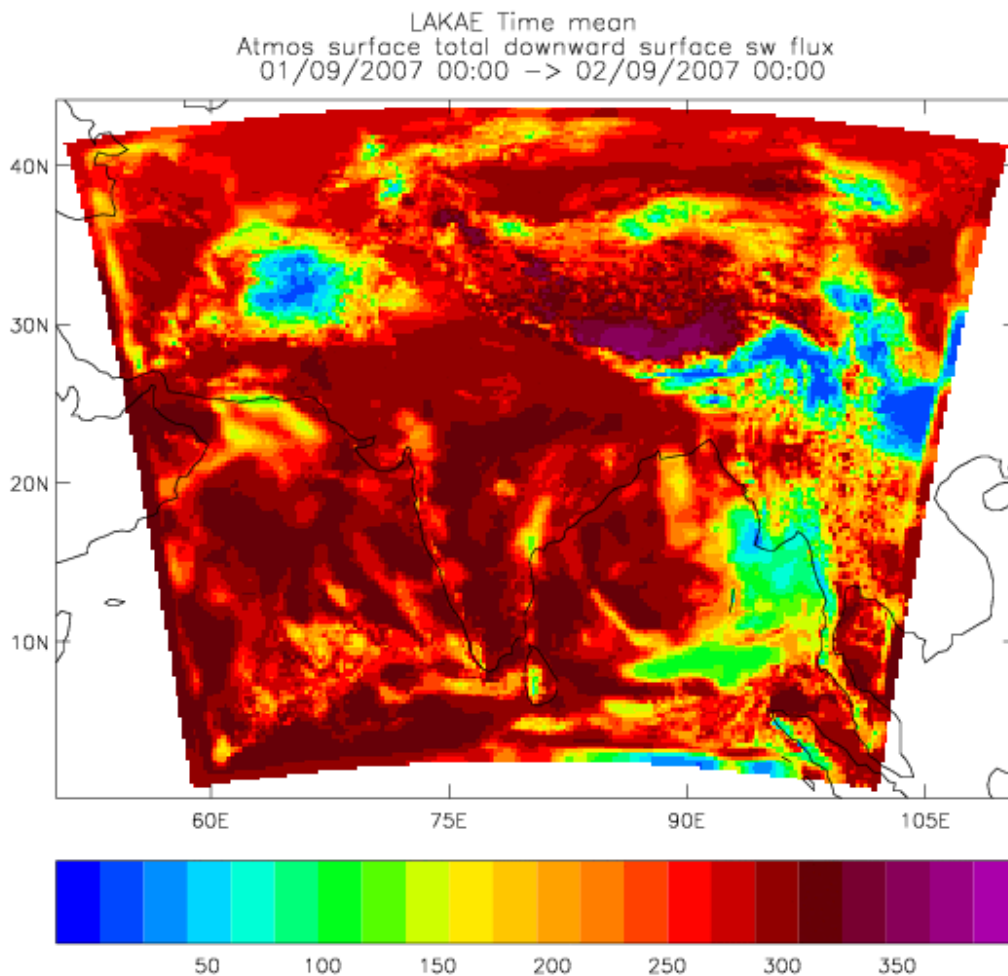


Figure 1: Simulated downwelling short-wave radiation at the surface by PRECIS for September 1st 2007.

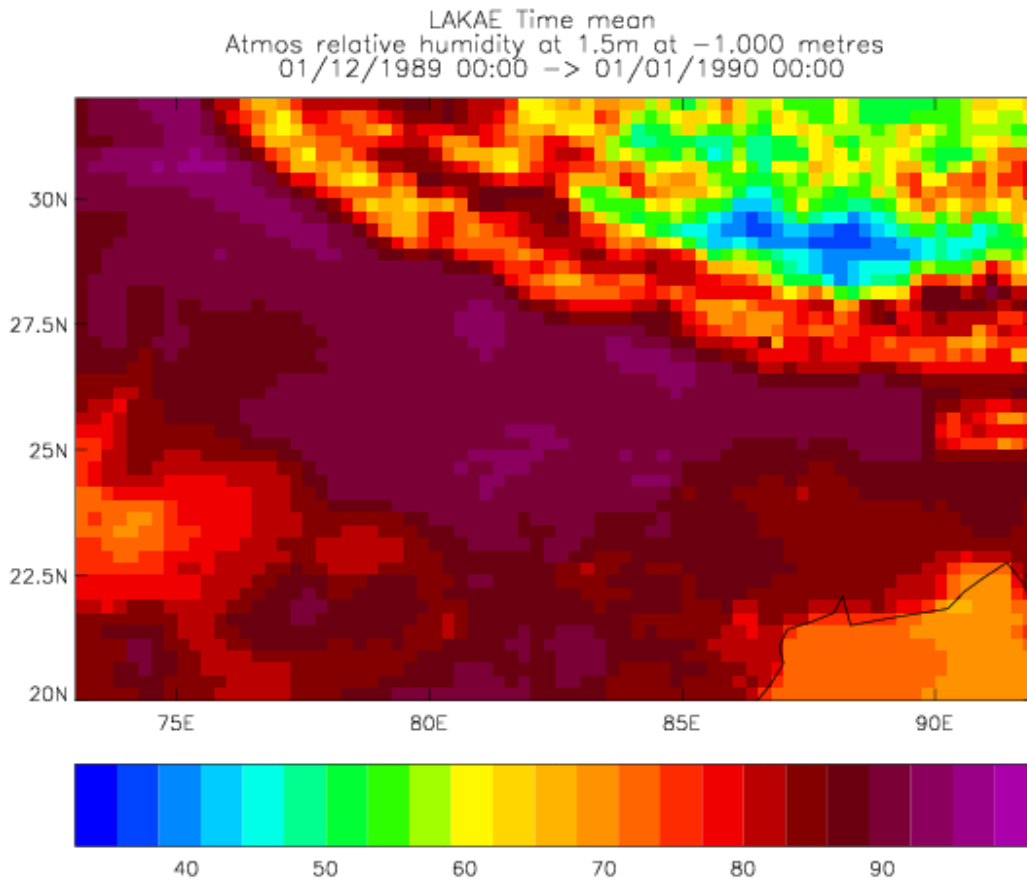


Figure 2: Simulated relative humidity at the near-surface by PRECIS for the Ganges for December 1989.

Available data:

Daily and monthly mean fields of the following are available from the ftp site for the Ganges grid. The Ganges grid is defined as follows:

0.25 degree grid: 76 nx, 48 ny
 Bottom left: 20.125 lat, 73.125 lon
 Top right: 31.875 lat, 91.875 lon

Variables available from REMO:

- Snowfall
- Total_Precipitation
- Total_Cloud_Fraction
- Latent_Heat
- Sensible_Heat
- 10m_U_Wind
- 10m_V_Wind
- Temp_2m
- TMAX_2m
- TMIN_2m
- SW_Down

LW_Down
RH_2m

Variables available from PRECIS:

SW down
Net LW down
Large_Scale_Rainfall
Large_Scale_Snowfall
Convective_Rainfall
Convective_Snowfall
Temp_1p5m
10m_U_wind
10m_V_wind
Latent_Heat
Sensible_Heat
Cloud_Fraction
RH_1p5m