COSMO WG3-meeting
Milan
September 21, 2004

Recent results on the soil moisture analysis
ELDAS-Project

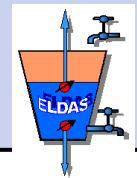**Martin Lange**
Presentation by Erdmann Heise
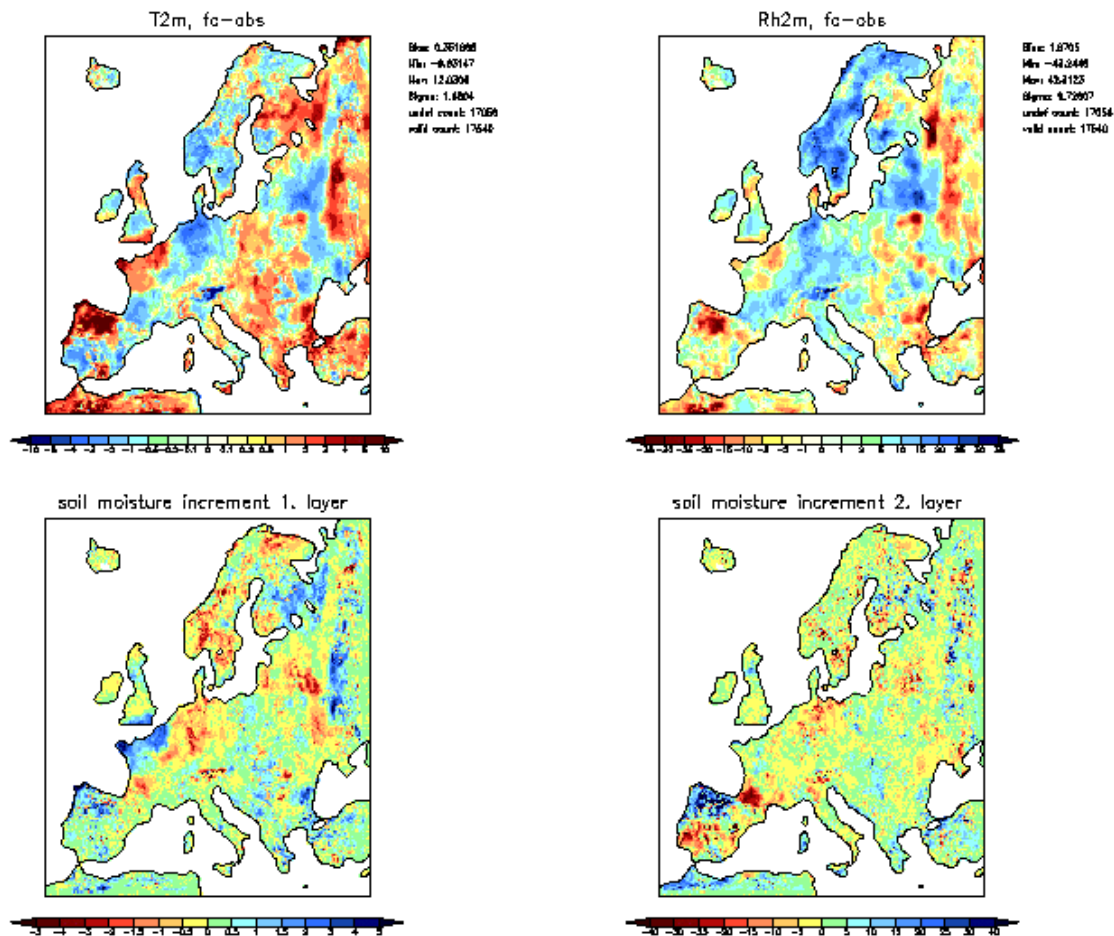**German Weather Service**

ELDAS

<u>Development of a European Land Data Assimilation system</u>
<u>to predict droughts and floods</u>

- Create a soil moisture database for the summer 2000 period with a modified version of the LM model
- Eldas model specifications
  - Full operational GME LM model suite
  - Grid covers whole european domain, resolution 0,2 x 0,2 degrees
  - External parameter (zgeo, soiltyp, LAI, z0,...) from Ecoclimap database
  - Eldas Precipitation, provided by Rubel, VUW Vienna
  - SMA with observation of Rh2m (only in test suite)
- Compare with model results from other partners (ECMWF, Meteo France)
- Validate soil moisture fields, hydrological and energetic budget against measurements at selected validation sites.
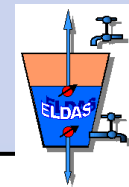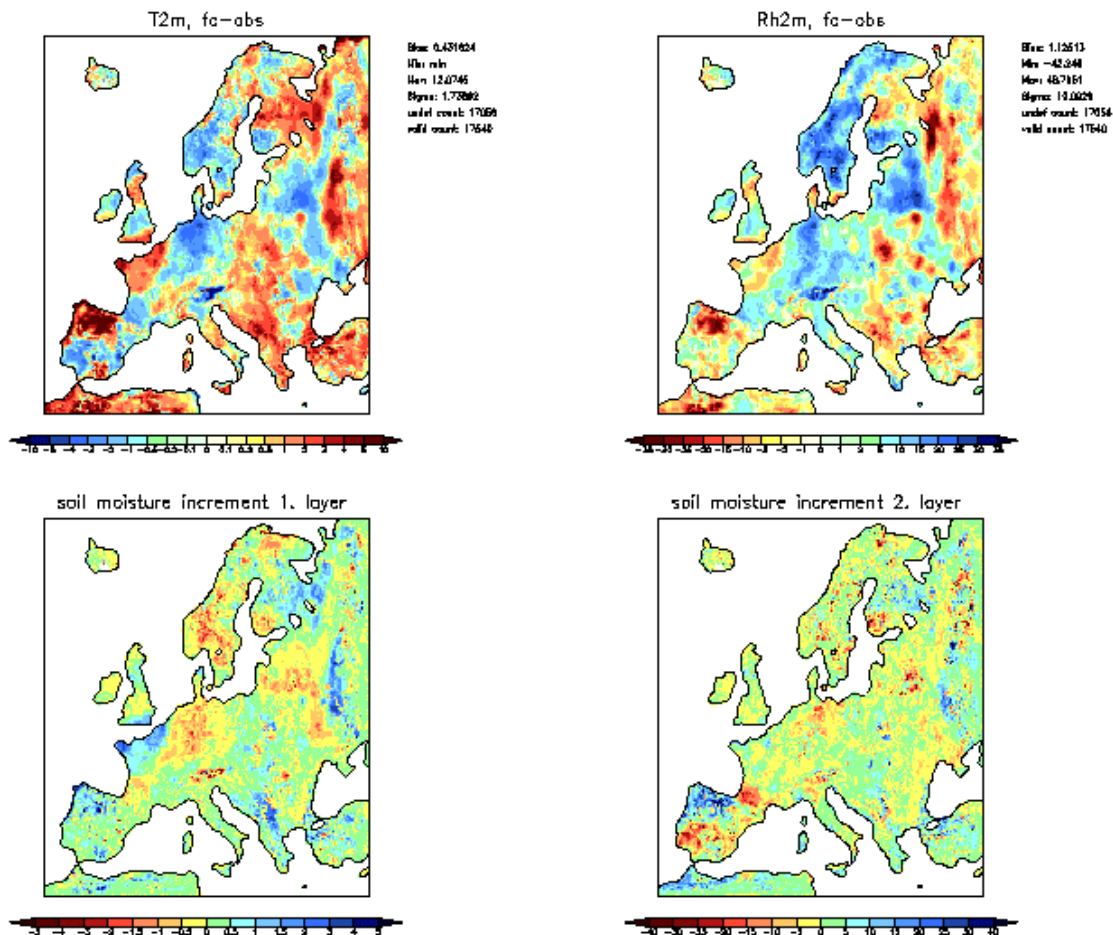
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ELDAS validation sites

ELDAS validation sites

SMA Obs.: T$_{2m}$

June, 2000, 01

SMA Obs.: T_{2m}, Rh_{2m}

June, 2000, 01

Outlook

Scientific tasks until end of project 11/2004

- Assess the impact of Eldas parameter on the model forecast by comparison with reference experiments (operational external parameter, model precipitation, operational soil moisture analysis)

    – Impact of surface parameter on energetic fluxes

    – Impact of precipitation measurements on hydrological budget

    – Impact of additional observations in soil moisture analysis

- Use results from external validation at Alterra to estimate the quality of the the assimilation system as is

    – Estimate the need for future model improvements

- Dissemination of results to user community (Mars archiving)

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