COSMO WG3-meeting
Milan
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The new soil model, present status

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Summary of important changes of the soil model:

- Multi-layer version for temperature and water content
- Freezing/melting processes in the soil considered
- Improved treatment of snow cover
  - New formulation of the melting process
  - Snow albedo depending on snow age
  - Consideration of the influence of forests on snow albedo in preparation
Layer configuration for the multi-layer soil model
Perpetual-year simulation for Valdai

Water equivalent of snow

Days from 01 July

(m)
Soil surface temperatures
04sep2004 15 UTC  \( v + v = 3 \) hrs

2m temperatures
Meridional cross section of soil temperatures

Depth (cm)

LME tml 04-sep-2004 12 UTC + 3h

Min: 2.58218  Ave: 14.5298  Max: 27.8525  Var: 26.3373

Meridional, I = 480
What remains to be done?

• Include the effect of forests on snow albedo

• Perform parallel experiments in summer and winter, one to two months each

• Include the satellite-based determination of actual plant parameters and switch to new association tables

• Make the new soil model operational
SNOWMIP
Vergleich der Schneemodellierung von Bodenmodellen an einzelnen Messpunkten, Beobachtungen: schwarz (GME/LM_Bodenmodell nicht enthalten)
Meridional cross section of soil water content

LM wml 04 sep 2004 12 UTC + 3 h

wml

GrADS: CCL/AICES

Meridional, I = 480