Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

CONSORTIUM FOR SMALL SCALE MODELING
COSMO

COLOBOC task 1

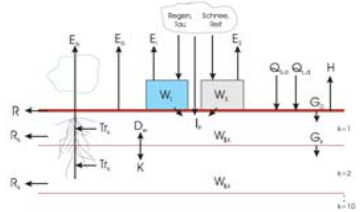
TERRA standalone

Status

COLOBOC Workshop
Langen

Jean-marie.bettems@meteoswiss.ch
12.3.2009

Plan



Consolidation of TERRA standalone code

02.2009 – (05.2009) … delayed → 08.2009

TERRA standalone is the isolated terrestrial surface module of COSMO driven by external atmospheric fields. It has been developed by F.Ament and is available at MeteoSwiss. Following actions are proposed:

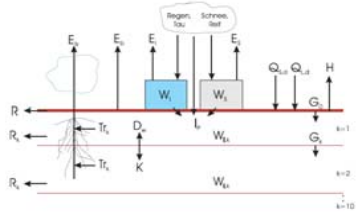
- Consolidate and clean-up standalone code
- Collect tools to run and use standalone code
- Extend scientific and technical documentation

Deliverables:
(31.05.2009) code, tools, and documentation

Estimated required resources: 0.3 FTE

COSMO/CLM members involved: JM. Bettems , G. de Morsier

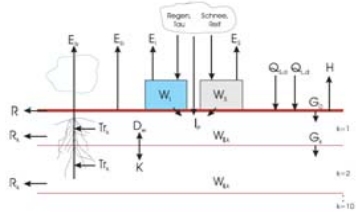
Status (1)



Some work has already been done at MeteoSwiss
to consolidate the code

- A serie of bugs have been corrected
  - cycling TERRA standalone experiments
  - processing of GRIB files
  - processing and interpolation of atmospheric fields
  - …
- New features have been introduced
  - temporal gap filling to take care of missing BC files
  - new namelists parameters to control the way atmospheric fields are pre-processed (staggering, accumulation, …)
  - more diagnostic

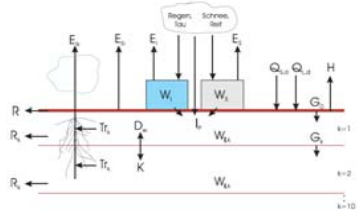
Status (2)



- Other issues have been recognized, but are not yet solved
  - Points with loam type are not usable (at least when using some new parametrization introduced by Felix Ament)
  - Still not all information is correctly initialized when cycling TERRA standalone runs
  - Robustness of the code should be improved
  - ...

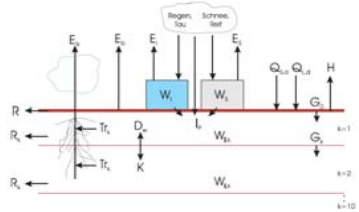
- There is a need to understand how much the evolution of the soil (and of the snow pack) differs between TERRA standalone and the full COSMO
  - Simplified transfer scheme (Louis)
  - No feedback loop between soil and atmosphere

Other informations



- Code will be integrated in COSMO source, with special compiler target.
- G.Vogel has modifications and tools which will be integrated in the final package.
- TERRA standalone is available in the model farm of Reto Stöckli, and will be updated.
- Kirsten Warrach-Sagi has implemented a river routing scheme within TERRA standalone, in an attempt to measure the performance of the soil model by comparing simulated and observed stream flows (Met.Z. **17** 6). This work may also be consolidated within this task.

Other comments



- ….