



Schweizerische Eidgenossenschaft
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COLOBOC task 0

Obs for SVAT validation

Kick-off

COLOBOC Workshop
Langen

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12.3.2009

Plan



Document observations sets available for SVAT-model validation 06.2009 – 09.2009

Easily accessible documentation on the characteristics of the different data sets available for SVAT-model validation is currently missing, and would help those developing the model.

The further development of the SVAT-model for climate purposes needs a better evaluation of the soil and the interface on long time scales. Cooperation with geological agencies has been started by the CLM-Community.

Deliverables:

(09.2009) documentation of data sets characteristics on COSMO web site

Estimated required resources: 0.2 FTE

*COSMO/CLM members involved: JM. Bettems (0.05, coordination),
G. Vogel (0.05),
A. Will, G. Smiatek, S. Seneviratne (0.1)*

Some infos

Observations



- **New sonic at Payerne** planned for march 2009 to add measurement of turbulence @ 10m
 - stability class, sensible heat flux, 3 wind components
- **Swiss soil moisture network SwissSMEX**
 - 16 sites, measurement campaign 2009-2011
 - PI is Prof. Sonia I. Seneviratne (ETH Zürich, IAC, Gruppe für Land-Climate-Interaction)
- **French soil moisture network SMOSMANIA**
 - 12 automatic real time soil moisture measurements, SE France; being extended

Some infos

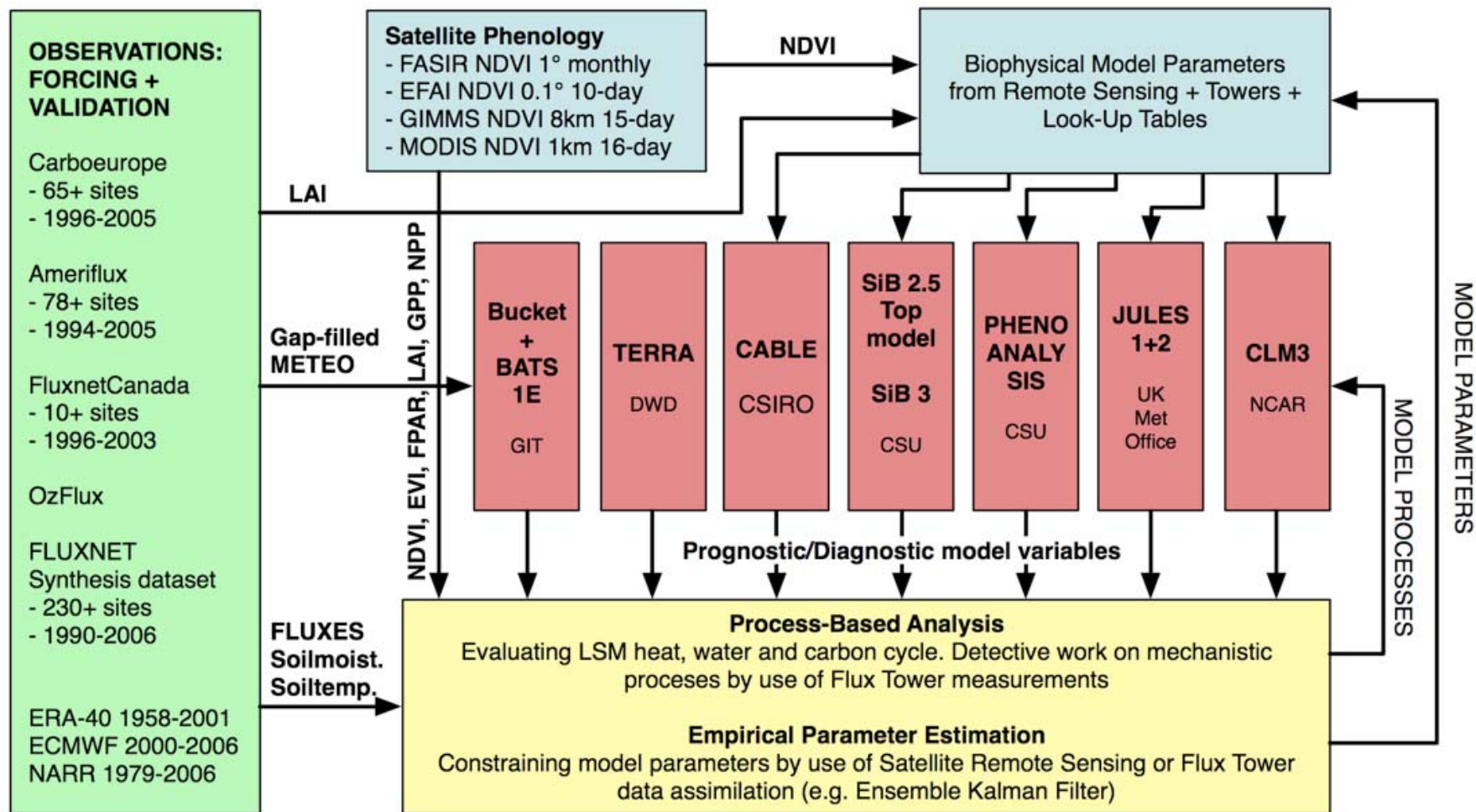
Tools



- Observations at San Pietro Capofiume and Lindenberg are currently collected by G.Bonafe on a [wikispace](#)
 - common space for exchanging data, plots, reports, comments and ideas
 - G.Bonafe ready to invest some time to extend his tool
- **Model farm** developed by Reto Stöckli, installed at CSCS:
 - Framework to experiment with multiple SVAT (incl. representation of results)
 - SVAT driven by observations
 - Observations from FLUXNET, Carboeurope and other sites
 - Selection of 'good' sites available from Reto
 - TERRA standalone included
 - Very easy to use
 - Reto ready to invest some time to consolidate/extend this tool

The Model Farm

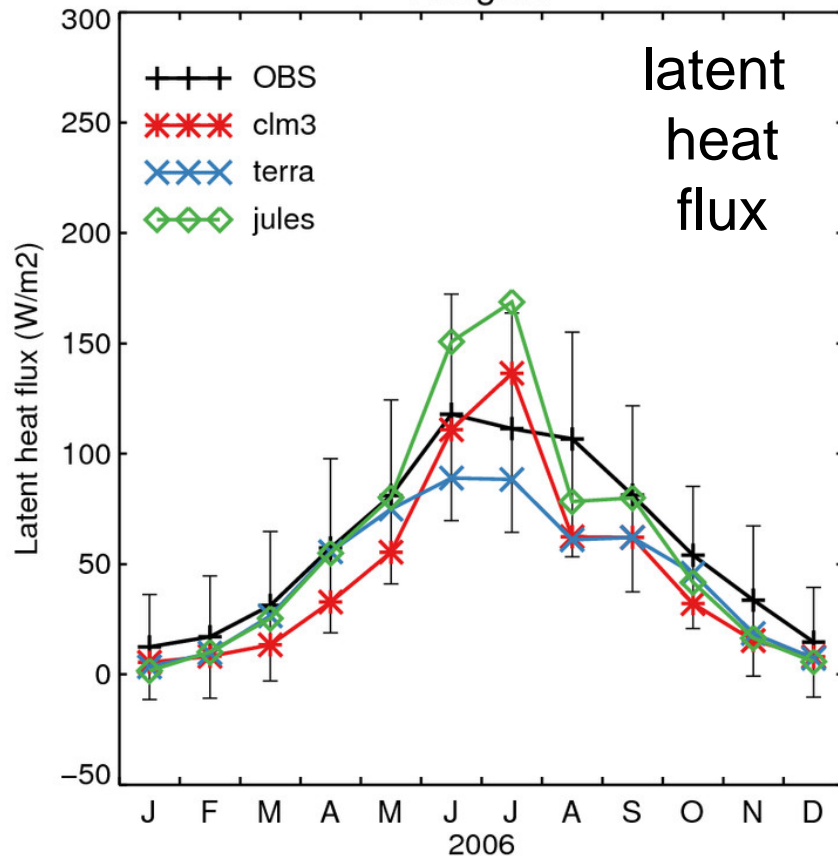
Developing and validating land surface models with ground- and satellite-based observations: a framework for a process-based radiation, heat, water and carbon balance analysis of the biosphere-atmosphere interface for climate applications



The Model Farm: an example

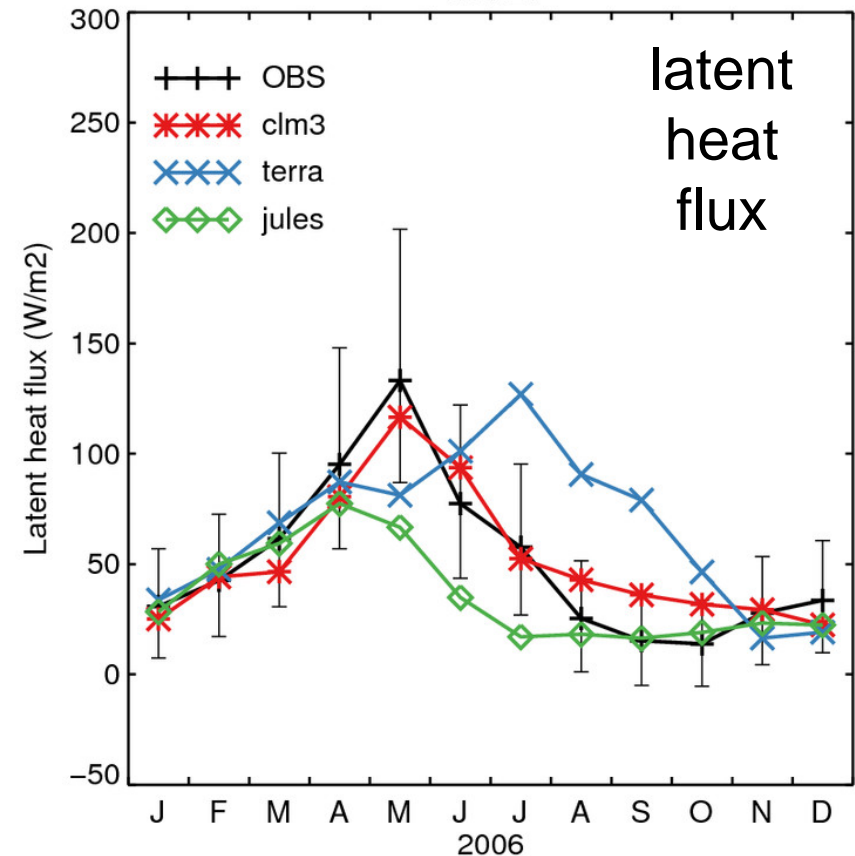
temperate

Laegern



mediterranean

Tonzi



Some infos

Others



- Lead of **SRNWP Expert Team** soil & surface aspects (JF.Mahouf/MF) is interested by this action
 - Further contact on June 12th, at ET meeting in Toulouse
 - Ask about availability of MeteoFrance data

Deliverable 09.2009



JM. Bettems (coord.)

G. Vogel , A. Will, G. Smiatek, S. Seneviratne

- Create page on COSMO web site
- Describe usefull data sources for SVAT validation
 - Type of observations, period of availability, format, ...
 - Links to contact person, web site, papers, ...
 - Users comments on quality, usability, ...
- Describe existing tools
 - Terra standalone & tools from G.Vogel, model farm, ...
 - Links to contact person, ev. software, ...

Additional goals for 09.2010?



- **Find a set of stations with near-real time data**
 - for SVAT diagnostic and SVAT development
 - offering a good sampling of typical soil types & climates within the COSMO domain
 - with data available for COSMO members
 - Payerne, Swiss fluxnet, ask COSMO members, ask MeteoFrance
- **Extend G.Bonafe platform (model diagnostic)**
 - Link from COSMO web site
 - Include additional sites
 - Include additional operational COSMO models
 - Common data format? How long to keep data?
- **Consolidate/extend model farm (model development)**
 - Update TERRA module
 - Include additional sites
 - consolidate gap filling procedure
 - Add possibility to drive SVAT with COSMO fields (NetCDF data)
 - Make software package available to others

Other comments



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