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VERSUS installation at MeteoSwiss: Results, experiments and remaining problems

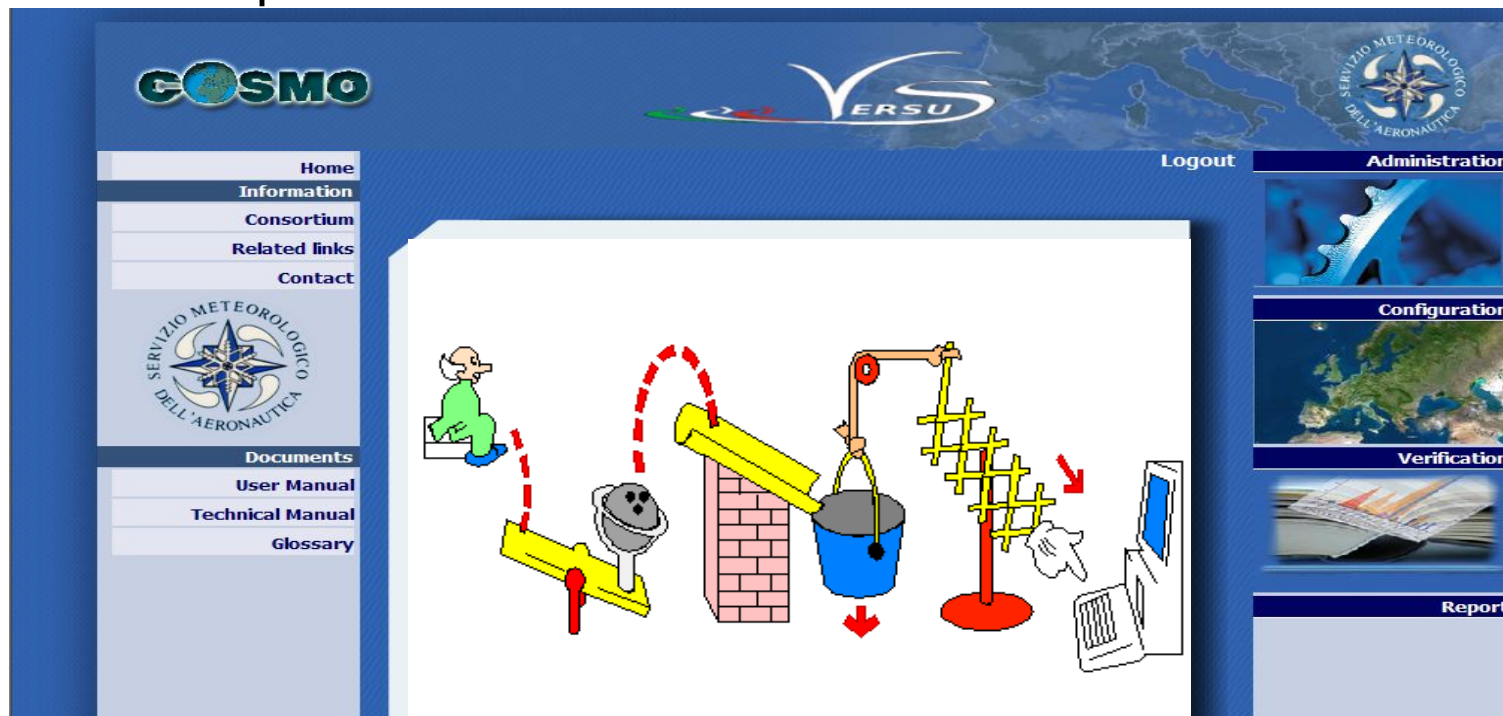


COSMO-GM, 2 September 2013, Sibiu (RO)
Francis Schubiger & Pirmin Kaufmann (MeteoSwiss)



Remember Vanessa's talk last year

- Precious VERSUS functionality: batch jobs **DONE**
- Further component for automation: cronjobs for running php scripts to start verifications → guidance of the PL very welcome! **DONE**
- furthest possible automation of VERSUS





Remember Vanessa's talk last year

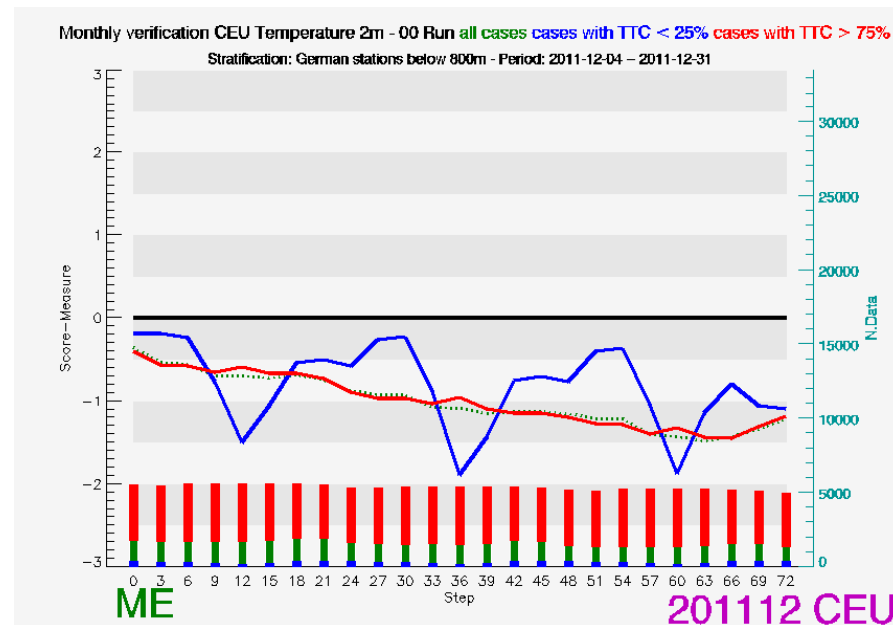
- Include automatic storage of figures with reasonable names for unambiguous identification, distribute files in different folders in order to reduce length of filenames → definition needed **DONE VERSUS 3.1**
- Registration of verifications script based? E.g. time series for PREC6: 1 form for each parameter, run, day, model → 35 clicks per form **DONE (Versus 3.1) with the DUPLICATE funtion**
- Maximal performance of VERSUS: guidance for DB partitioning and tuning of the PL very welcome! **IN PROGRESS** a lot of information are in the **FORUM** – Table partitioning **TASK0.f** in the **PP Phase 6**



Display sample size for plots

- Precipitation: to be added dependent on the thresholds
- Conditional verification cross model graphs:
 - Ullis solution:

- How is it crucial?
In this year?





Technical problems & suggestions

- Weather type registration/append functionality:
 - Facility to delete parts of the registered dates missing (???)
Please MORE Details)
 - Delete weather type registration does not work (???) Please
MORE Details)
- Batch job execution:
 - interruption of process should be possible
For this we add the functionality to select the job to run
you can kill the process directly from the machine



Remaining problems @MeteoSwiss Summer 2013

- DB-Performance (with tables > 1 GB): fluctuations of factor 100 !

Some Solution : reduce the grib table Remember that VERSUS is not a the storage for the data but the storage of the verification

To configure a performing number of disk in the machine

Proper RMA for the grib table

- dimension of DB (much greater than 200 GB!) -> partitioning of grib-table not yet possible (table contains 'foreign key constraints')

If you need a large DB you can remove fk constraints (I don't have in my DB). Wait the code adjustment is better but not necessary

- COSMO-1 uses the vertical coordinate system SLEVE -> non-readable in Versus (??? I don't have requirements about this)



Remaining problems @MeteoSwiss Summer 2013

COSMO-1 uses the vertical coordinate system SLEVE

-> non-readable in Versus



Remaining problems @MeteoSwiss Summer 2013

- dewpoint verification without height correction: workaround from Versus PL is OK
- Suse Linux Enterprise Server 11SP2 not yet installed at CSCS (costs of 1000\$/y) **Not quite true SLES Licensing is free you can by only the support. Please remember the Nenni's presentation during the VUS (Item 12)**
- Cannot delete some old verification ID's **(To investigate may be some Cross Model are connected)**

Standard Report

Periodical Seasonal-Surface

From: 2012-06-01 To: 2012-08-31
Run: 0

[DB Select error : select id_station from station_stratifi where id_stratification= . N: 1064 You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near " at line 1]

[DB Select error :select * from surface_data where cd_obs_parameter= and dt_validity >= '2012-06-01' and dt_validity <= '2012-08-31' and id_station in () LIMIT 1 . N: 1064]

[DB Select error :select id_grib from grib where id_registered_grib= and run = and id_order=1 and id_station in () and dt_validity >= '2012-06-01' and dt_validity <= '2012-08-31' and id_method= LIMIT 1 . N: 1064]

[DB Select error : select id_station from station_stratifi where id_stratification= . N: 1064 You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near " at line 1]

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Description	Date	Data Avail.	Susp. OBS	Numeric Results	Graphic
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Remaining problems @MeteoSwiss Summer 2013

- COSMO-LEPS verification: icon to run graphics for numerical scores does not appear. (to investigate)
Is verification “forecast based” YES ? “suspect observation” is missing? Not possible in the EPS verification



Remaining problems in VERSUS Summer 2013

- suspect observation:
 - works well (thanks a lot!)
 - question: do all use suspect obs over common area
 - possibility to export/save these messages
 - precipitation not yet done
- station list for common area: 4 SYNOP stations not available at ECMWF
- calculation of 3h- and 6h-precipitation based on 1h-measurements not possible (minutes of VUS, May 2013)
- geographical score calculation for a season (*works*)
- run plots in batch mode (*It's possible. You have to configure the plot for the first time*)



Remaining problems in VERSUS Summer 2013

- update of User Manual postponed
(see Project Plan [16.02.13]: SCA will be part of this process of documentation delivery)
- Status of COSI (A deeper test is necessary)
- Status of wind gust verification (ok VERSUS 3.1)
- Use of various observation data (SRNWP data pool):
how to manage two (or more) different temperatures in GRIB-files
(now not possible)



Priority tasks of MeteoSwiss for the year 2013-2014

first priority:

- use of feedback files in Versus: TEMP-verification, also WP, AMDAR
- further development of probabilistic verification (as discussed yesterday)
 - spread/skill relation
 - use of reference provided by user
- verification of station-based postprocessed forecasts (kalman, MOS): (issue 14 of VUS May 2013): suggestion to extend the ASCII import capabilities of Versus -> general verification tool for non-standard data for verification (fluxes, global radiation, pollen concentration, ...)
- ingestion of COSMO-1 with SLEVE vertical coordinate
- ingestion of GRIB2 (using e.g. fieldextra for pre-processing)



Priority tasks of MeteoSwiss for the year 2013-2014

second priority:

- Conditional verification with conditions on both obs and forecast
- Bootstrap, error bars / statistical significance (especially for high thresholds in precipitation verification)
- Scores for extreme weather

third priority, can well be done outside VERSUS -> should be removed from VERSUS Project Plan:

- Verification against radars
- spatial/fuzzy/neighborhood (use of external tools [fieldextra] is not an issue !)