Verification of the new parametrization of shallow convection from Steef Böing (SB14)

New namelist lconv_clo (default is false ie. the old formulation)
There is an internal switch lfixedfrac to use the GRANT version of the new shallow convection SB14. lfixedfrac now hard coded to .FALSE. meaning that SB14 uses the free cloud fraction formulation

Here the results of 2 periods (Winter and Summer) which covered each 2 months are verified with COSMO-1 (1.1km over the operational domain) with:
 - the standard (575, reference) and
 - the modified shallow convection, SB14 (576, experiment)

SYNOP VERIFICATION

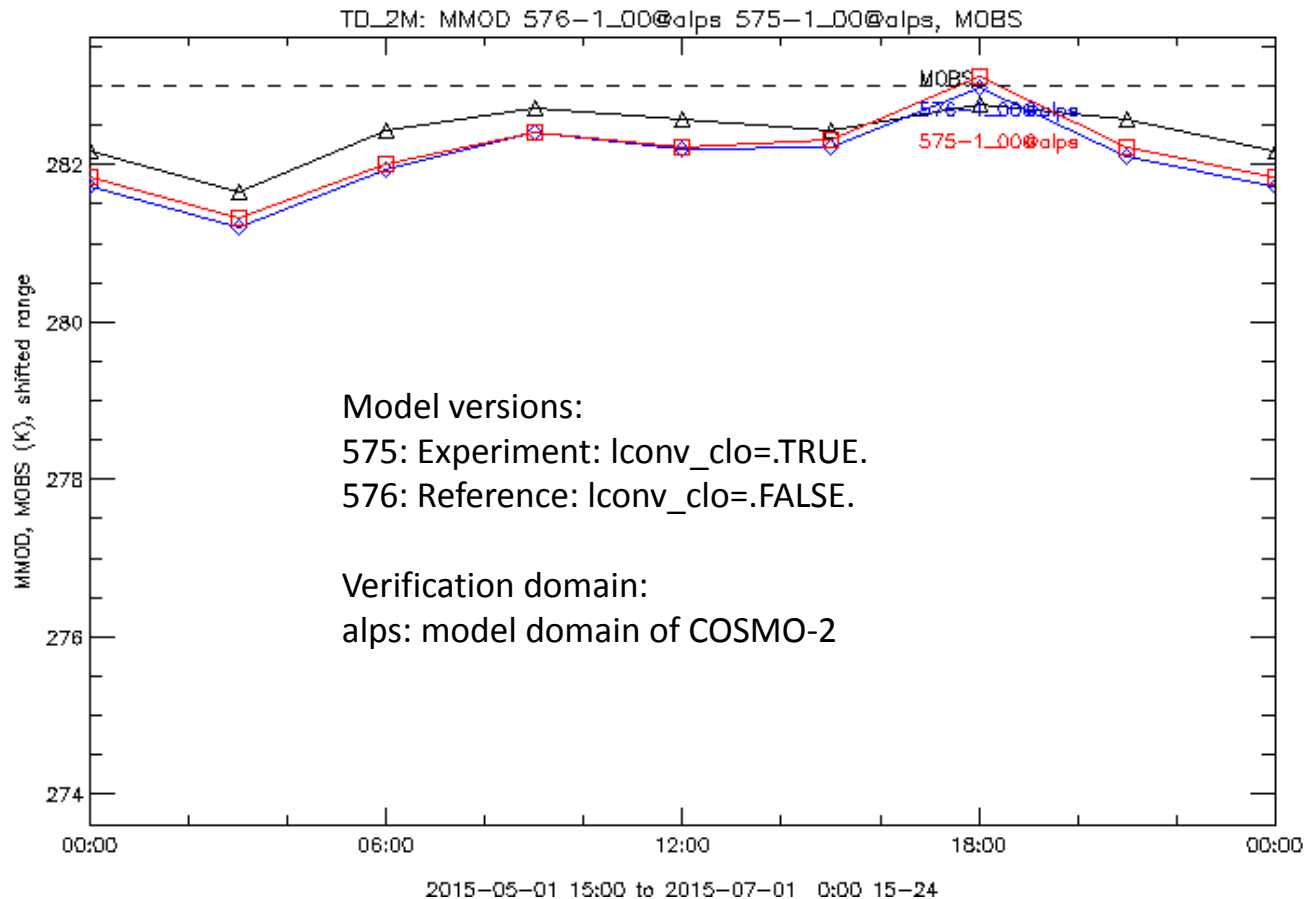Period **Spring/Summer** : 01/05/2015 - 01/07/2015
Results: +/- means exp. is better/worse, ~ means experiment same as reference
(+~) **TD_2M**: dew point temperature reduce negative bias (below for alps)
(+~) TOT_PREC12: reduce negative bias
(-~) CLCT, increase positive bias (mostly for 30% threshold)
Neutral for other parameters.

Model versions:
575: Experiment: lconv_clo=.TRUE.
576: Reference: lconv_clo=.FALSE.
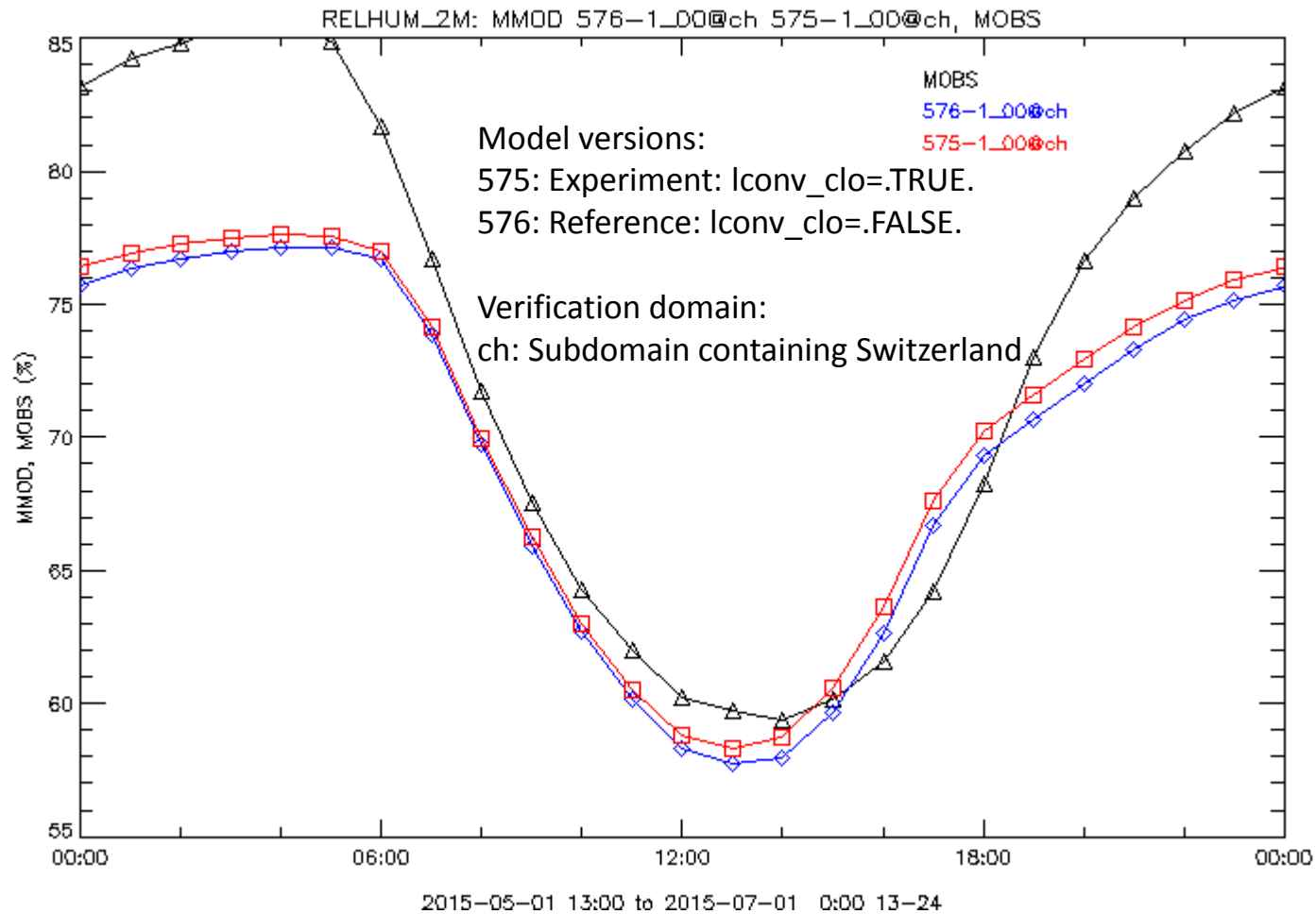
Verification domain:
alps: model domain of COSMO-2

SYNOP VERIFICATION

Period **Spring/Summer**: 01/05/2015 - 01/07/2015
Results: +/- means exp. is better/worse, ~ means experiment same as reference
(+~) **RELHUM_2M**: reduce negative bias (below for Switzerland)

RELHUM_2M: MMOD 576-1_00@ch 575-1_00@ch, MOBS

MOBS
576-1_00@ch
575-1_00@ch

Model versions:
575: Experiment: lconv_clo=.TRUE.
576: Reference: lconv_clo=.FALSE.

Verification domain:
ch: Subdomain containing Switzerland

MMOD, MOBS (%)

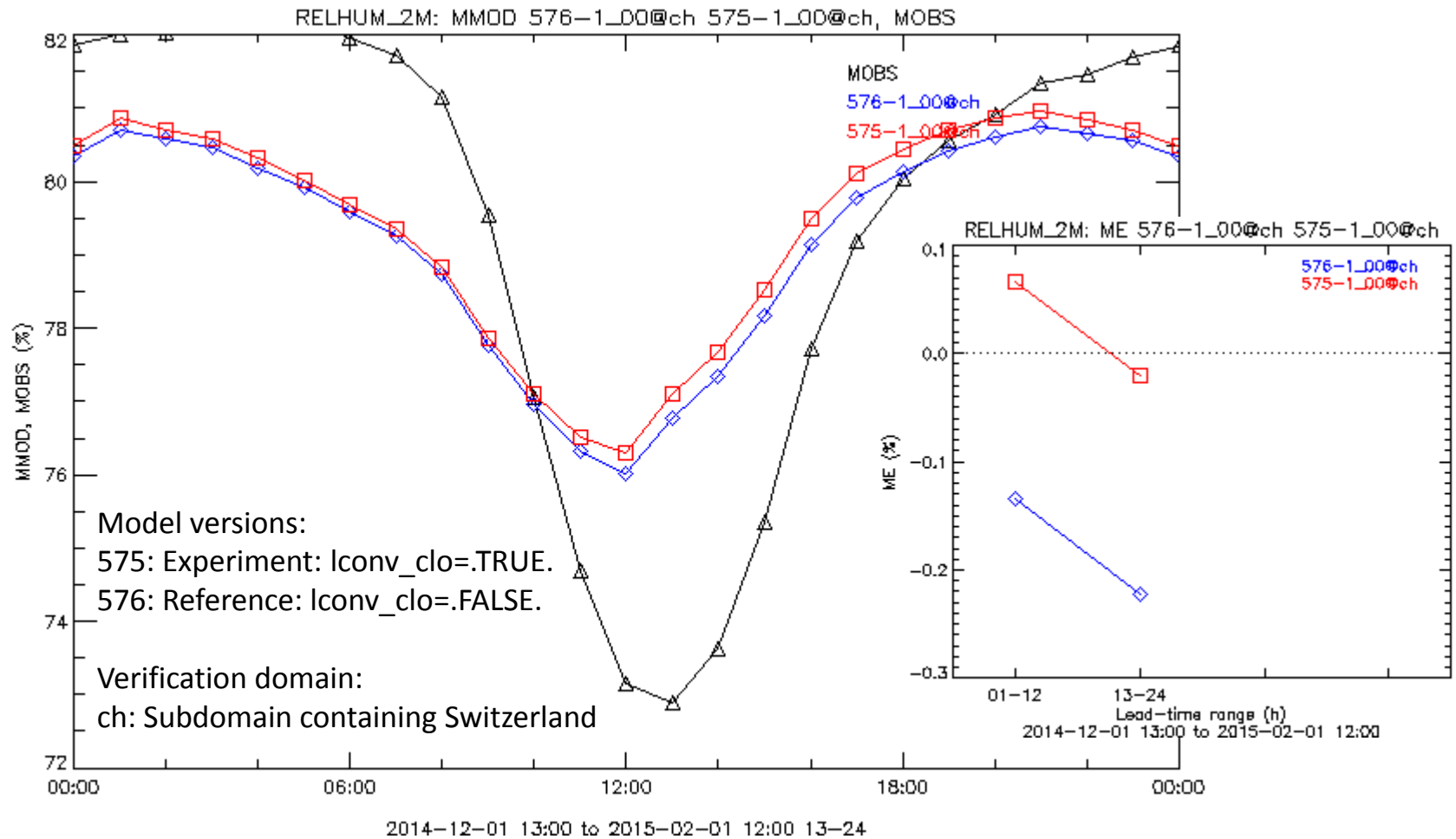2015-05-01 13:00 to 2015-07-01 0:00 13-24

SYNOP VERIFICATION

Period **Winter**: 01/12/2014 - 01/02/2015
Results:
(+~) **RELHUM_2M**, reduced bias from negative to positive (**ME**: mean error)
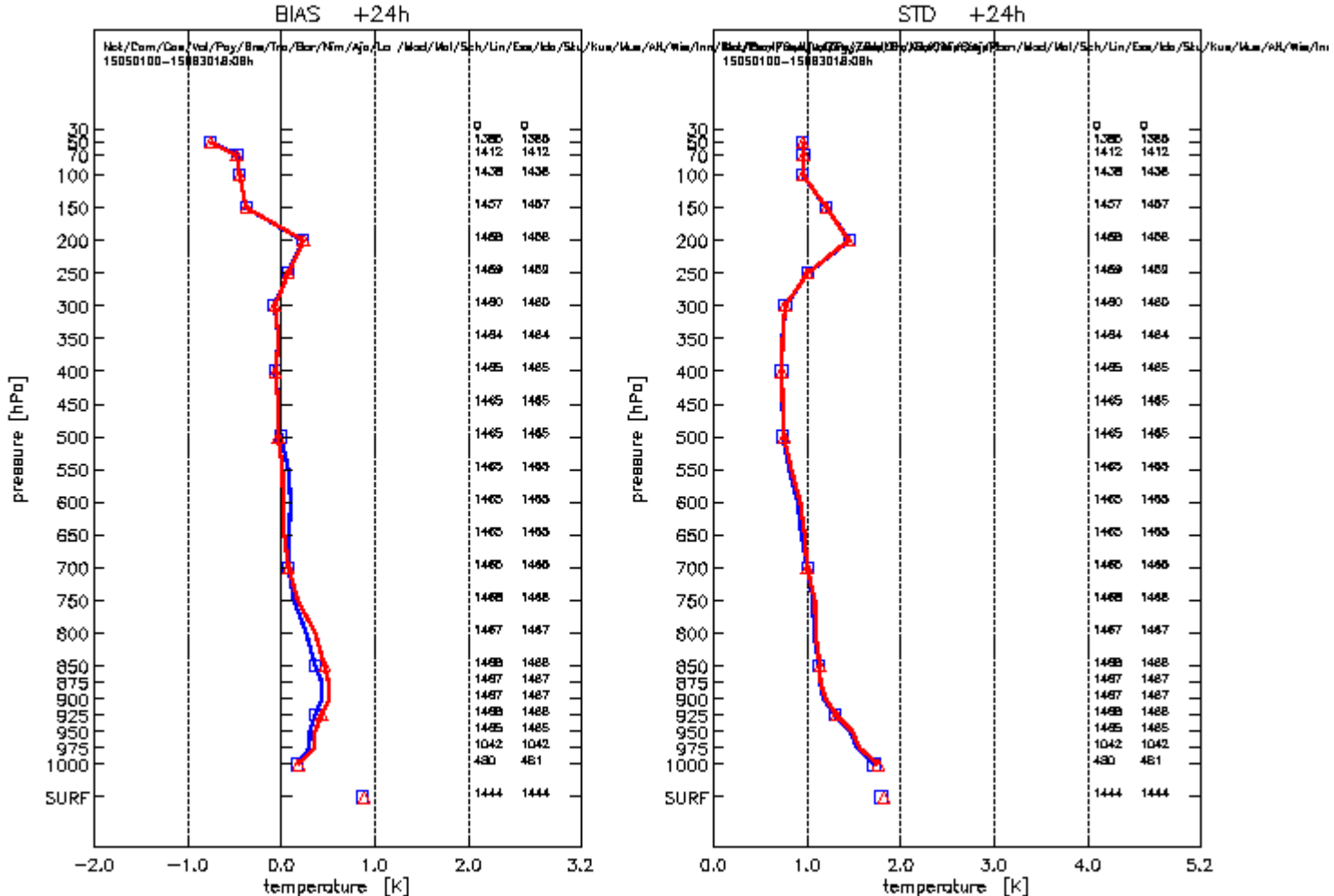Neutral for other parameters.

UPPER AIR VERIFICATION   SPRING/SUMMER

Reduce temperature bias (below 750hPa), slight increase above.

UPPER AIR VERIFICATION   **SPRING/SUMMER**

Reduce bias and standard deviation for rel_hum. (see below)
Neutral for other variables.