Coupling SURFEX_V7.2 to ALARO within cycle CY38T1

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From SURFEXv5 ---> SURFEXv7.2

With respect to SURFEX_v5 used in CY36T1 a new binary files should be linked together with the classical ecoclimap ones to create the PGD file:
ln -s $ECOCLIMAP/ecoclimapI_covers_param.bin ecoclimapI_covers_param.bin
ln -s $ECOCLIMAP/ecoclimapII_af_covers_param.bin ecoclimapII_af_covers_param.bin
ln -s $ECOCLIMAP/ecoclimapII_eu_covers_param.bin ecoclimapII_eu_covers_param.bin

With respect to SURFEX_V5, some files should be put in the working directory as well:
1. The PGD file should be called PGD.lfi
2. The initial SURFEX file should be called TEST.lfi
3. ecoclimapI_covers_param.bin
4. ecoclimapII_af_covers_param.bin
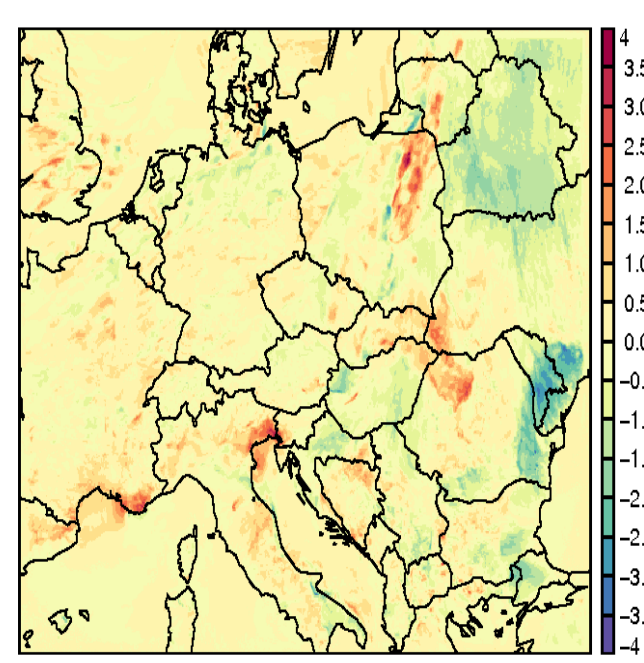5. ecoclimapII_eu_covers_param.bin

For the execution namelist of SURFEX we should have LCOEF=True:
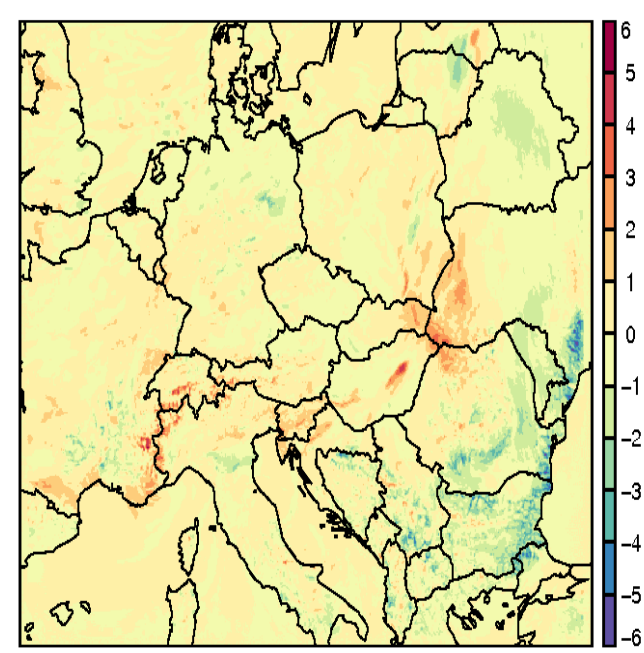**&NAM_DIAG_SURFn LCOEF=.TRUE.,**

ALARO Versus ALARO+SURFEX (ISBA 2L)
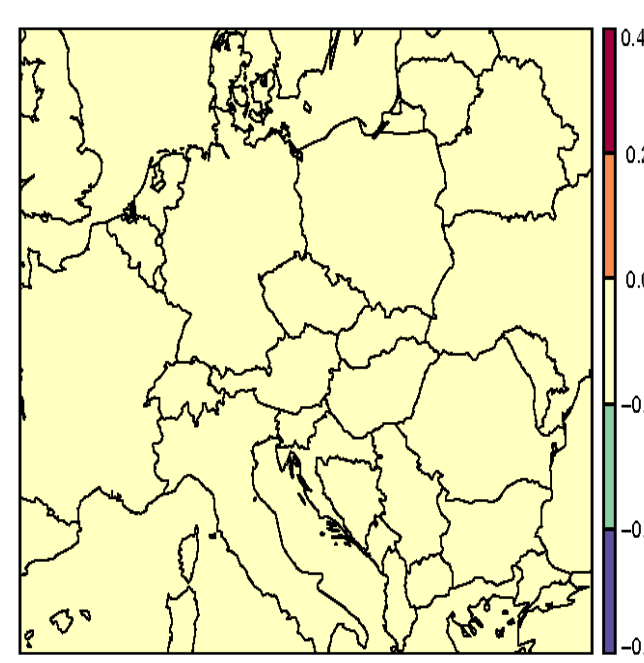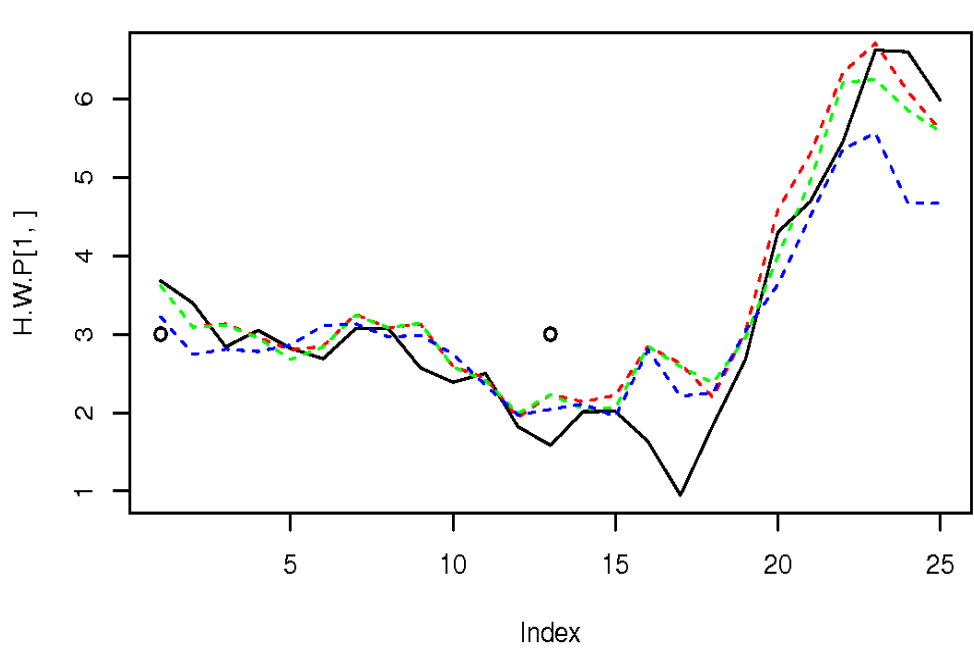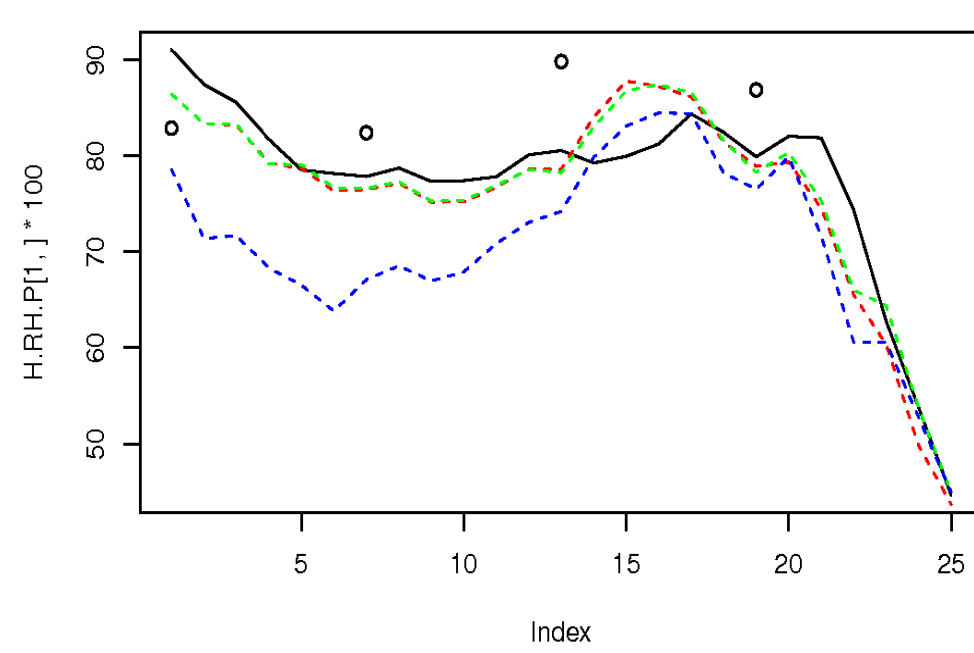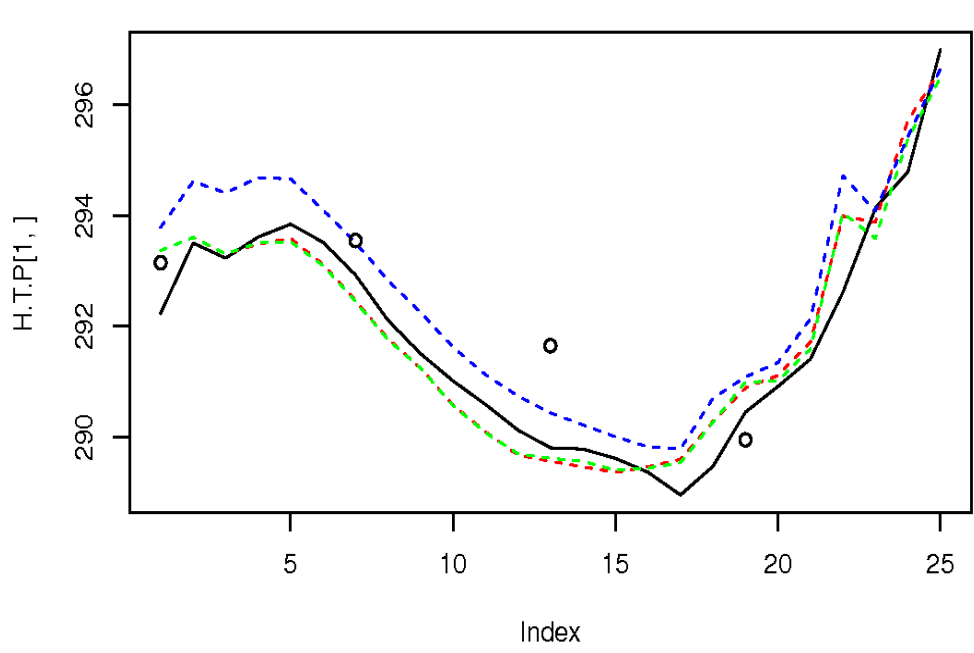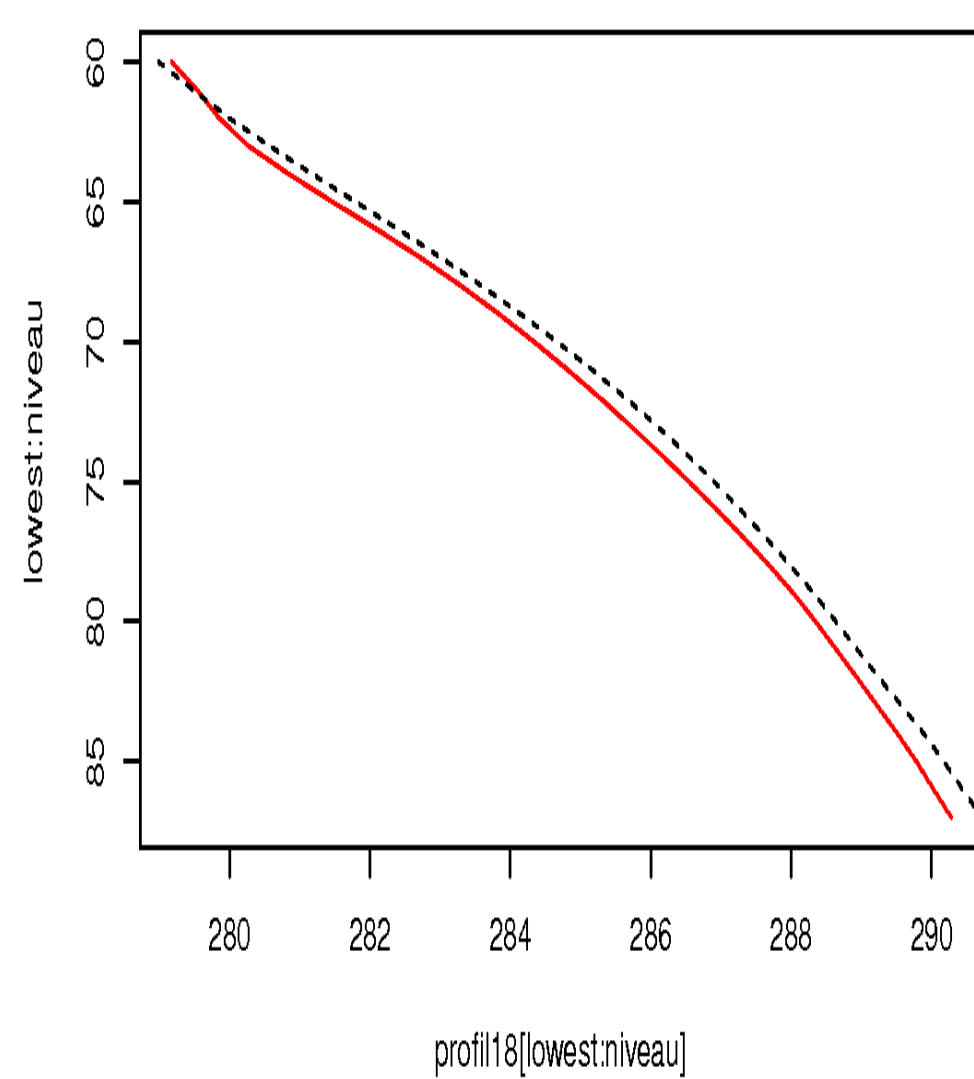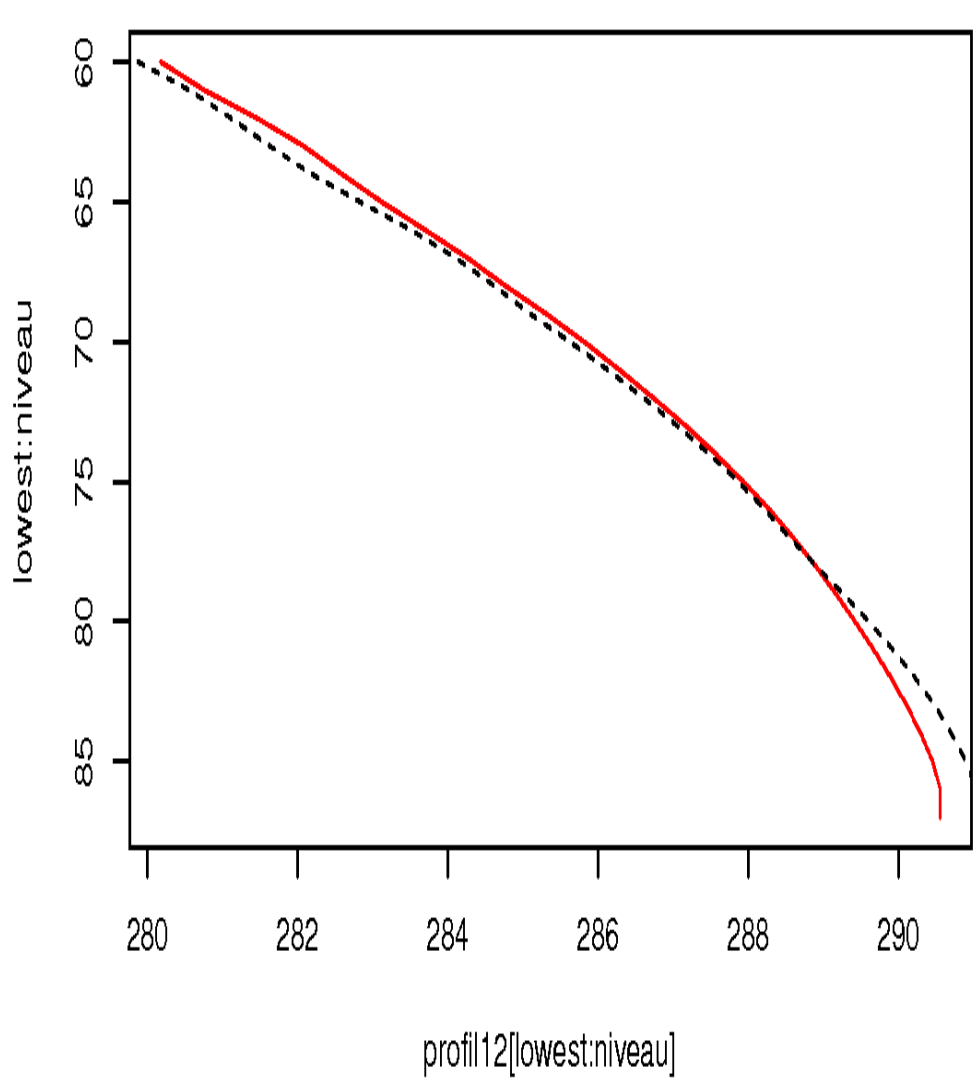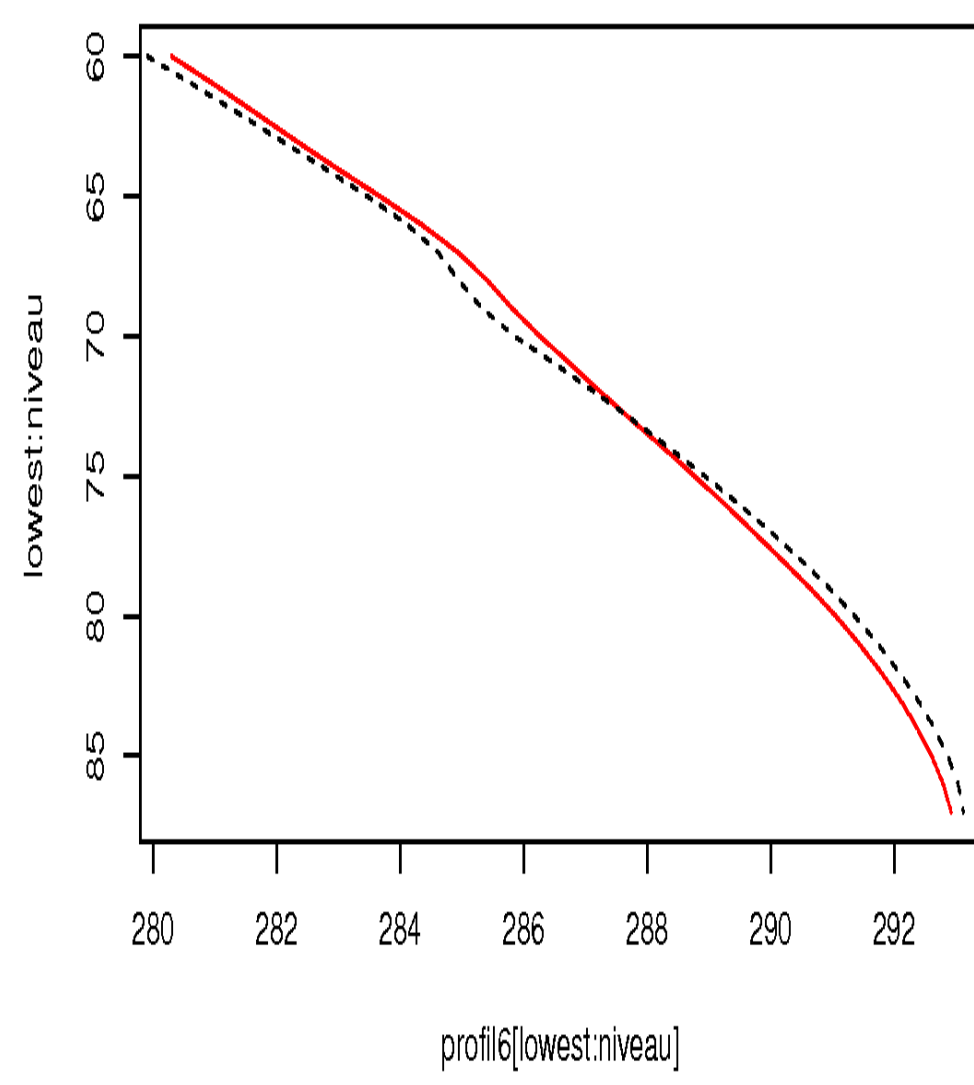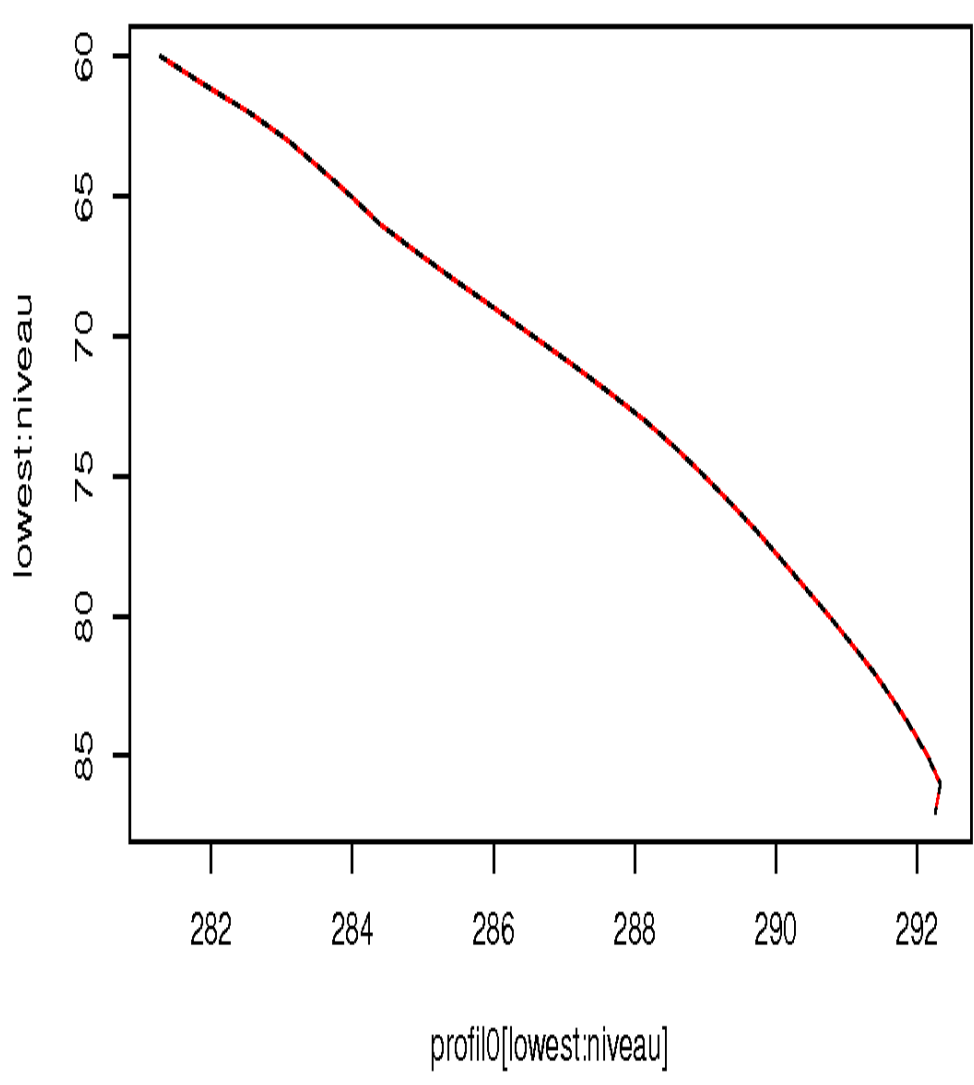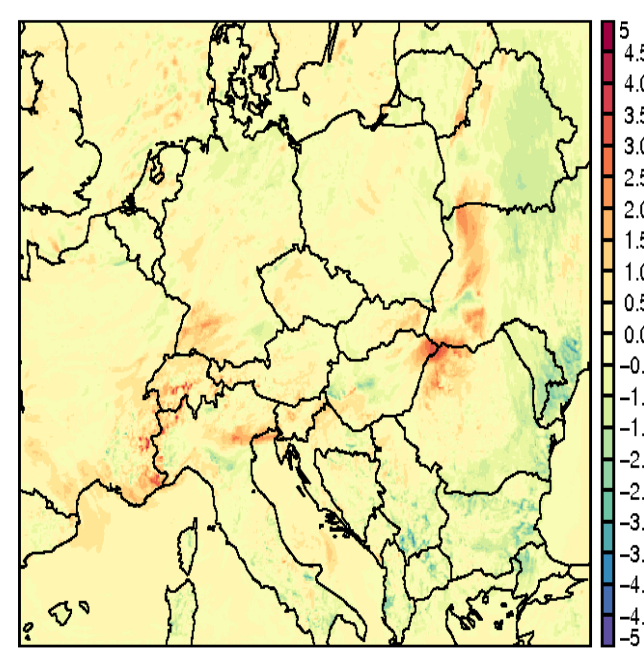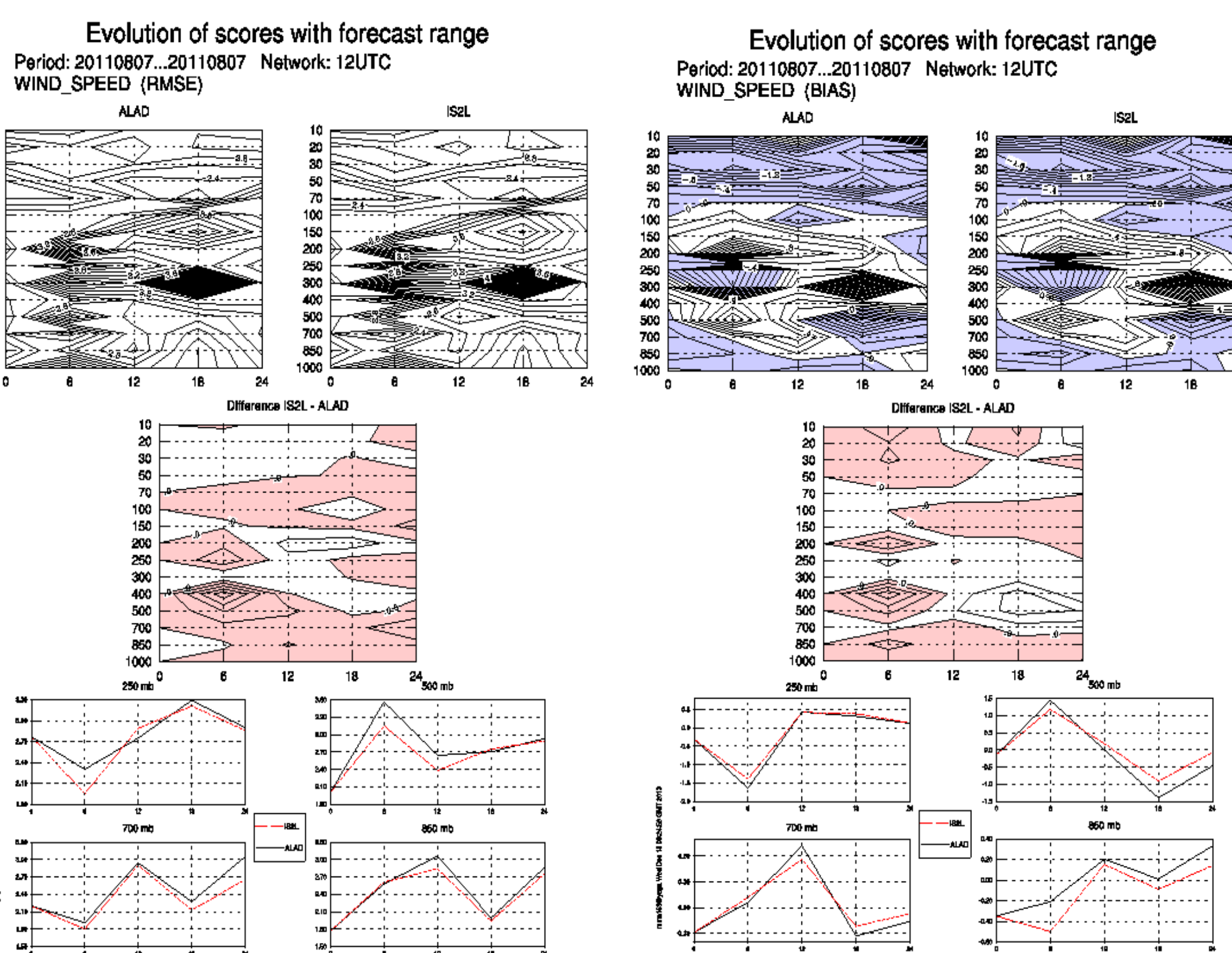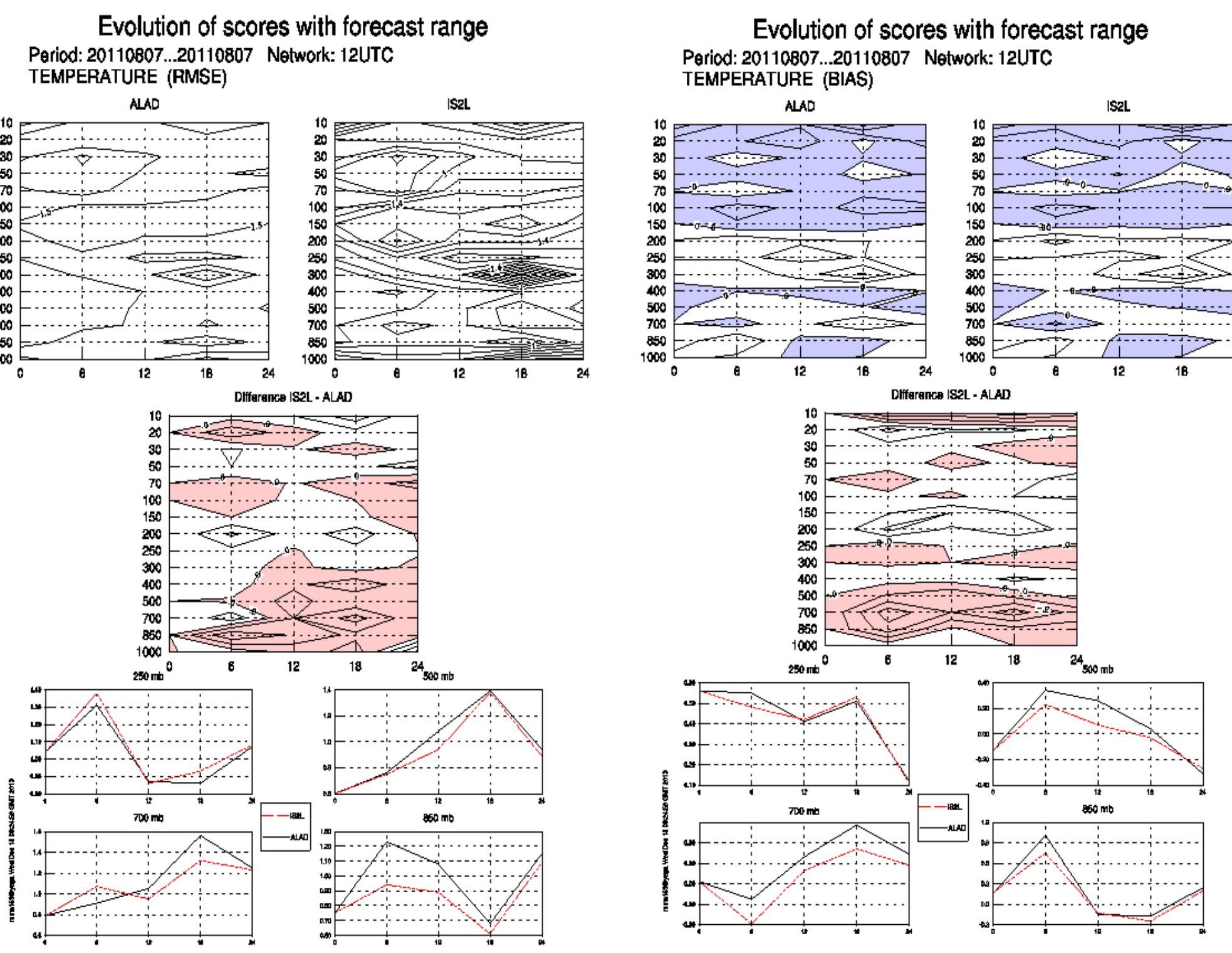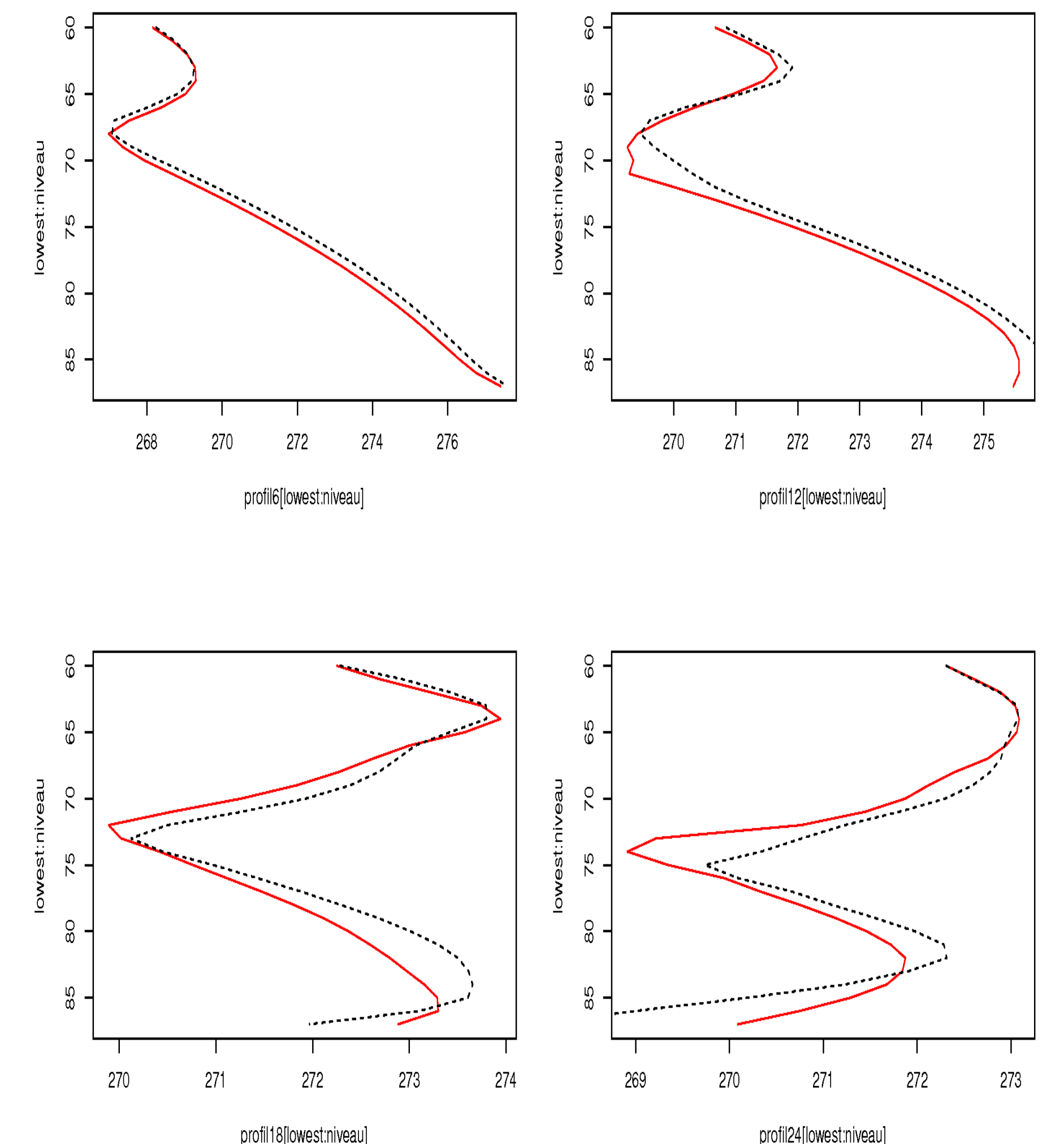

Black is ALARO without SURFEX
Red is ALARO with SURFEX+ISBA2L
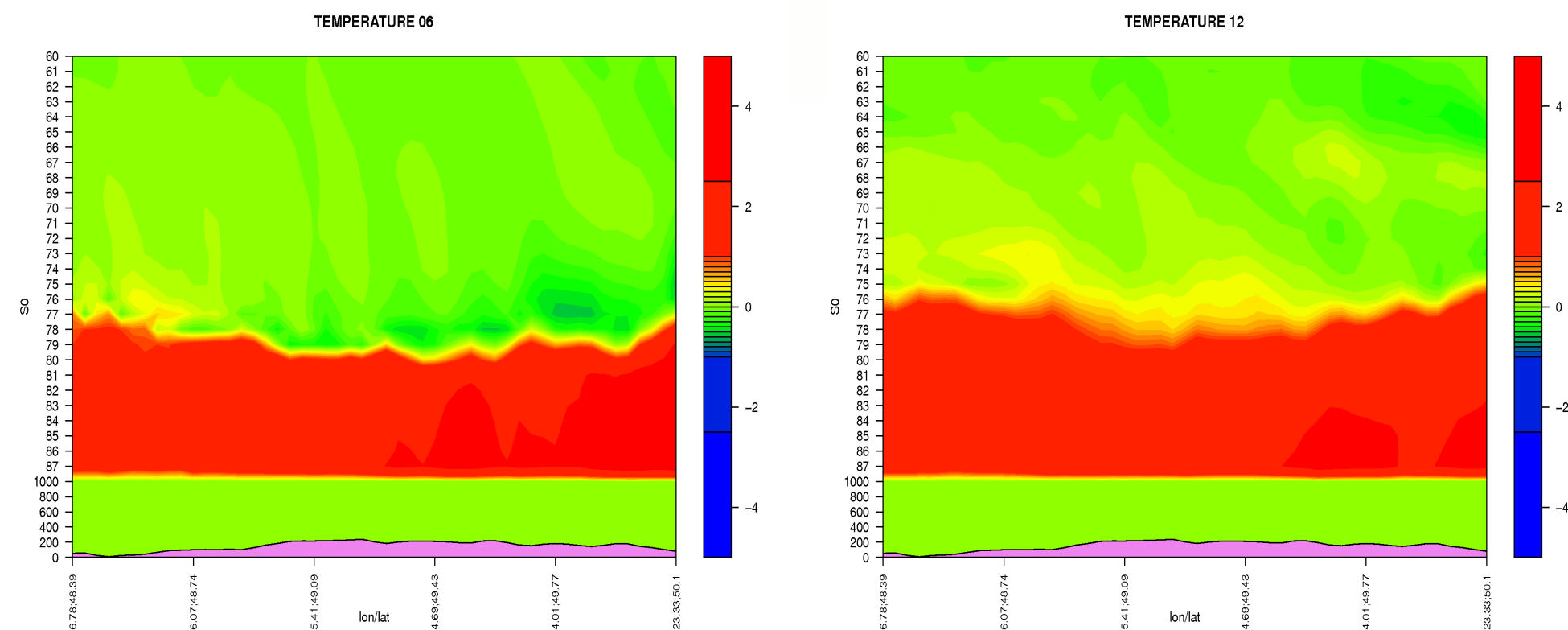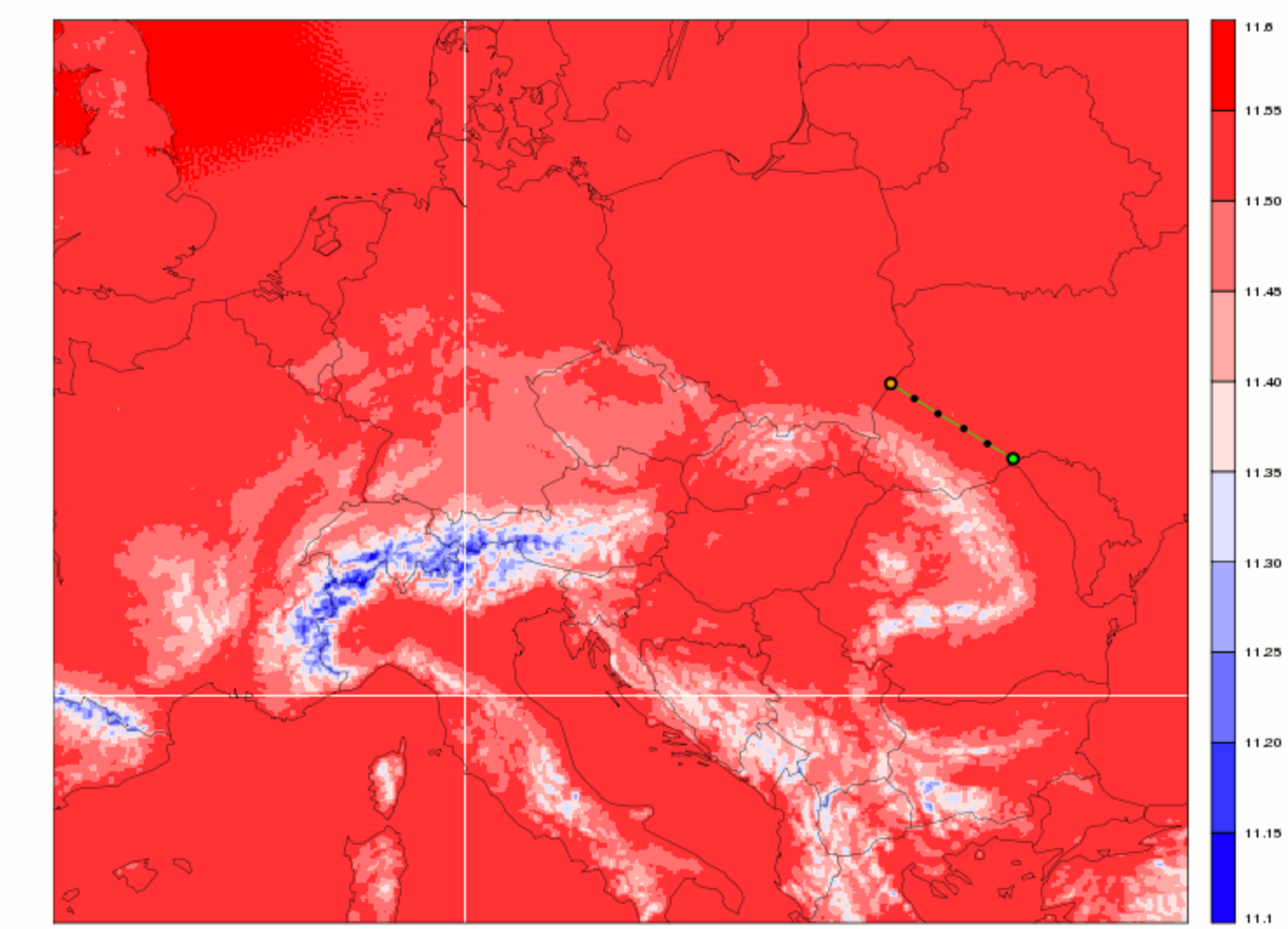Green is ALARO with SURFEX+ISBA3L
Blue is ALARO with SURFEX+ISBA3L+TEB

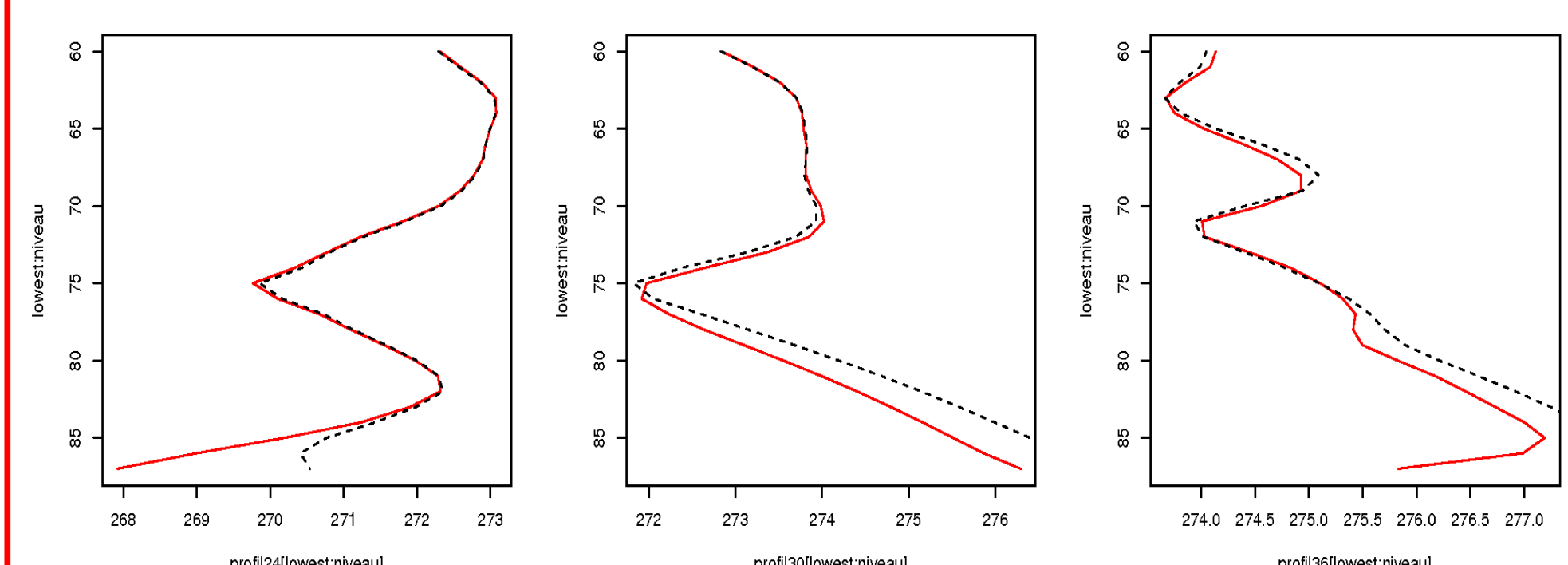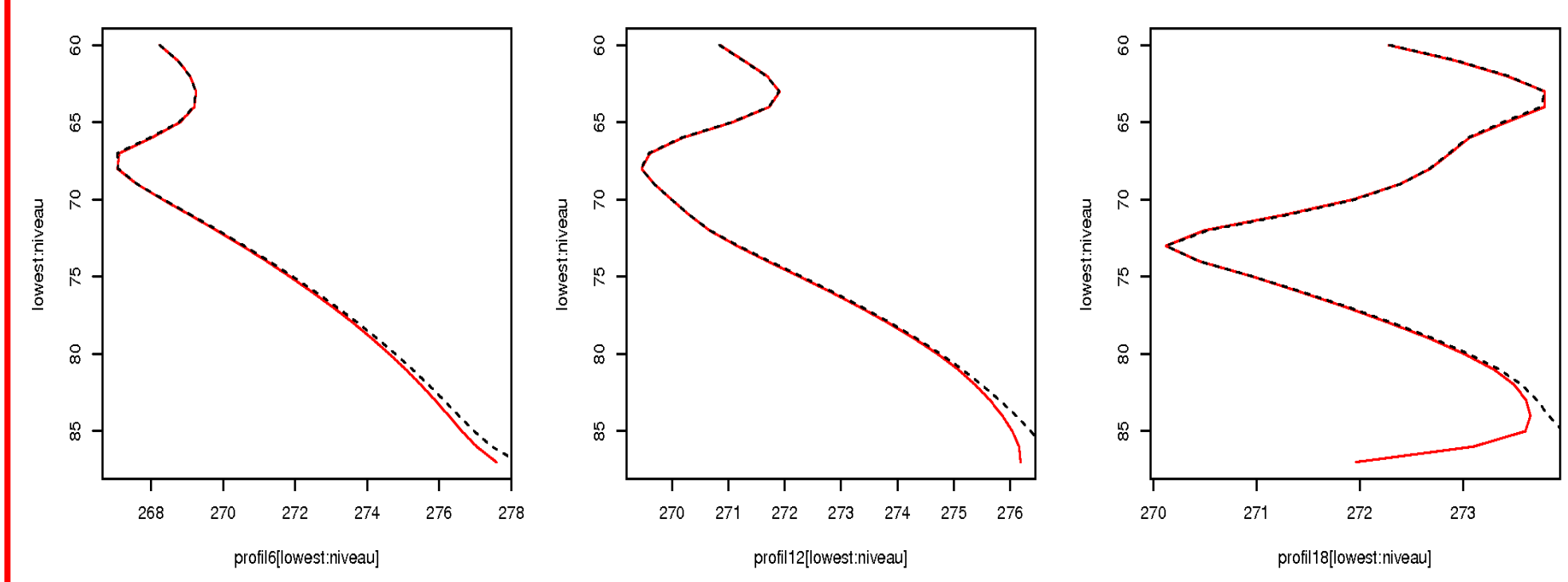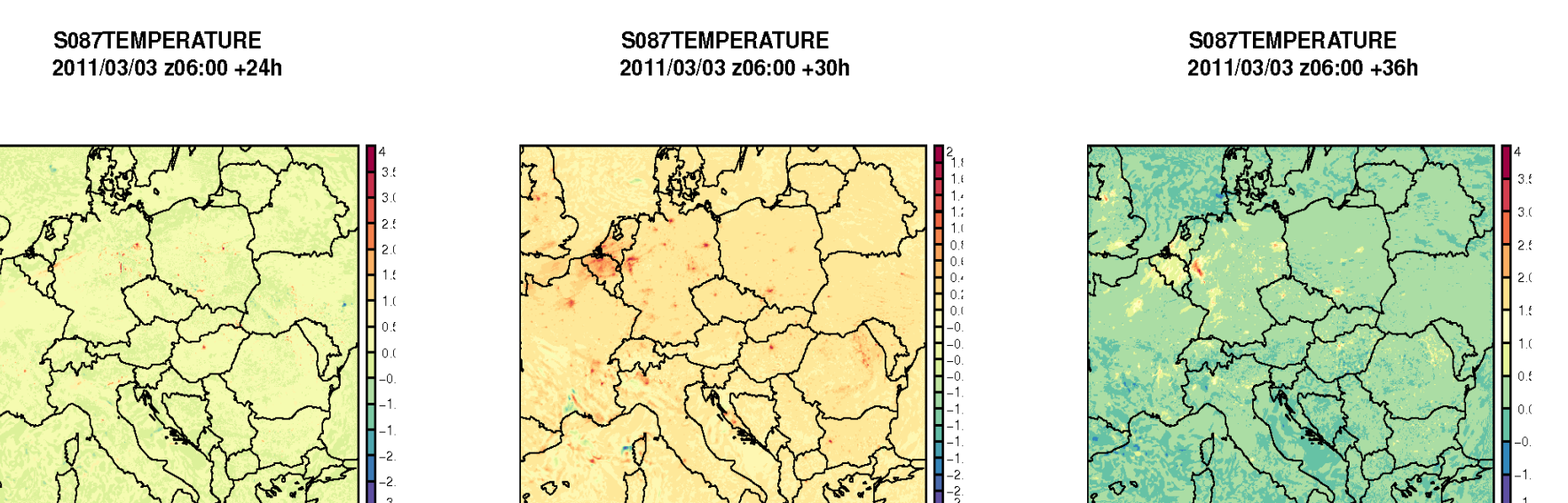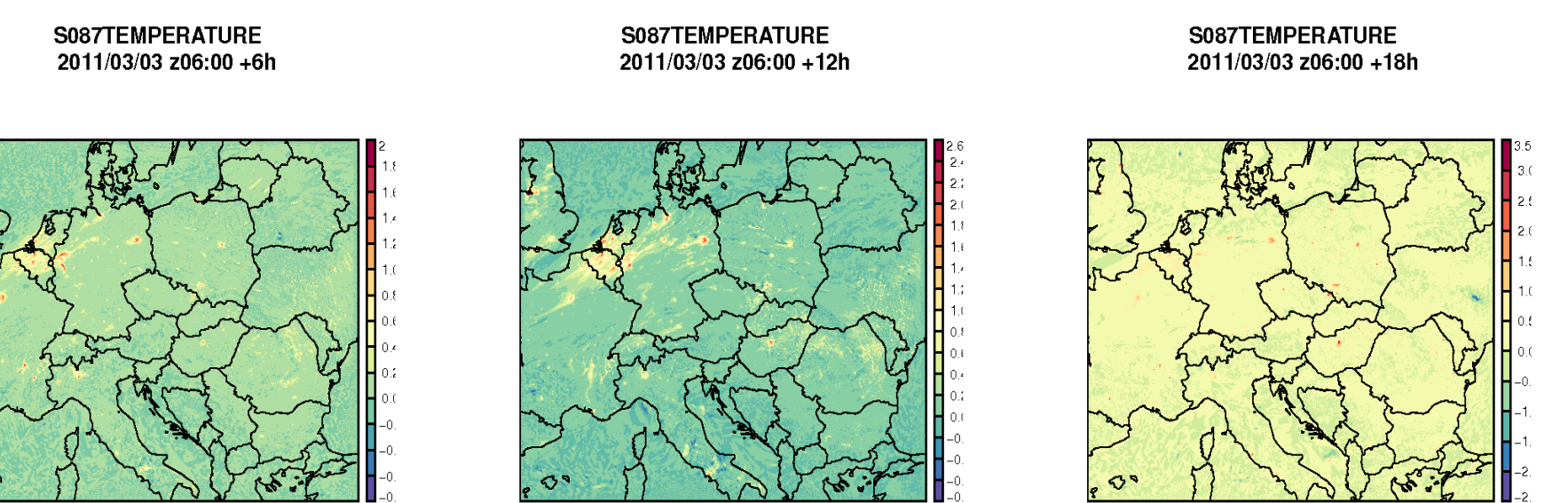## ALARO Versus ALARO+SURFEX (ISBA 2L) vertical scores
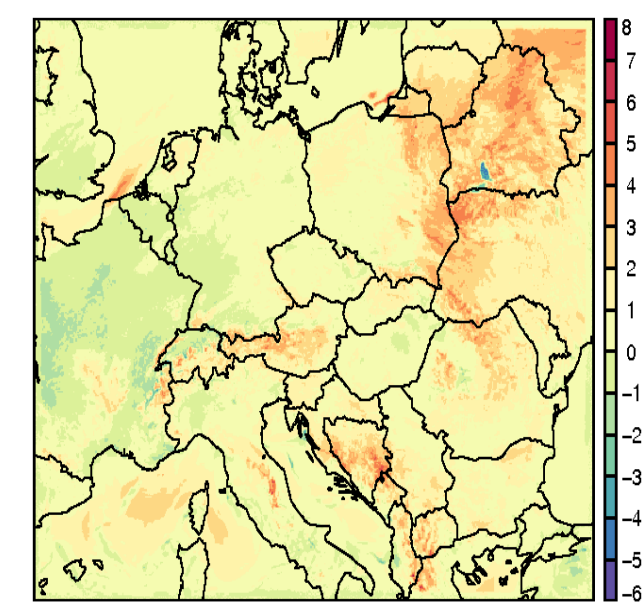

SURFEX coupled to ALARO with TOUCANS

For TOUCANS the interface with SURFEX is done via the neutral drag coefficient Cdn. The PCDN is now extracted from SURFEX and given as input to the routine ACTKEHMTLS.F90. Therefore, the new stability function are valid at the surface and in the boundary layer and the drag coefficient for momentum PCD and heat PCH are calculated using TOUCANS stability functions.
In the SURFEX execution namelist **EXSEG1.nam** the **LRRGUST_ARP** should be false because this correction will be done in the **actkehmtls.F90** routine.
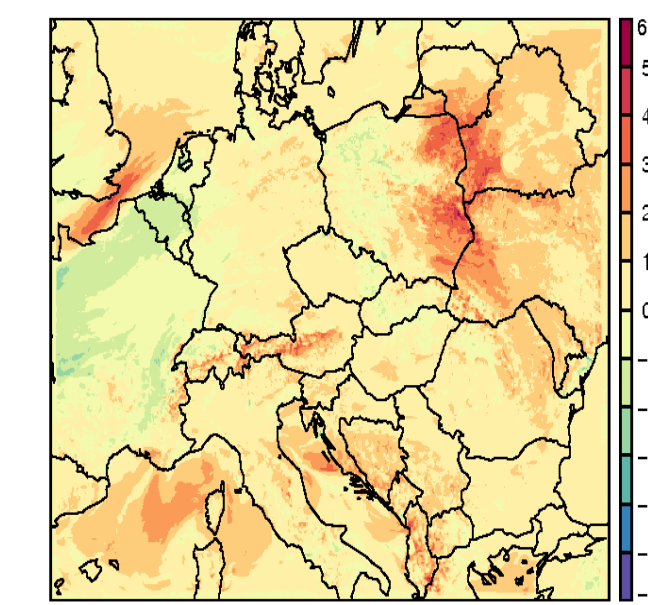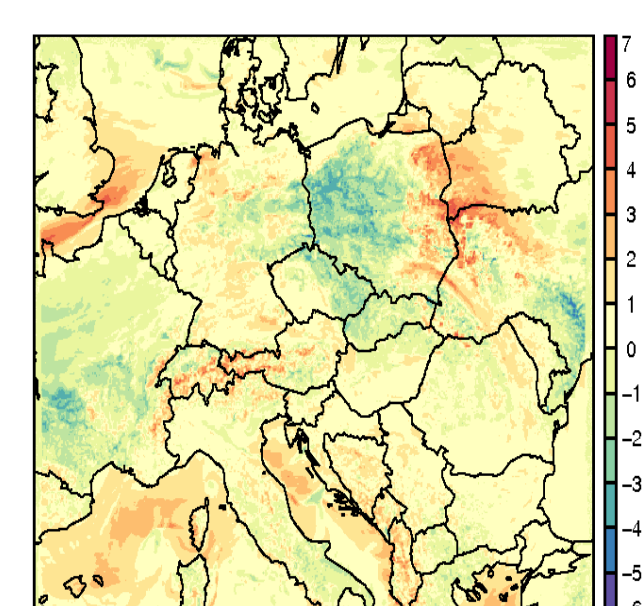&NAM_SURF_ATMn **LRRGUST_ARP=.FALSE.**
&NAM_SSOn **CROUGH="Z01D", XFRACZ0=15.,**

SURFEX (ISBA 2L) coupled to ALARO with TOUCANS

Effect of TEB