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# Local data assimilation in Slovenia – 2014

Benedikt Strajnar

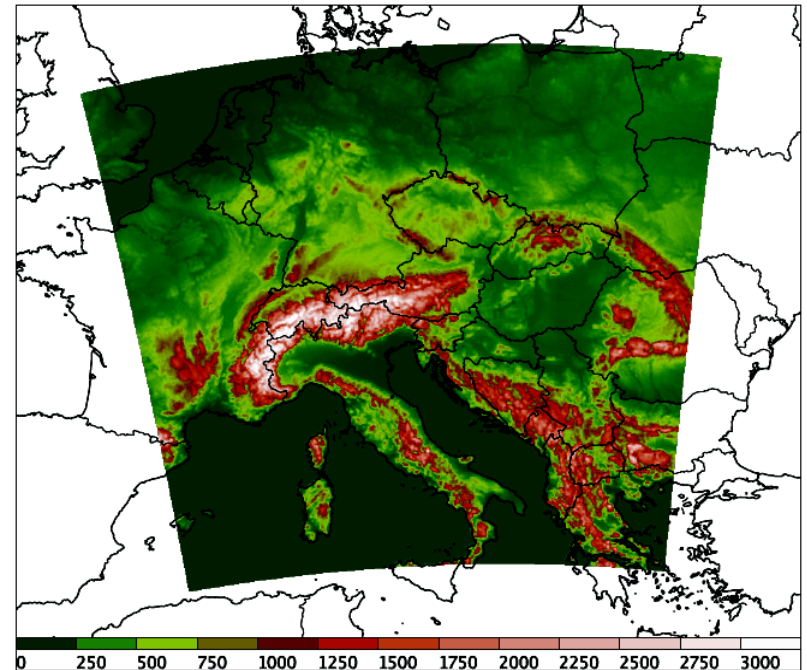
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# Operational data assimilation system - performance

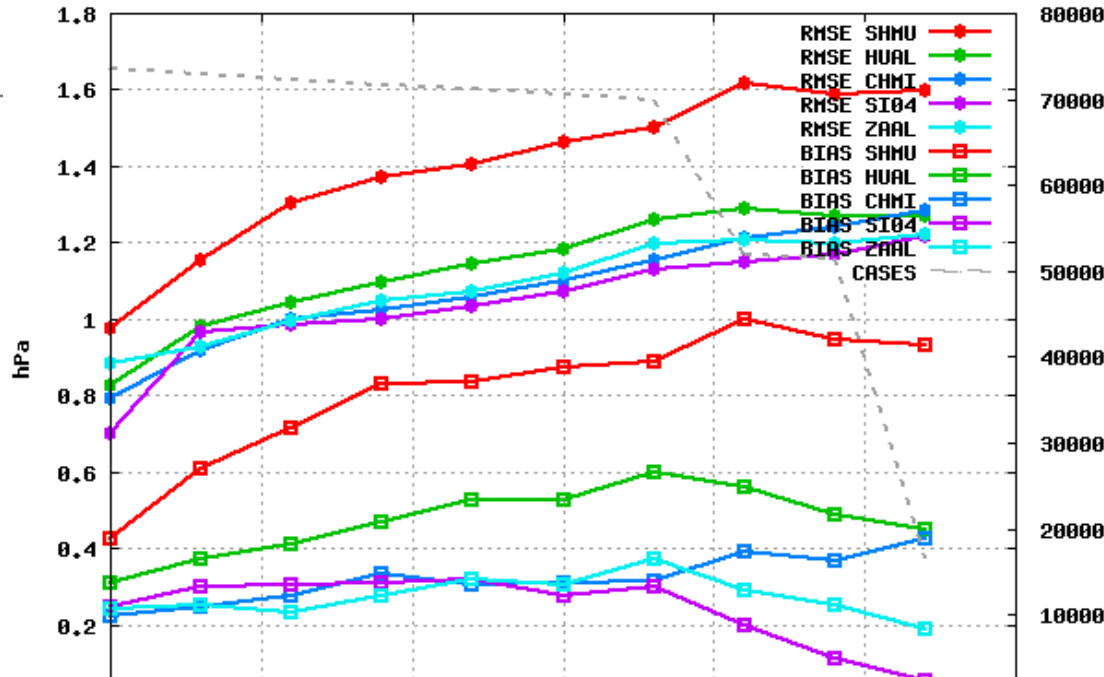
## 3h 3D-Var RUC

# Operational suite

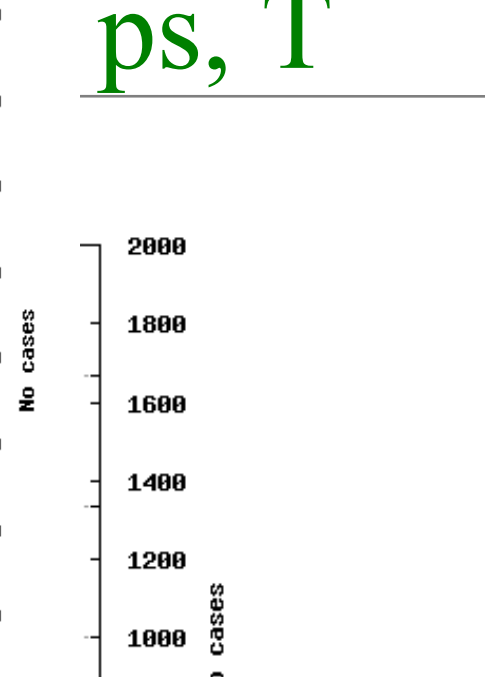
- ALARO-0 baseline (cy38t1), 4.4 km resolution, 87 vertical levels
- 3-hourly data assimilation cycle
- 3D-Var + CANARI + SST replacement
- 8 production runs (+72,+36 h)
- Lagged ECMWF coupling (early production cycle)



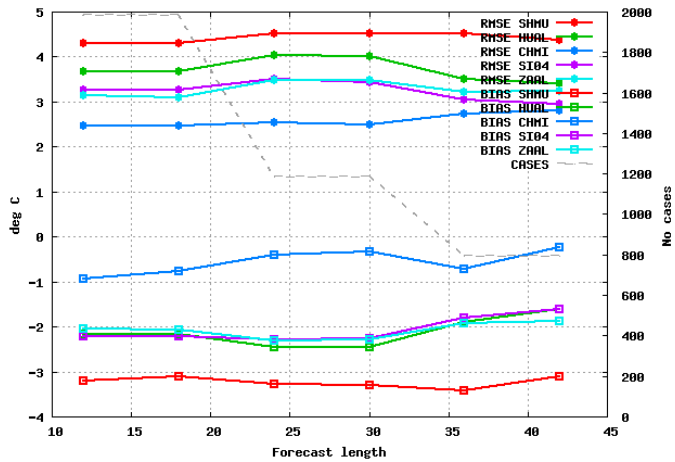
Selection: ALL using 641 stations  
 Mslp Period: 201408  
 Hours: {00,06,12,18}



ps, T

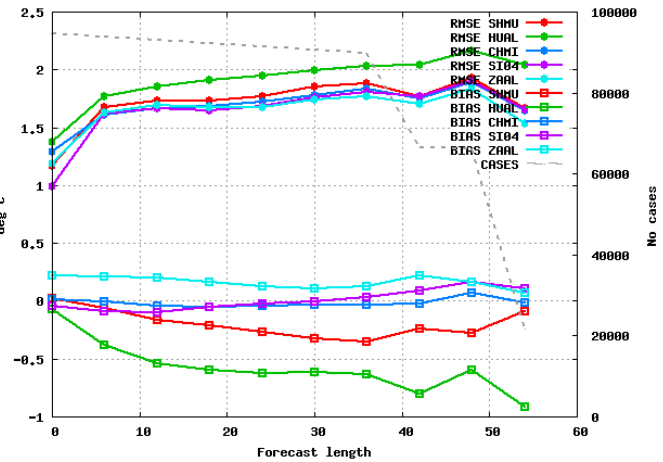
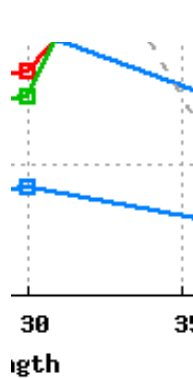


Selection: ALL using 809 stations  
 Max T2m Period: 201408  
 Hours: {00,06,12,18}

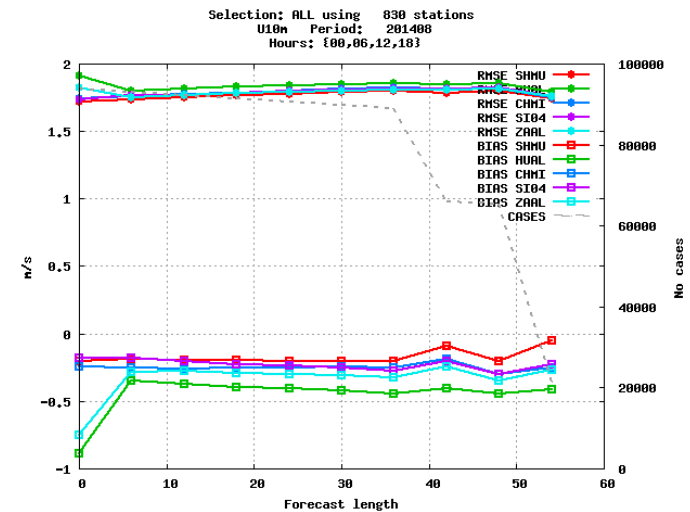
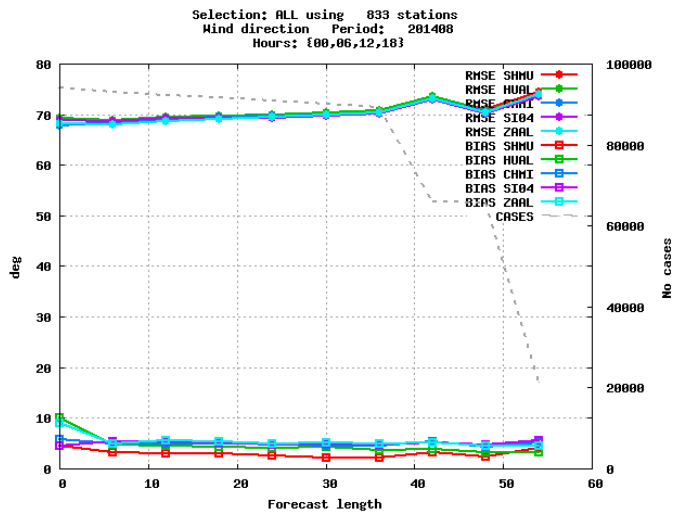
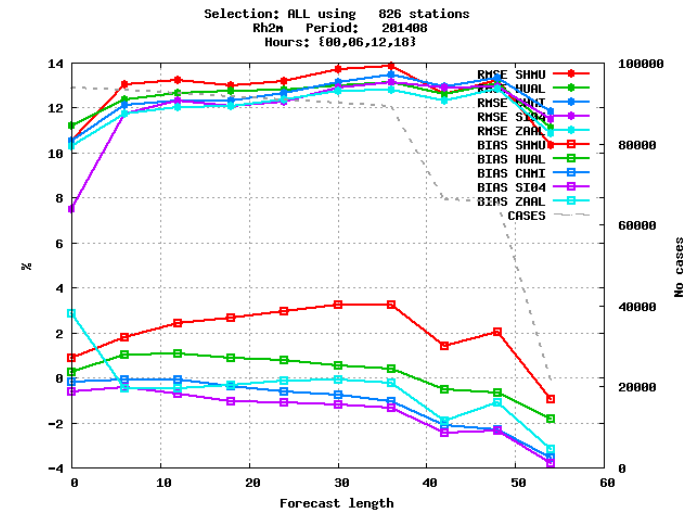
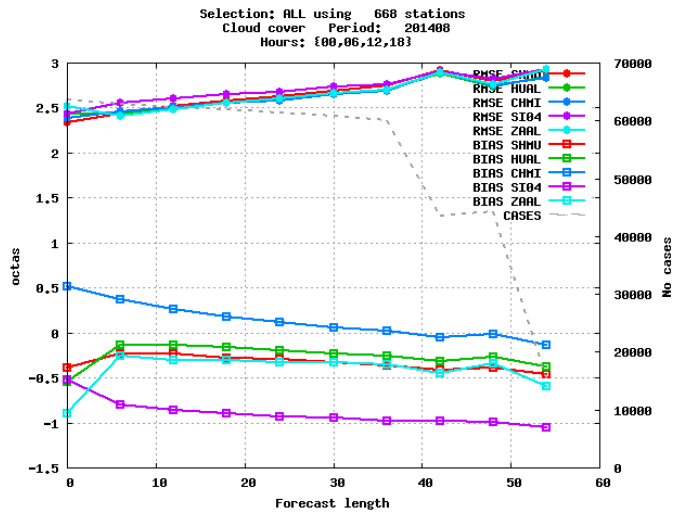


Selection: ALL using 829 stations  
 T2m, height adjusted Period: 201408  
 Hours: {00,06,12,18}

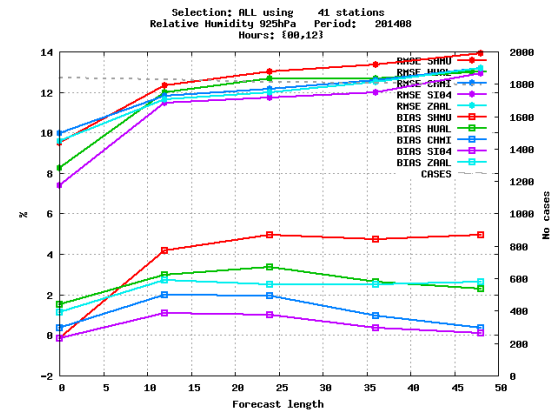
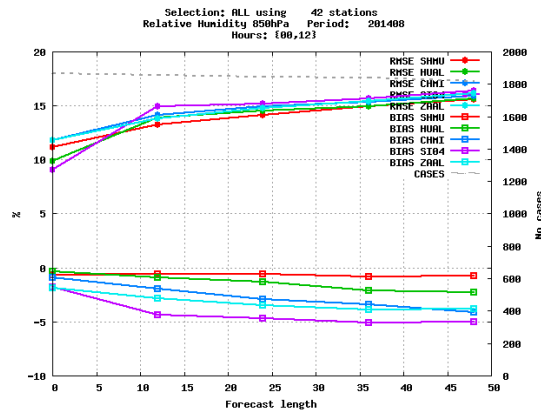
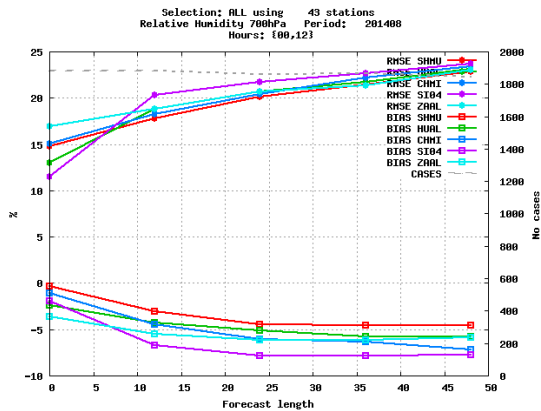
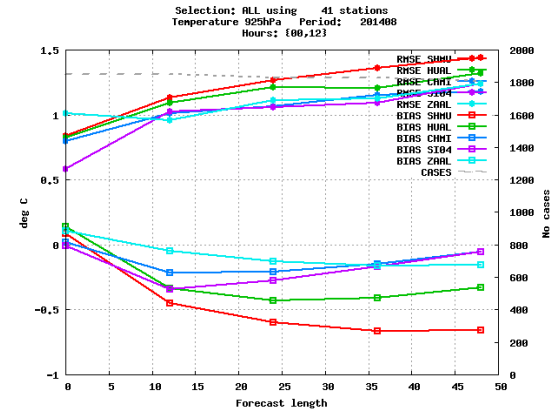
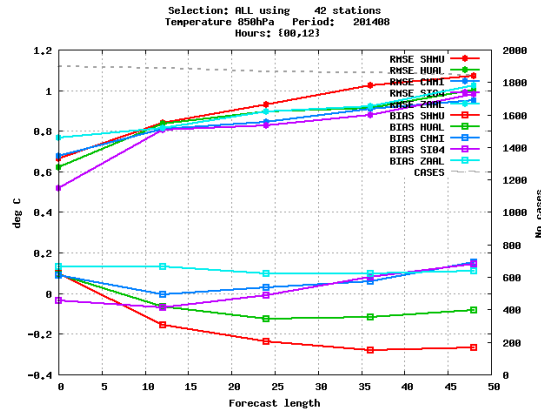
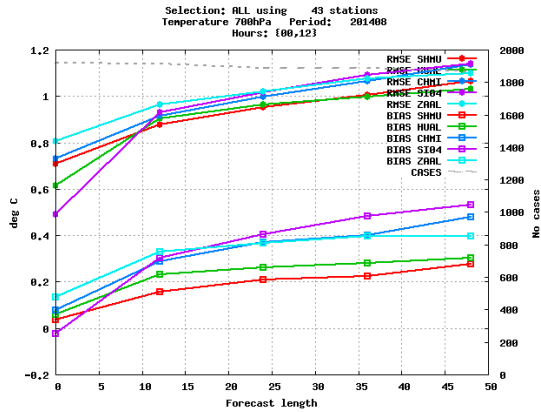
3 50



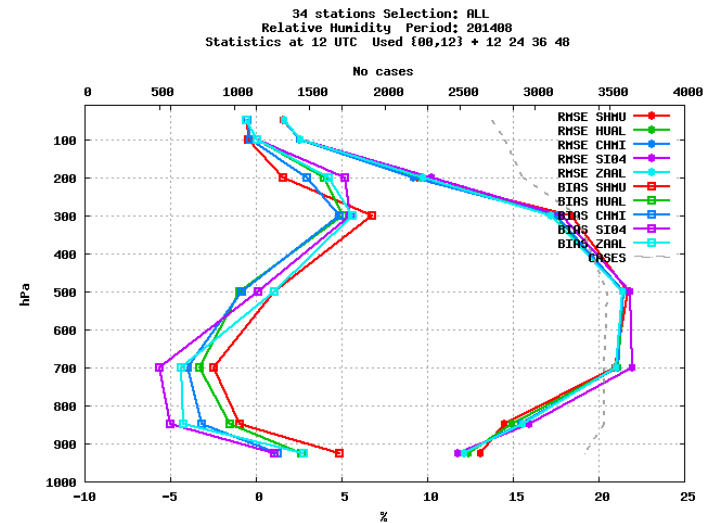
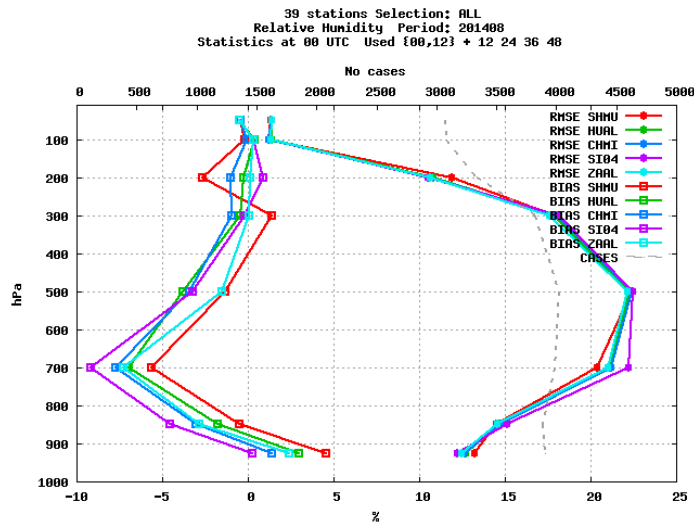
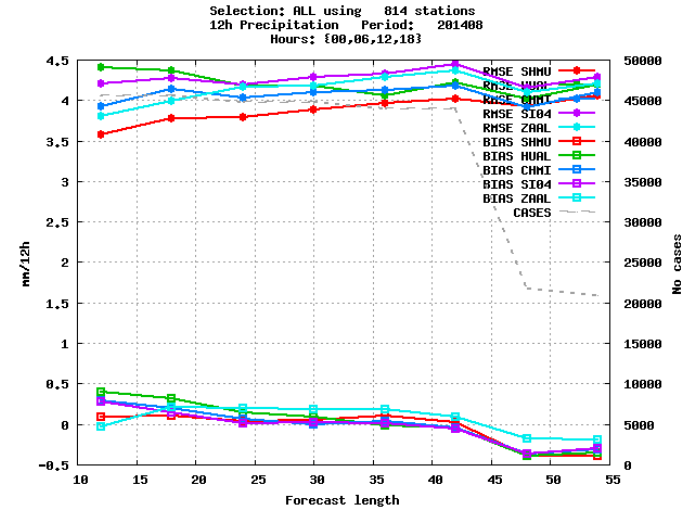
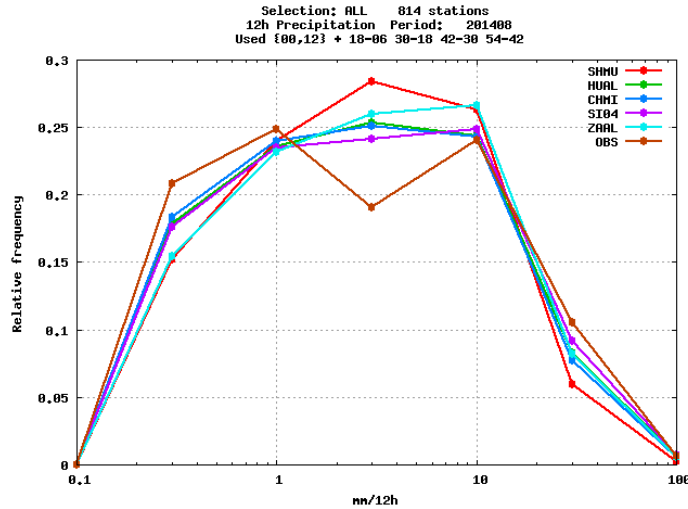
# Surface parameters - clouds, rh, winds



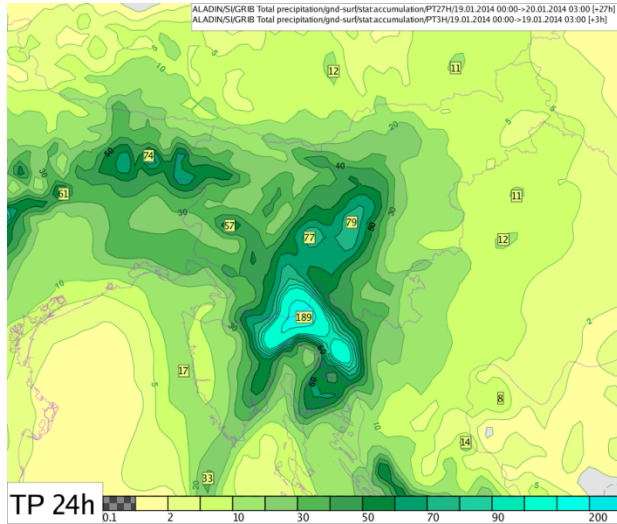
# Upper air scores



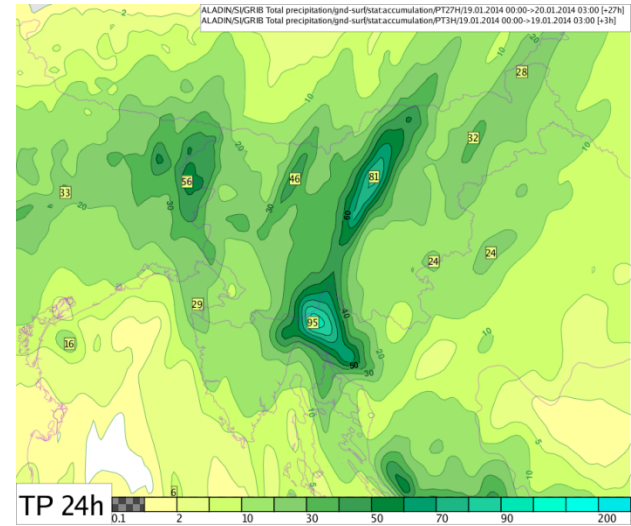
# Precipitation & humidity vert. profiles



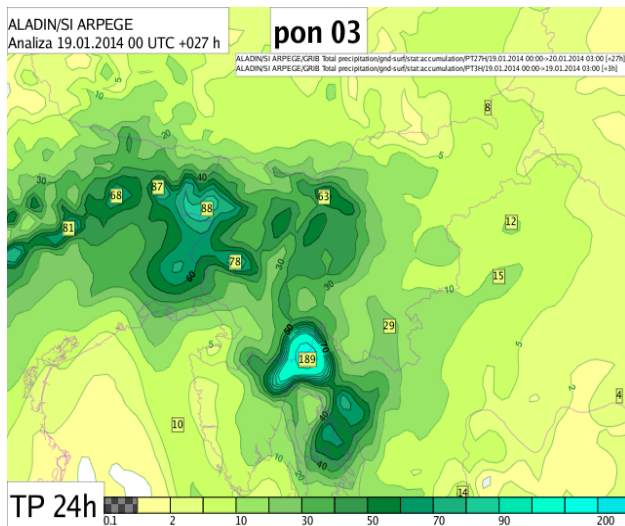
# Case study



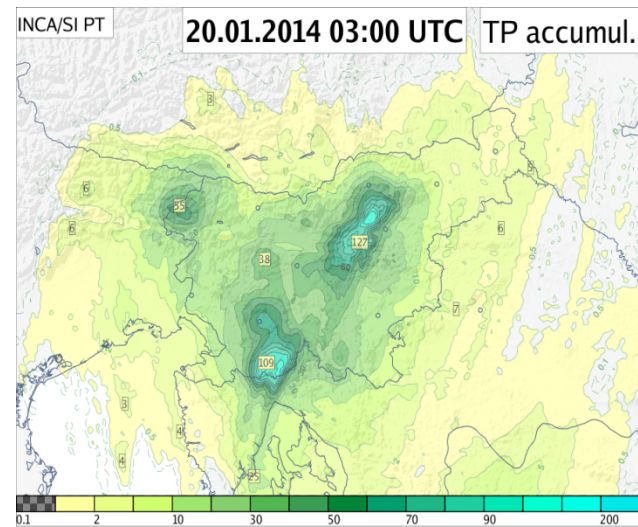
OLD  
ASSIM



NEW



OLD  
DYN.  
ADA





# Comments by forecasting office

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“Model enables nice insight to the nature of the processes which improves conceptual understanding, the space and time is not reliable”

“There is jumpiness in model runs, this helps assess uncertainty”

“Winds are more realistic, link with convection is visible”

“Advantage of being rapidly available”

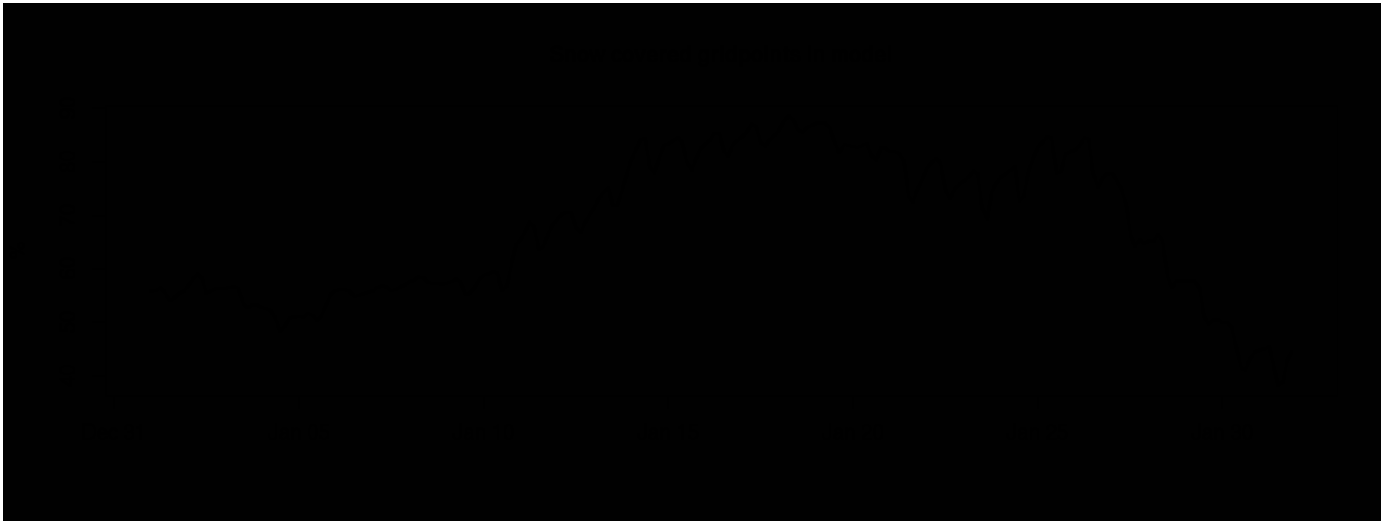
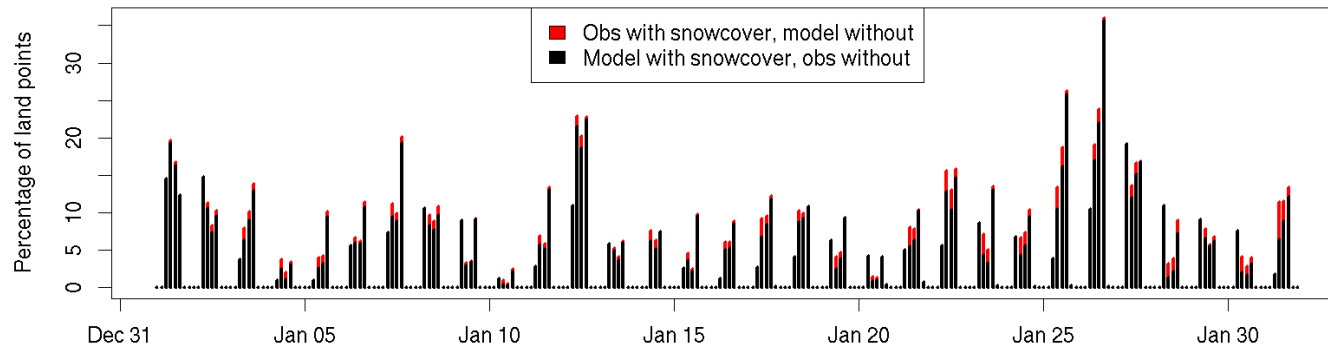
“Precipitation sometimes too spotted”

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# Snow analysis

# NWC SAF – Snow cover

Winter 2013



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# New ensemble B matrix

# New B matrix

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Samples : 562

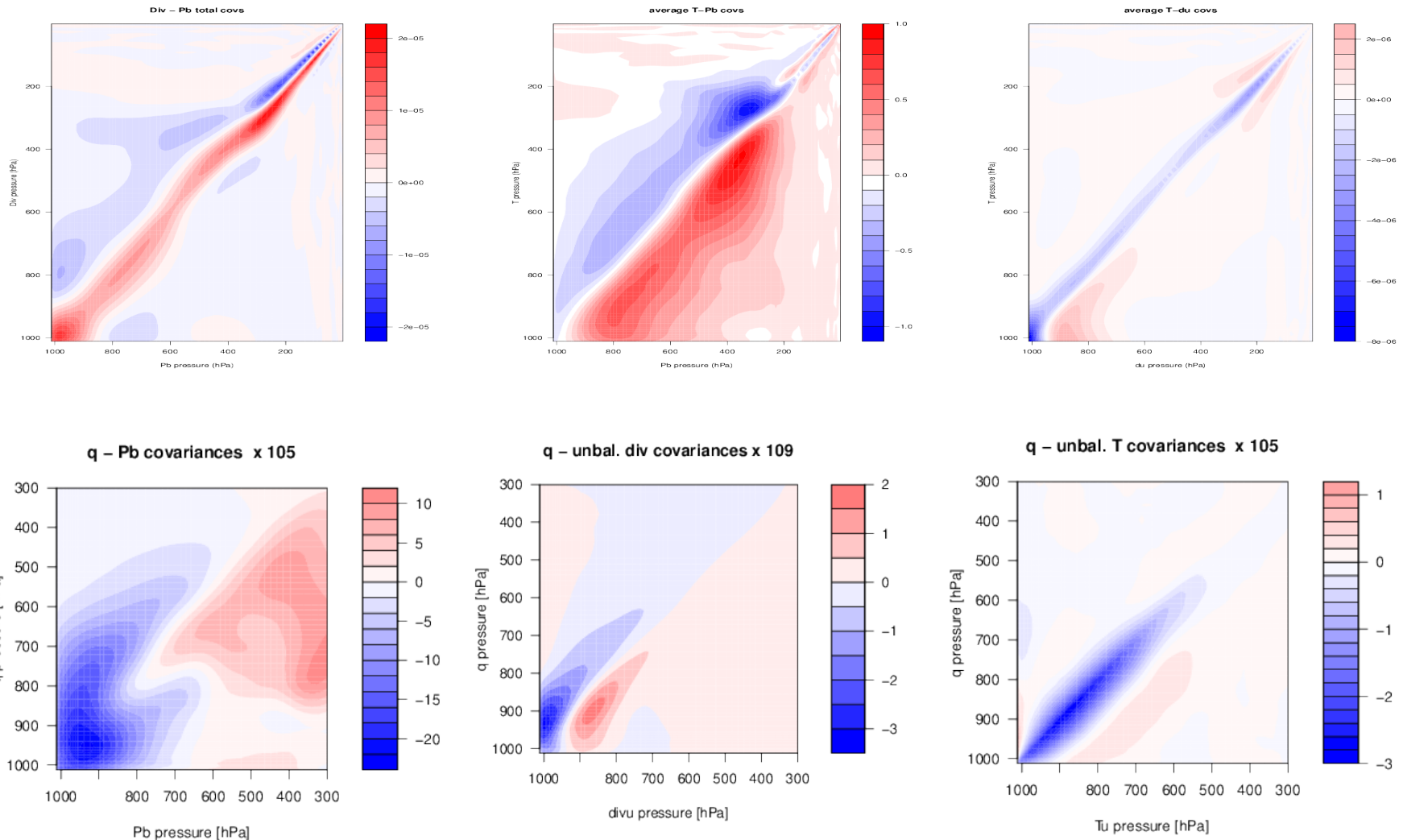
Period: March -April 2012

Coupling: ECMWF

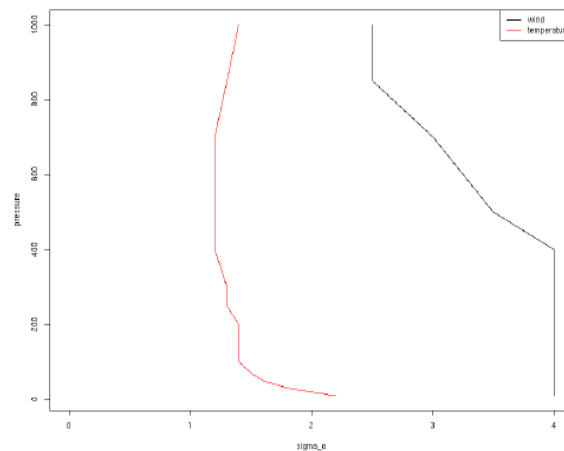
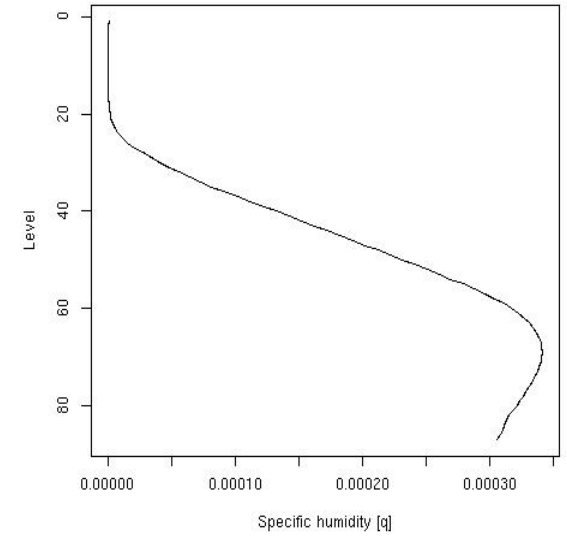
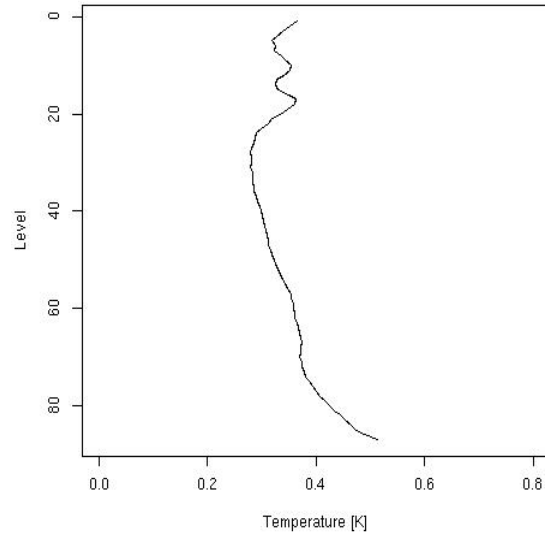
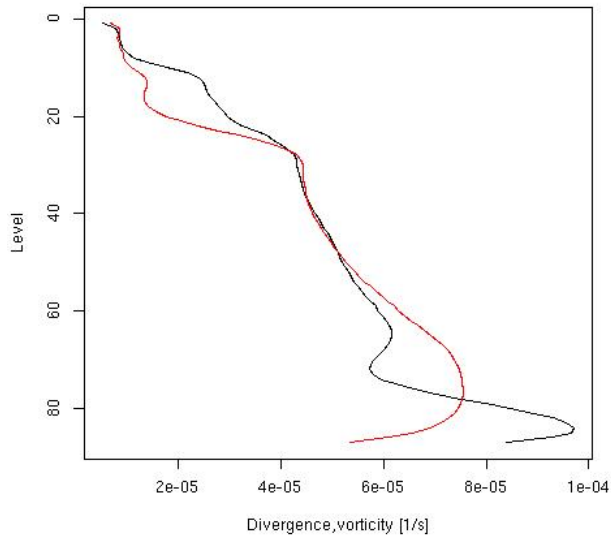
Tuning (default, to be done during a stay in October):

- REDNMC=1.6
- SIGMAO\_COEFF=0.9

# Multivariate analysis



# Vertical profiles of error std.



# Conclusions

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- More validation and tuning necessary (stay in LJ)
- Humidity observations missing (GPS)
- Quite good feedback from forecasters