

*Regional Cooperation for  
Limited Area Modeling in Central Europe*



# Common operations in LACE

Yong Wang



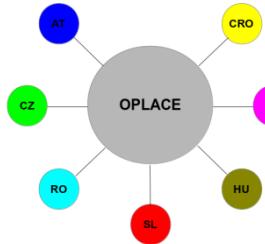
# Objectives of LACE

The principal objectives of RC-LACE are 1) developing state of the art limited area model and data assimilation system; 2) conducting scientific and technical research jointly towards improving the quality of the forecasts.

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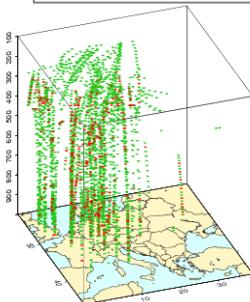
# LACE common operations

# OPLACE

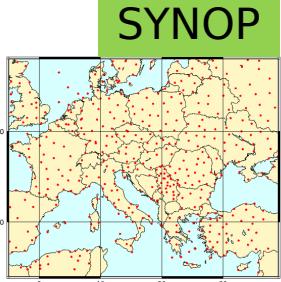


- ▶ OPLACE: The common Observation Pre-processing for LACE DA and Verification: SYNOP, TEMP, AMDAR, AMV, Wind profilers and radiances (SEVIRI, AMSU-A/B, MHS, HIRS, IASI)

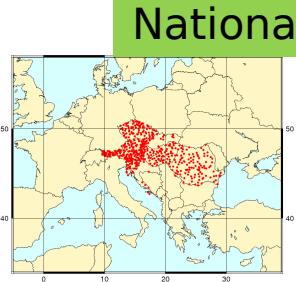
**AMDAR reports**



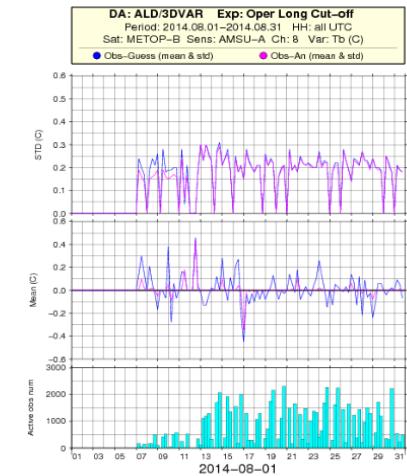
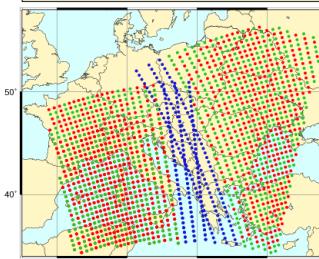
**SYNOP**



**National**

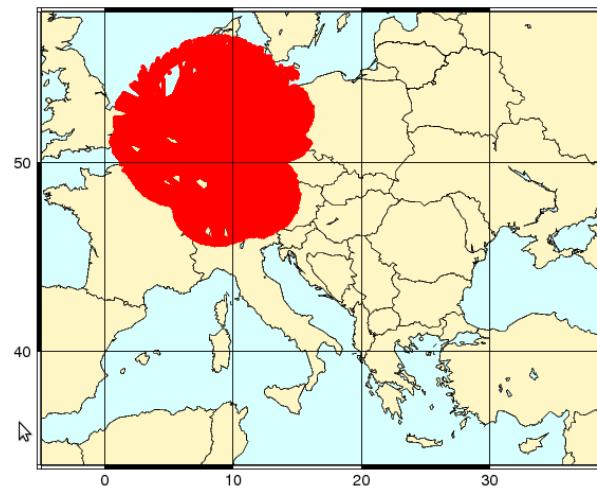
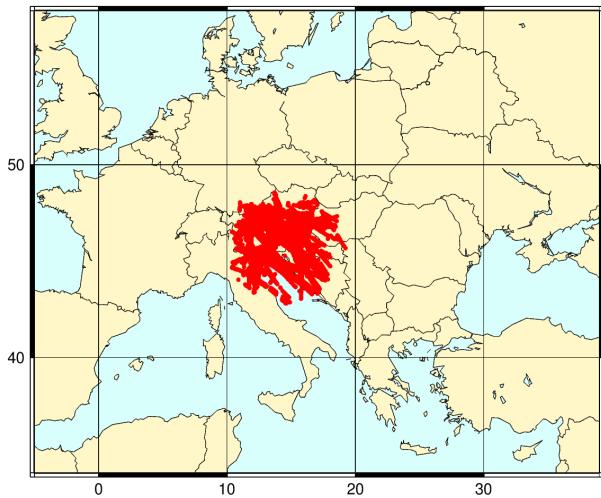


DA: ALD/3DVAR Exp: Oper Long Cut-off  
Period: 2014.08.01–2014.08.31 HH: all UTC  
Sat: METOP-B Sens: AMSU-A Ch: 8 Var: Tb (C)  
● Obs-Guess (mean & std) ● Obs-An (mean & std)



- ▶ Exchange of national data
  - OPLACE access for non-LACE countries
    - agreement with Tunisia was signed & access was provided

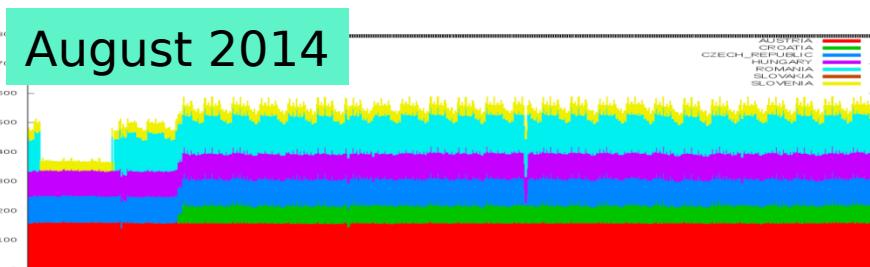
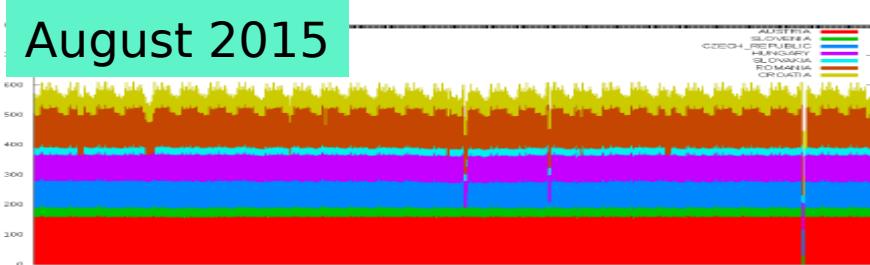
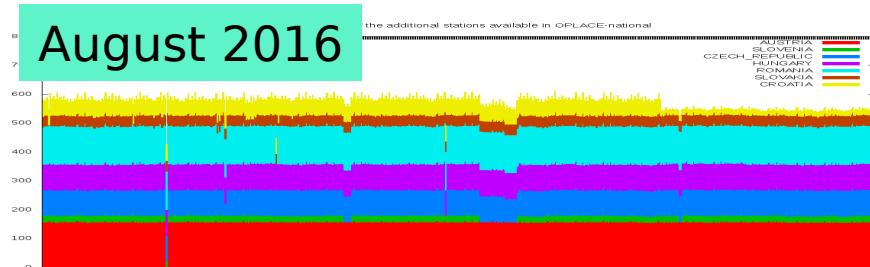
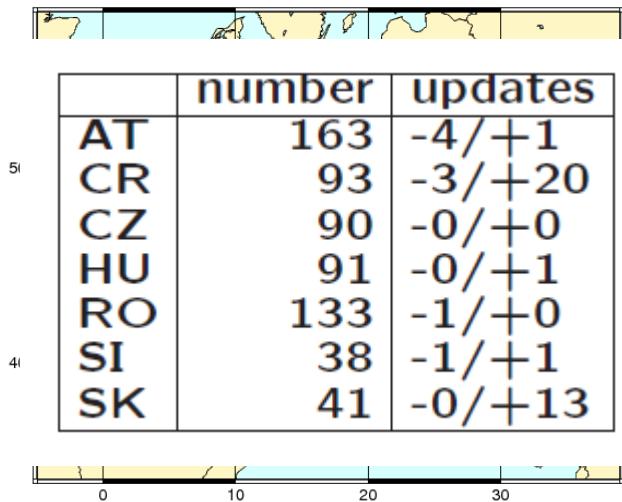
# Mode-S data in OPLACE



Mode-S MRAR data from Slovenia Mode-S EHS data from KNMI

## Exchange of the national surface observations

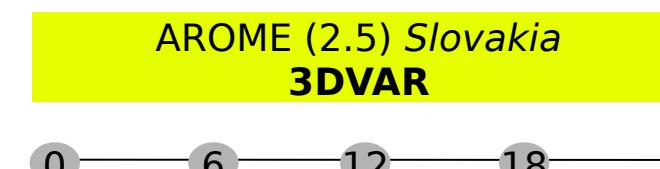
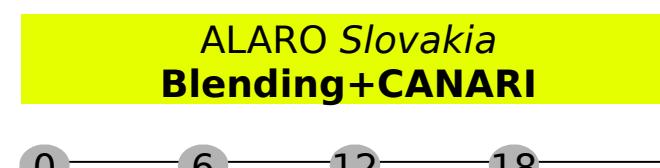
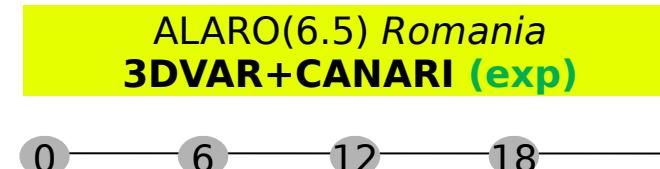
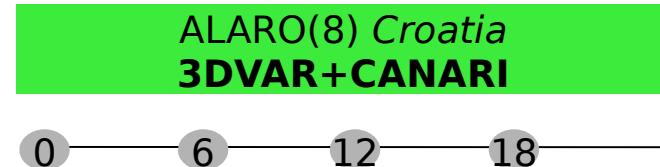
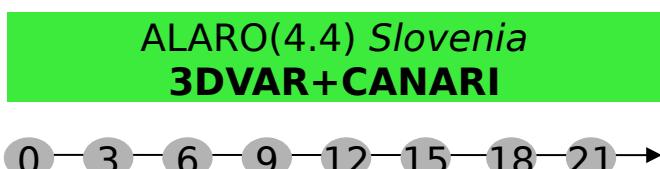
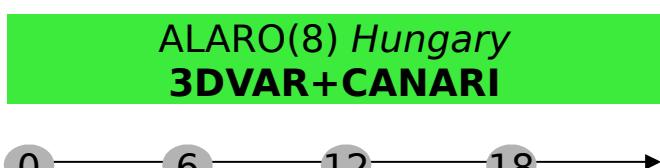
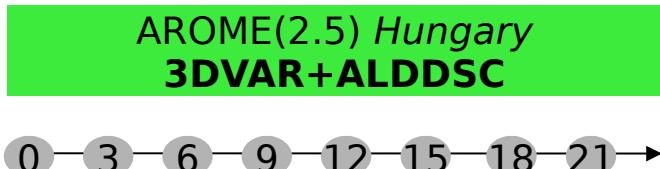
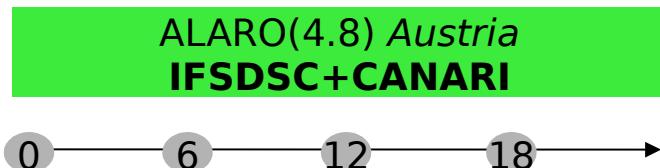
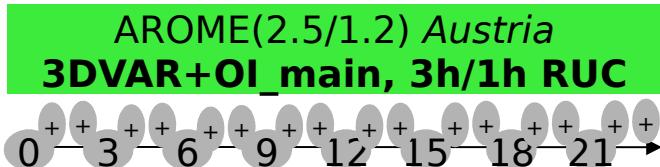
# National obs. data in OPLACE



National data available in OPLACE

OPLACE hourly data monitoring

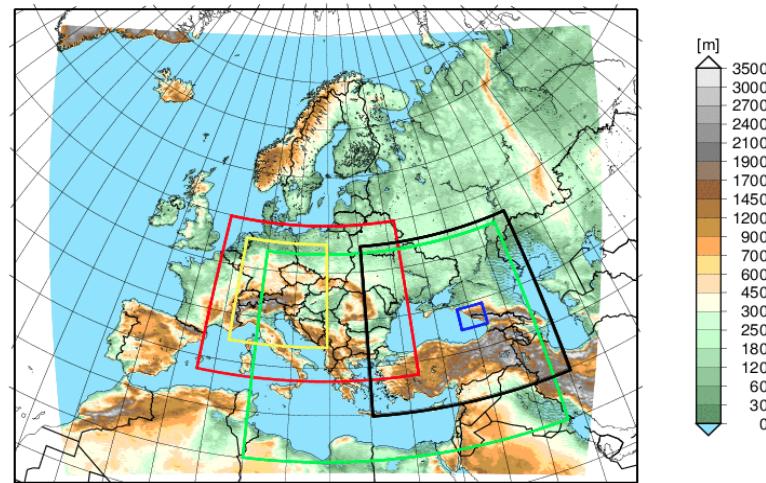
# LACE DA status



# Common operations

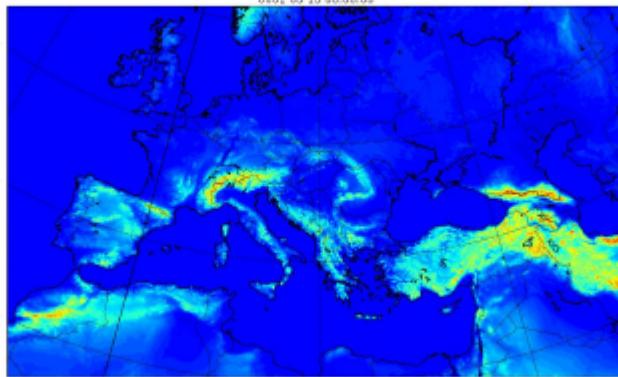
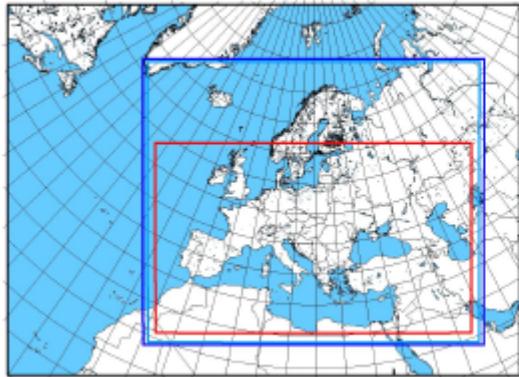
- ▶ ALADIN-LAEF

Ensemble size	16+1
Horizontal resolution	11km
Vertical resolution	45
Runs/day	2
Forecast range	72h
Coupling	ECMWF EPS time lagged



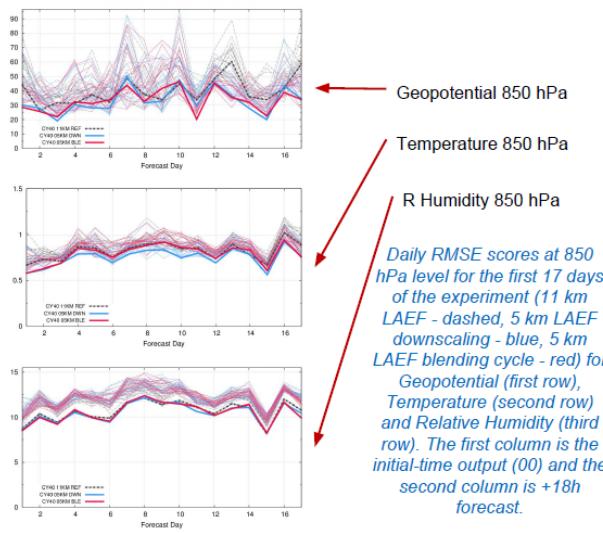
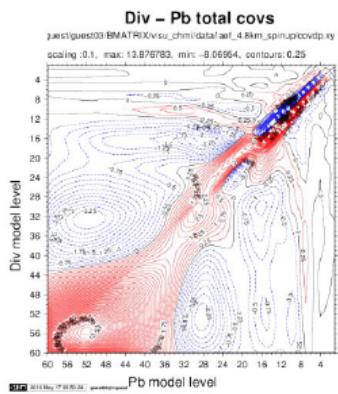
Initial perturbation	Blending
Model perturbation	multi-physics
Initial surface perturbation	ensemble DA

# ALADIN-LAEF 5km upgrade

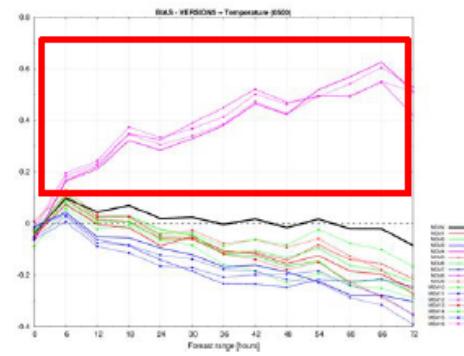


*Current operational 11 km ALADIN-LAEF domain borders (blue) with the nested new 5 km domain (red) - left, and the model orography of the new domain - right.*

## Ensemble of BelndVAR



## Multi-physics



**THANK YOU**

merci	grazie	spasiba	kam ouen	tak	gratzias	manana	mahalo	hvala	kitos	cheers	gracias	gracias	grassie	thank you
danki	danki	dankon	dankon	dankon	dankon	dankon	dankon	dankon	dankon	welalin	takk	takk	danki	danki
modupe	mesi	na gode	thanks	talofa	miigwetch	thanks	thanks	danke	kitos	domo arrigato	gratitude	dziekuje		