

*Regional Cooperation for
Limited Area Modeling in Central Europe*

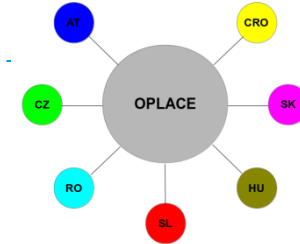


LACE in 2017

Yong Wang + many LACE colleagues

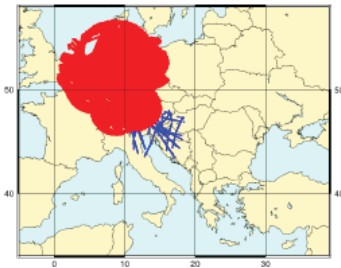


Common operations



- ▶ OPLACE: The common Observation Pre-processing for LACE DA and Verification.

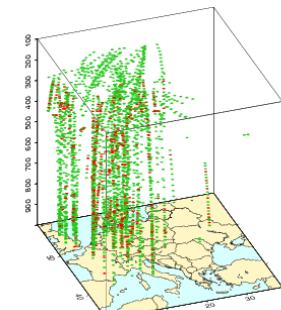
Mode-S



National data exchange



Number of national stations	
Austria	169
Croatia	21
Czech Republic	90
Hungary	92
Romania	134
Slovakia	46
Slovenia	17
Total:	569



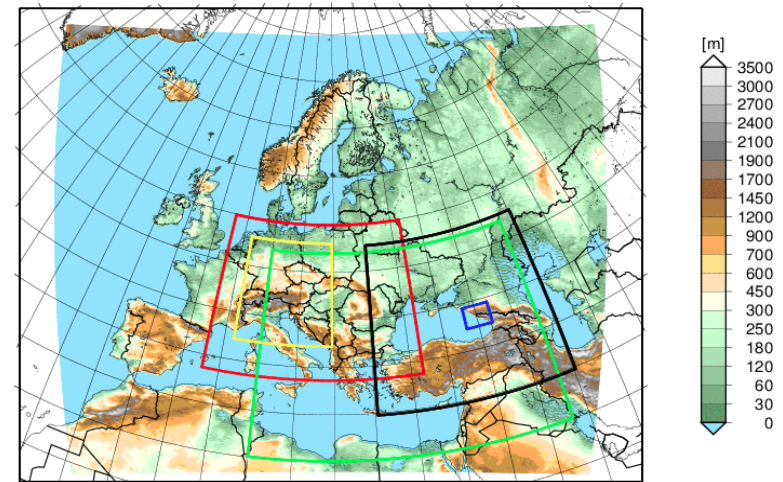
AMDAR reports

- OPLACE access for non-LACE countries
 - Agreement with Poland, and national polish data in OPLACE

Common operations

▶ ALADIN-LAEF: no change

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

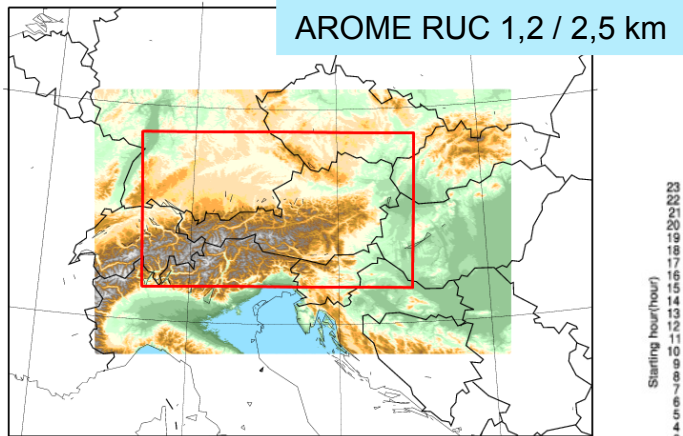
DA local implementation

01/2011

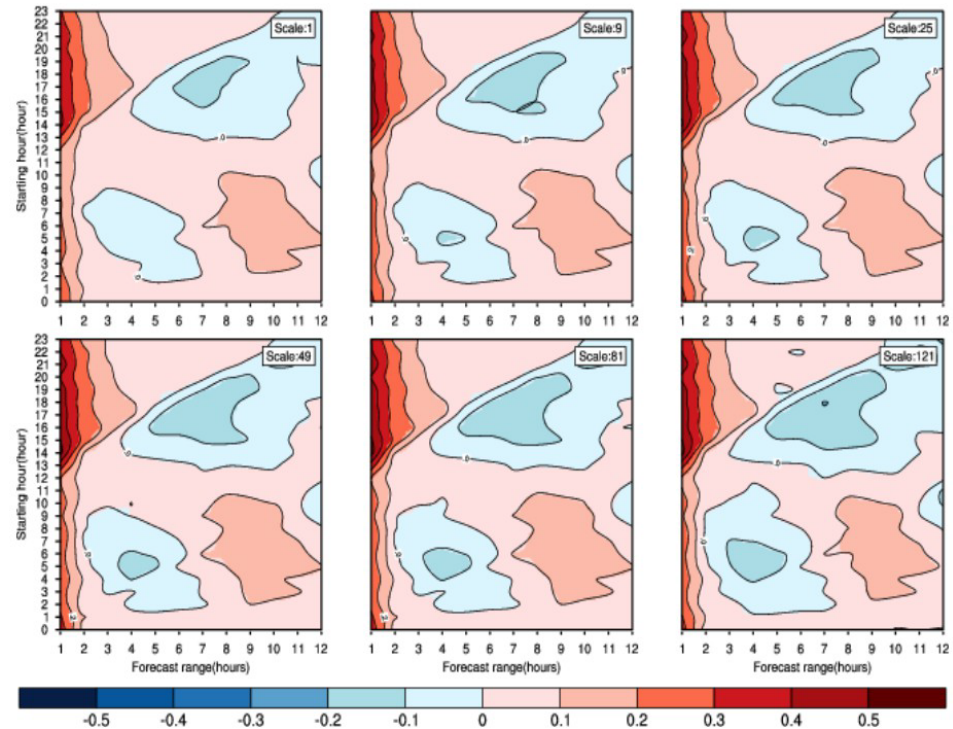
	Austria	Austria	Croatia	Croatia	Czech Republic	Hungary	Hungary	Romania	Slovakia	Slovakia	Slovenia	Slovenia
Model version	ALARO	AROME	ALARO	ALARO	ALARO	ALARO	AROME	ALARO	ALARO	ALARO	ALARO	ALARO
Coupling model in assimilation cycle	IFS	IFS	IFS	IFS	ARP	IFS	IFS	ARP	ARP	ARP	IFS	ARP
Assimilation cycling frequency	6 hours	3 hours	6 hours	3 hours	6 hours	6 hours	3 hours	6 hours	6 hours	6 hours	3 hours	3 hours
Surface assimilation method	OI	OI_main	OI	OI	OI	OI	OI_main	OI	OI	OI	OI	OI
Upper-air assimilation method	-	3DVAR	3DVAR	3DVAR	BlendVAR	3DVAR	3DVAR	3DVAR	Blending	Blending	3DVAR	3DVAR
Background error sampling	-	DSC ENS	NMC	NMC	DSC ENS	LAM ENS	LAM ENS	DSC ENS	-	-	DSC ENS	DSC ENS
The use of Observations	OPLACE+ZAMG	OPLACE+ZAMG	OPLACE	OPLACE	OPLACE	OPLACE	OPLACE	OPLACE	OPLACE	OPLACE	OPLACE	OPLACE

DA highlights

AROME–Nowcasting Domain & Topography



AROME RUC vs. INCA nowcasting



Model development

ALARO

Alaro 0/Alaro 1/ Surfex

Alaro 1

Cloud scheme

Radiation TOUCANS

Physics interface

AROME

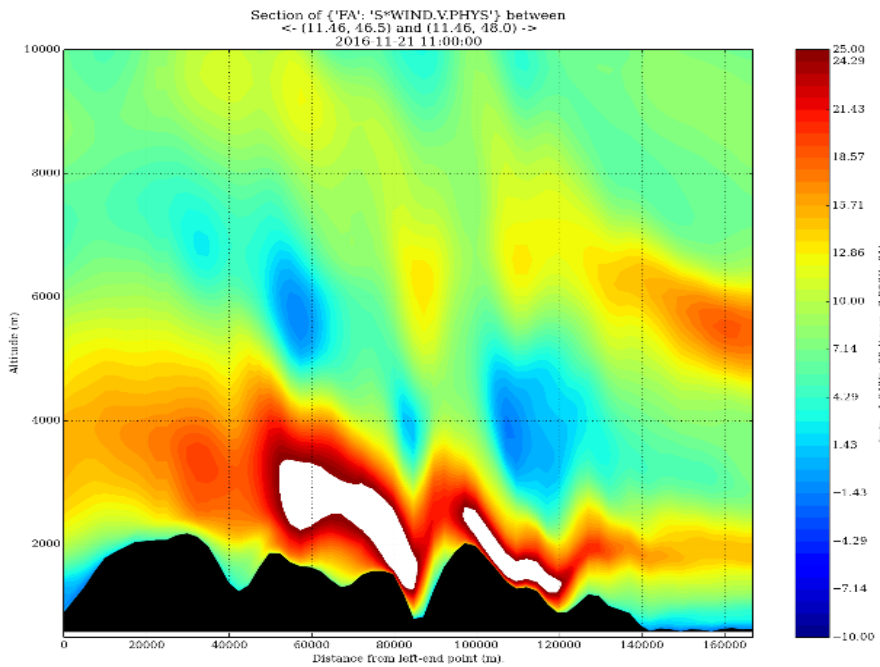
COMAD interpolation

Microphysics

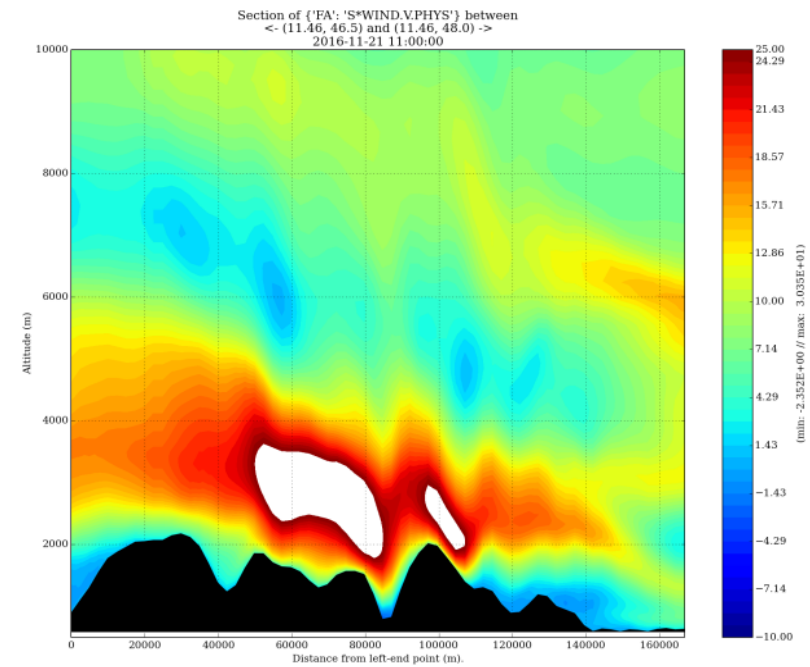
Very high resolution e.g. 500m

Model development

AROME 2.5km



ALARO 2.5km



Foehn Case: Cross section through Alps with starting point 46.5/11.6 and ending point 48.0/11.6

LACE EPS

LAEF 5km with ALARO

Convection permitting with AROME

Multi-physics

Stochastic physics

Stochastic physics:
atmosphere, land
surface

Ensemble DA J κ

Ensemble of BelndVAR

Stochastic pattern generator

The next plan

- development of AROME at 0,5 -- 2.5km scale
- development of ALARO at 1 – 5 km scale
- further developing DA, 1h RUC, radar QC, more data in DA
- development of 5km ALARO based EPS
- development of AROME based convection permitting EPS

Welcome to RC LACE website

RC LACE

(Regional Cooperation for Limited Area modeling in Central Europe)



Data
assimilation



Physics



Dynamics



Predictability



Operational



Publications



Forum



Contact

Events

- ❖ **16-21 August 2014**
 Montreal, Canada:
[World Weather Open Science Conference, Environmental prediction systems: mid-latitude regional aspects](#)
- 🕒 **02-03 October 2014**
 Vienna, Austria:
[MesoVICT Kick-off meeting](#)
- 🕒 **06-10 October 2014**
 Prague, Czech Republic.:
[The EMS Annual Meeting and the European Conference on Applied Climatology](#)

› [more events](#)

Thanks!

Partners



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