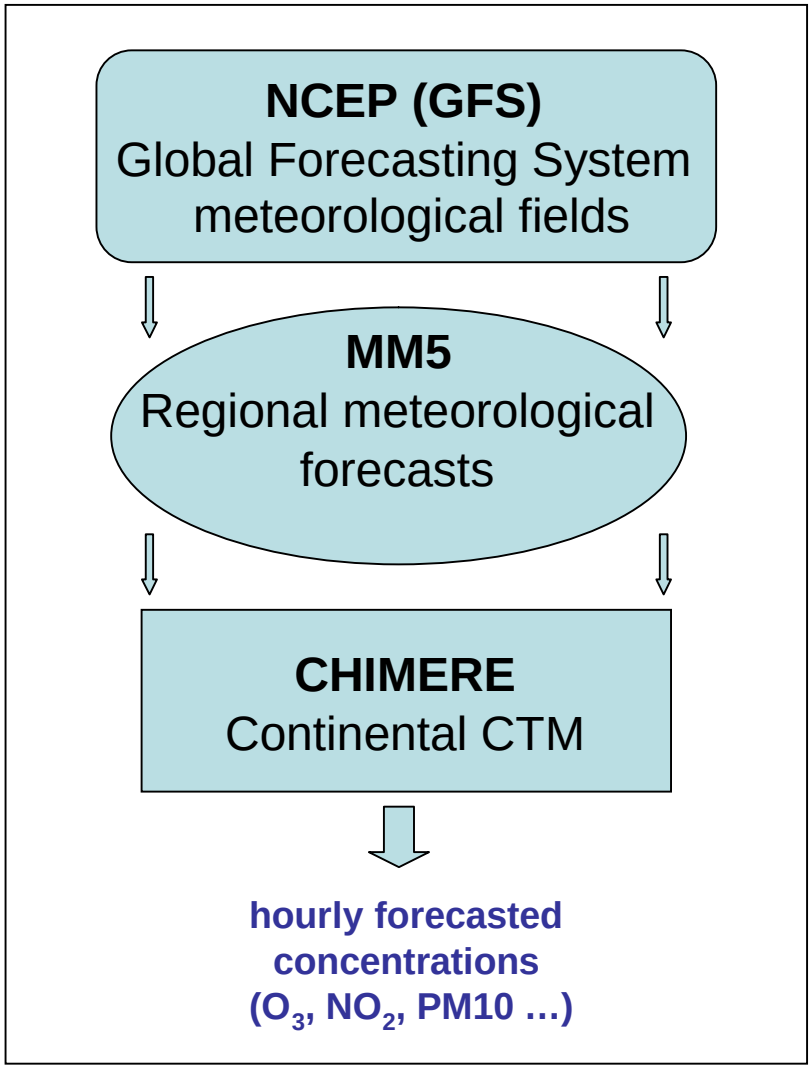
Progress of the operationnal CHIMERE forecasting system toward the CHIMERE/GEMS forecasting configuration

LMD (G. Foret, L. Menut, J-L Monge)
LSCE (R. vautard)
LISA (G. bergametti, M. beekmann)

Operationnal CHIMERE forecasting system on GEMS domain (3)



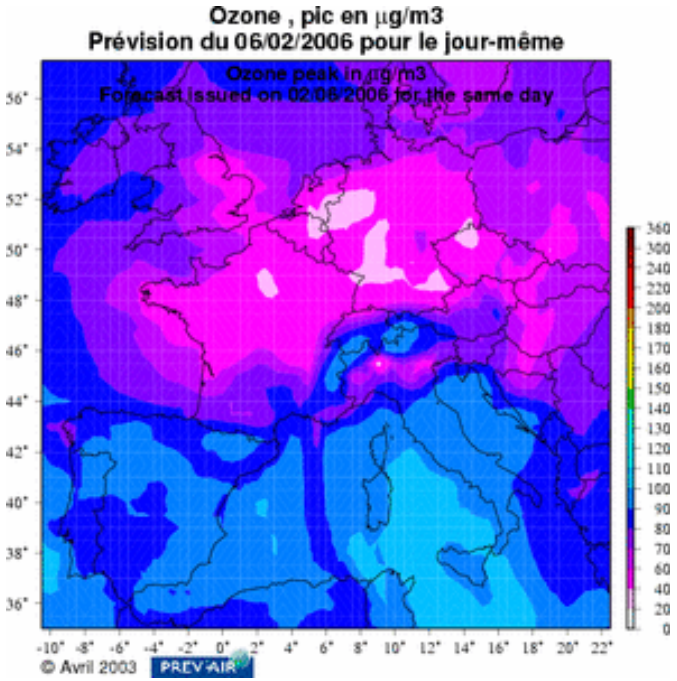
Same configuration than CHIMERE operationnal configuration at INERIS:

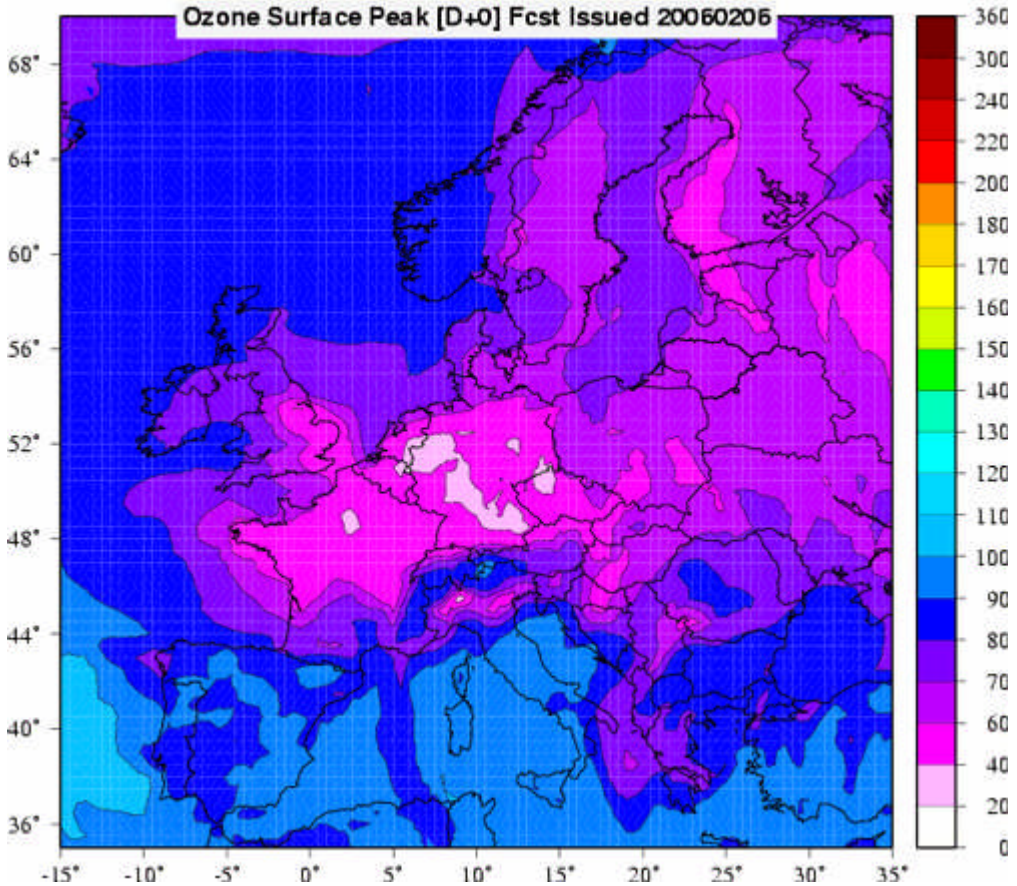
http://www.prevair.org/fr

… but the geographical domain …

CHIMERE forecasting system on GEMS domain (2)

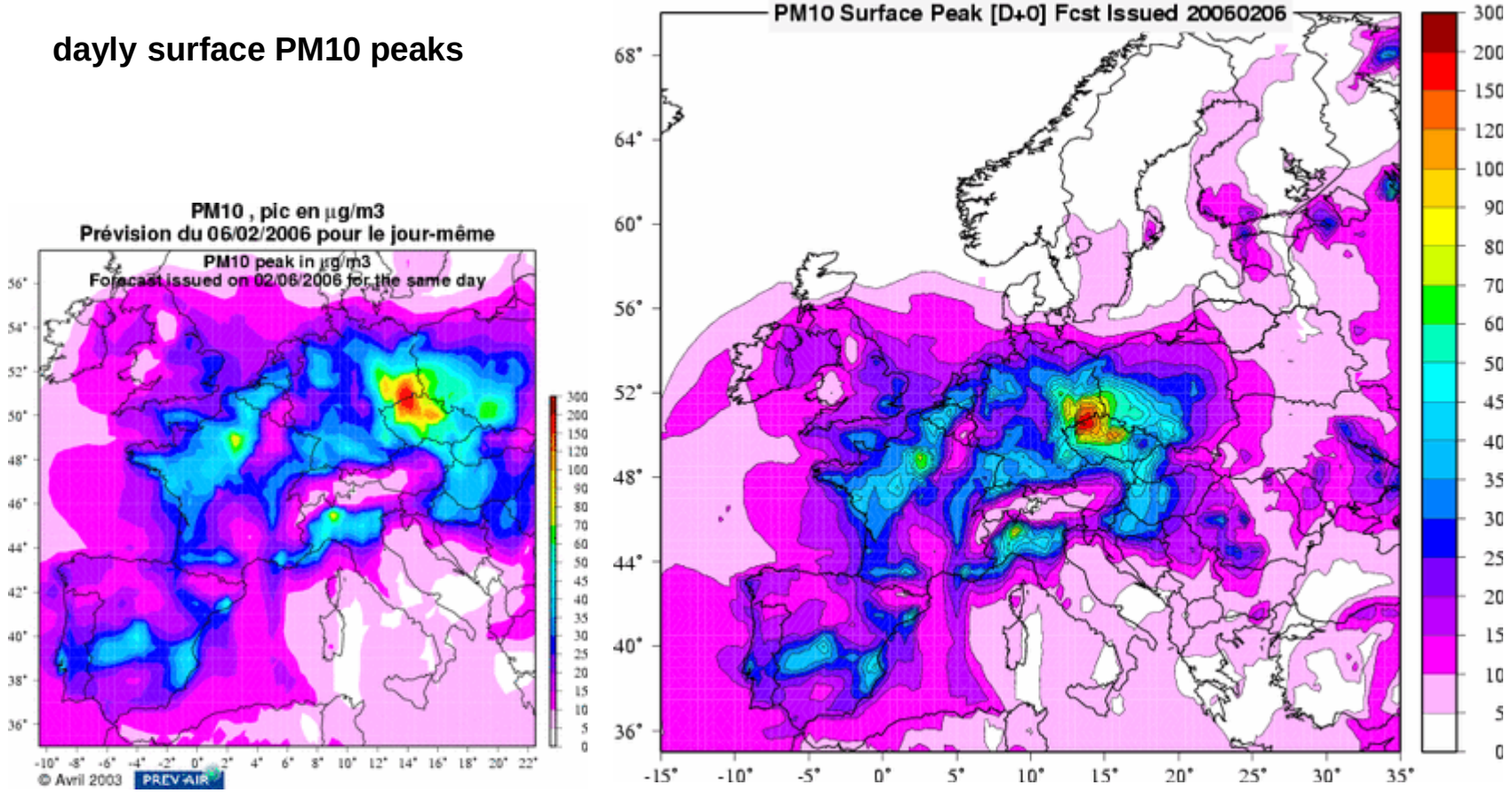
dayly surface ozone peaks





CHIMERE forecasting system on GEMS domain (2)

dayly surface PM10 peaks



→ validation is needed

Experimental daily forecast: Chimere-GEMS

[CHIMERE home page] - [GEMS home page]

2006

Day

01 02 03 04 05 **06** 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

January
February
March
April
May
June
July
August
September
October
November
December

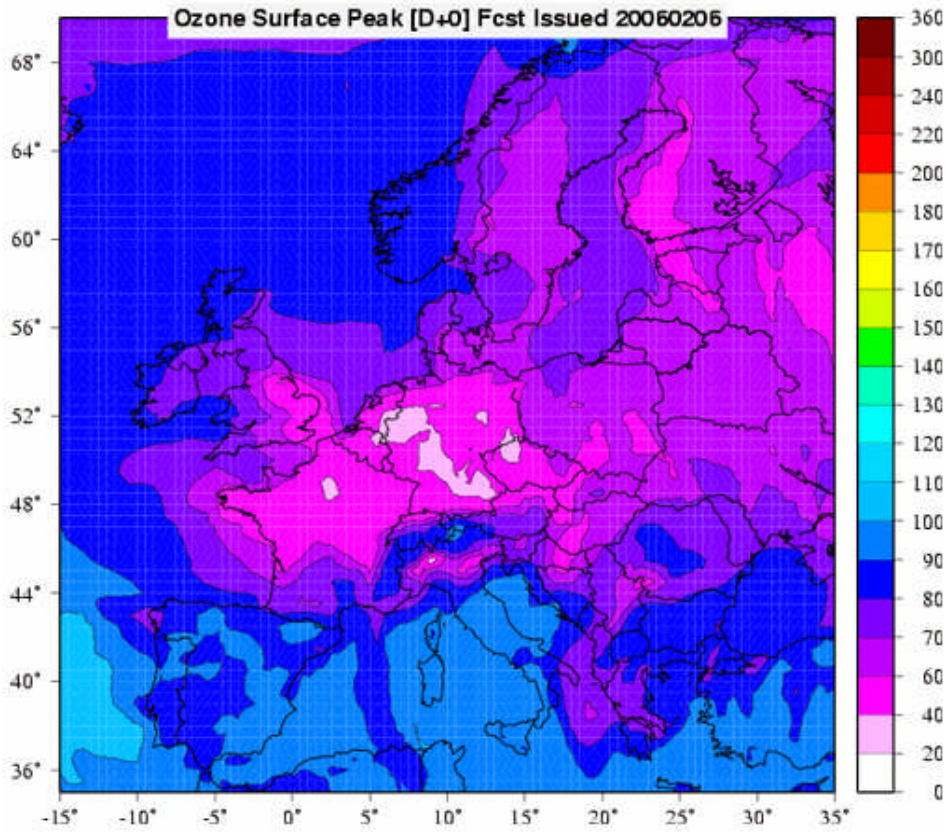
Forecast

D-1
D+0
D+1
D+2

Daily Maximum
Daily Average

NCEP/MM5
ECMWF-IFS
ECMWF-IFS/MM5

Choose a parameter to plot --> Ozone ug/m3

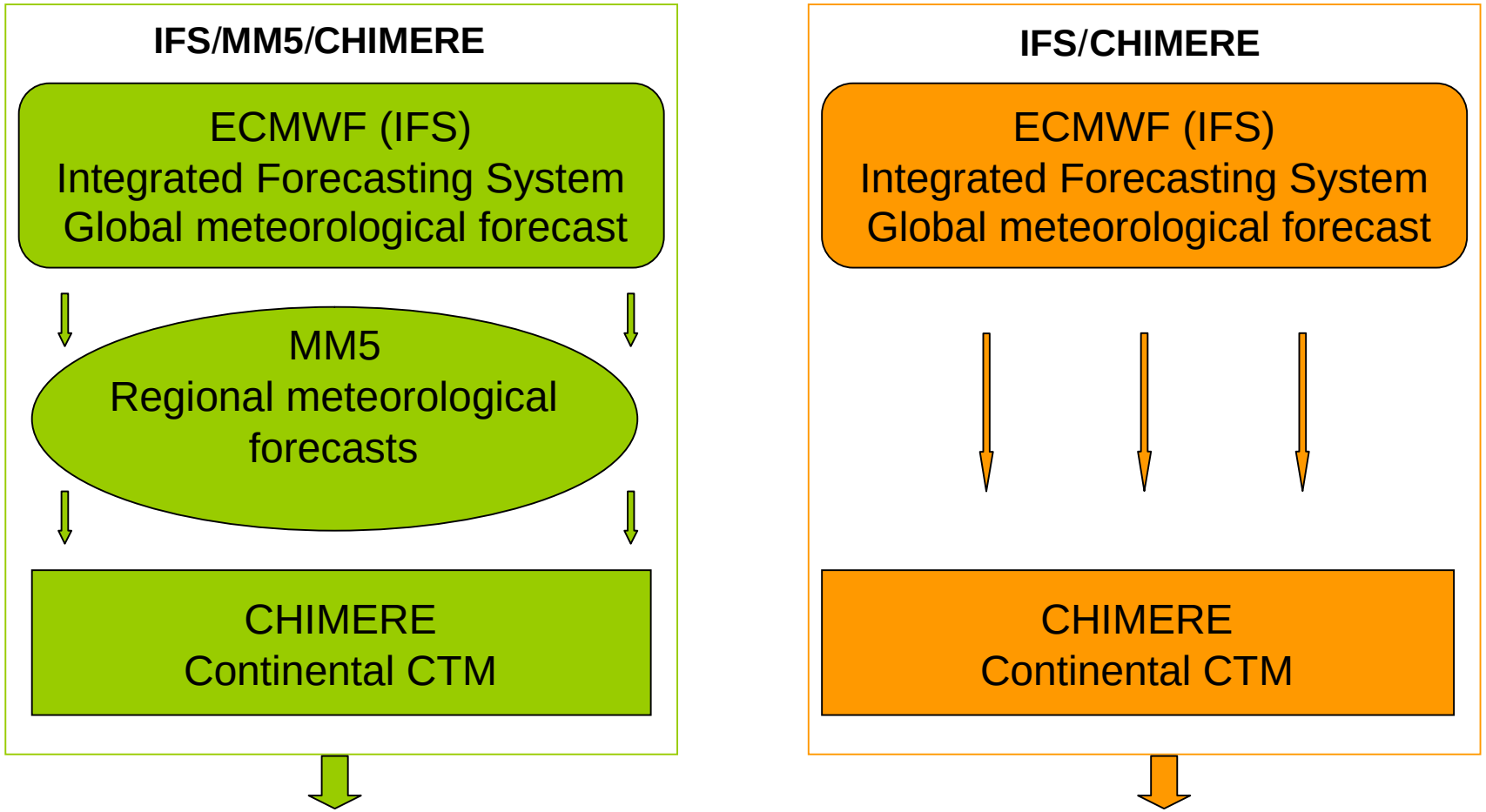


http://euler.lmd.polytechnique.fr/GEMSchimere/maps_GEMS.html

● Contact: Gilles FORET [LISA/LMD],
foret@lmd.polytechnique.fr

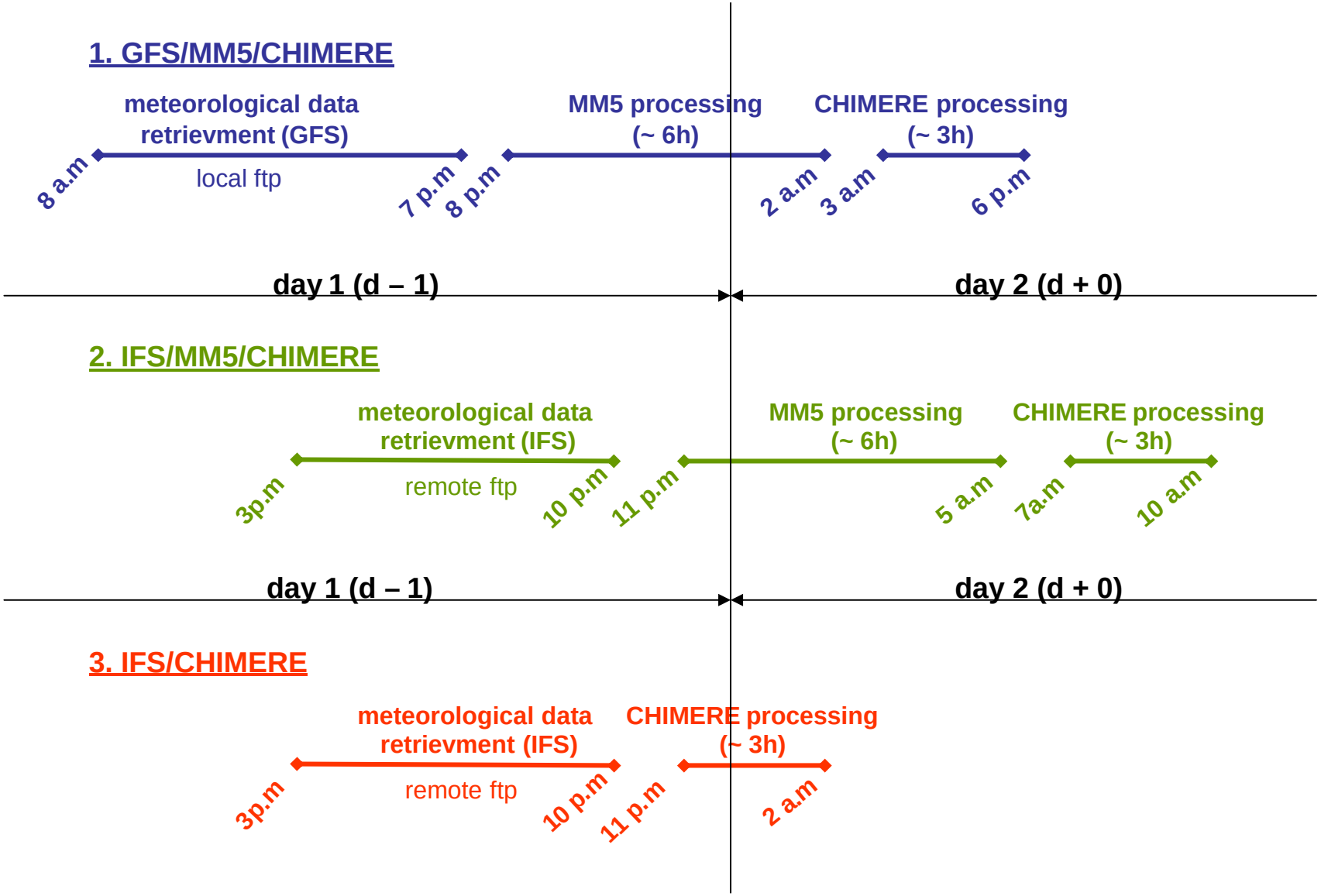
Implementation of the CHIMERE/GEMS forecasting system

What's new ? … meteorological forcing from the ECMWF: **I**ntegrated **F**orecasting **S**ystem (**IFS**)



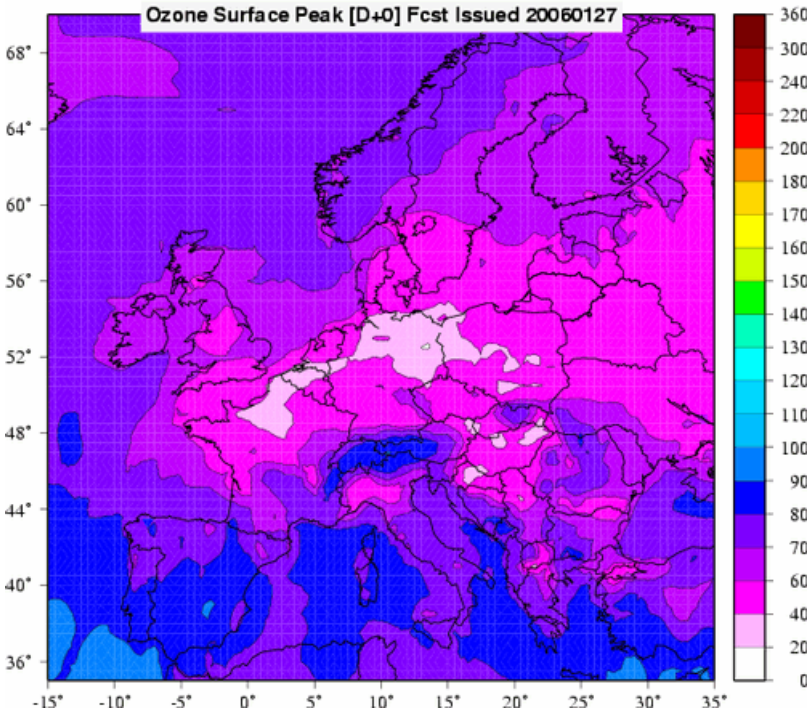
hourly forecasted concentrations (O_3, NO_2, PM10 …)

Timetable for the different forecasting configuration

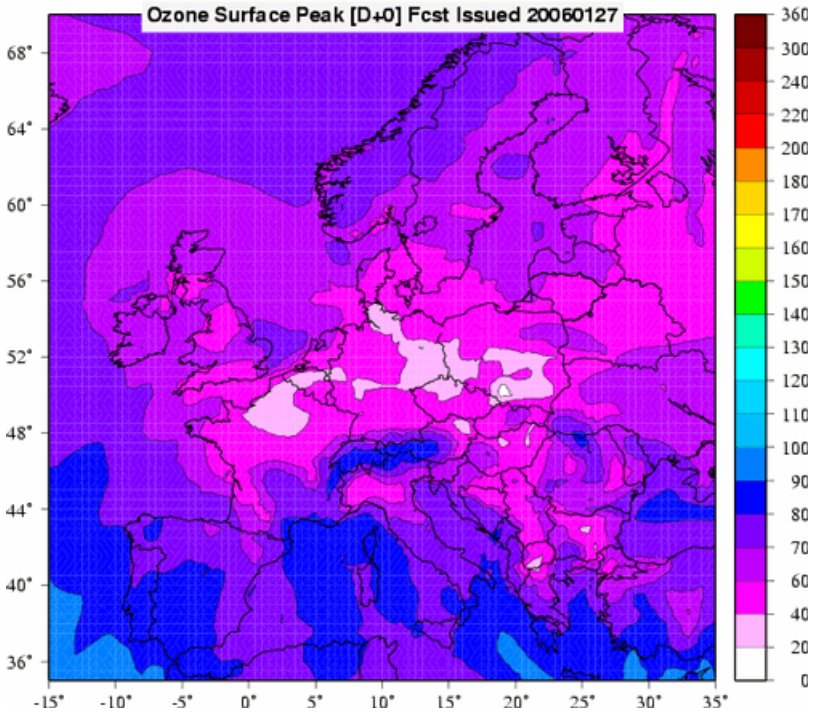


First comparizons between GFS/MM5/CHIMERE and IFS/MM5/CHIMERE

GFS/MM5/CHIMERE



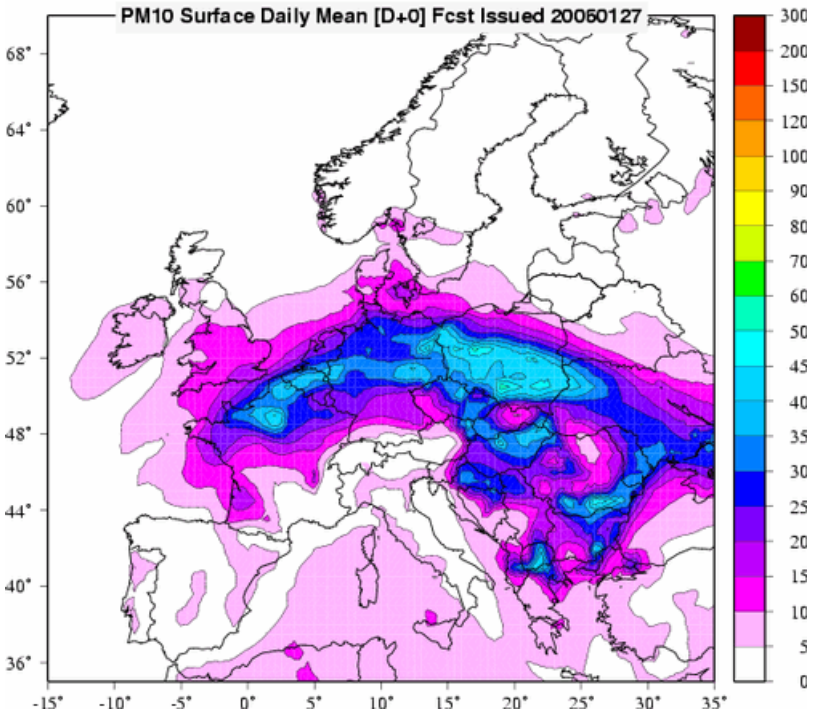
IFS/MM5/CHIMERE



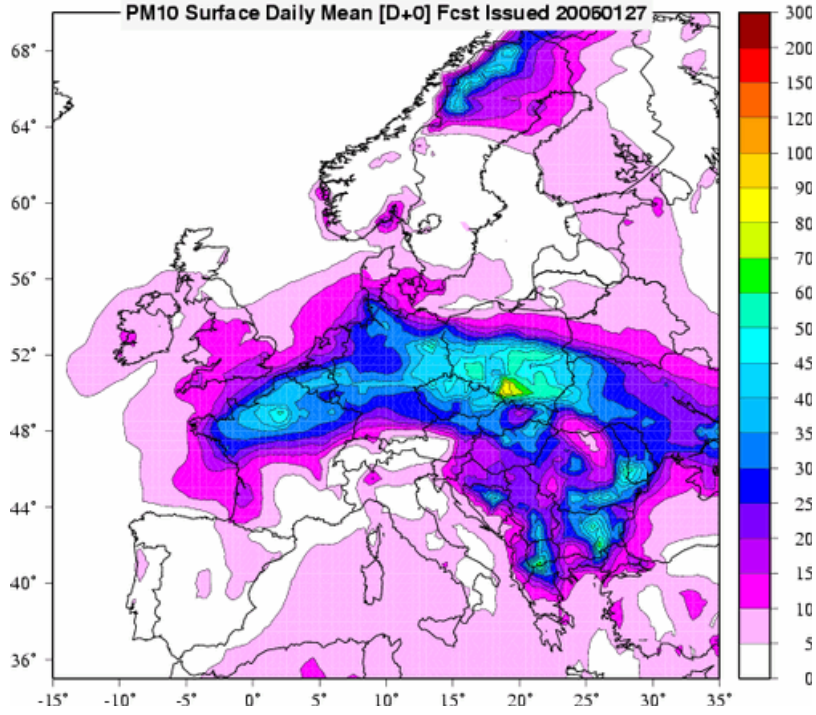
Ozone forecast (dayly peaks) with climatological initialization
(2006/01/27 to 2006/01/30)

First comparizons between GFS/MM5/CHIMERE and IFS/MM5/CHIMERE

GFS/MM5/CHIMERE



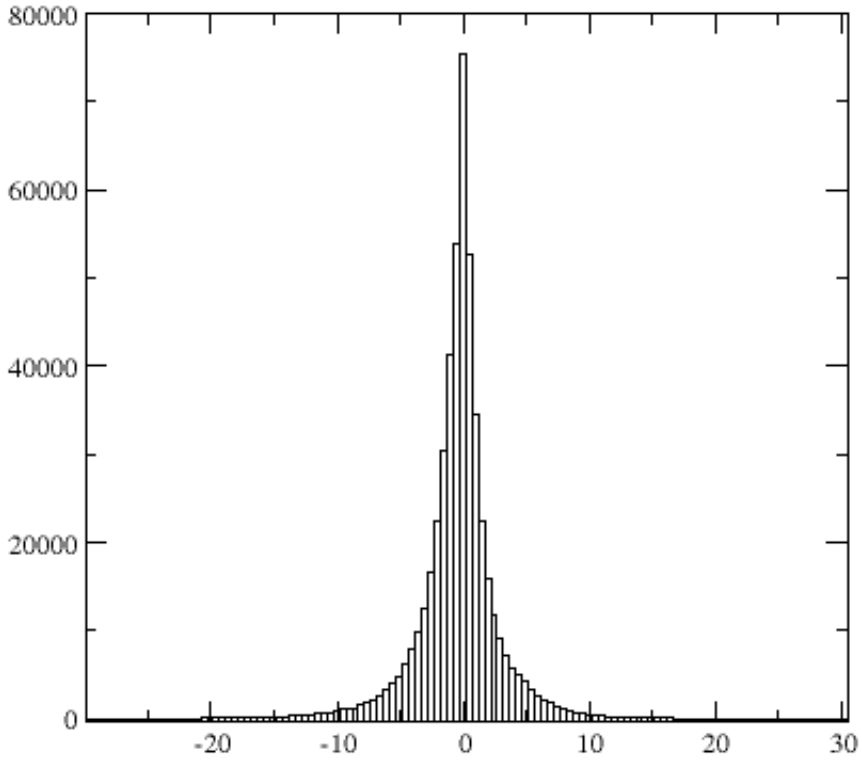
IFS/MM5/CHIMERE



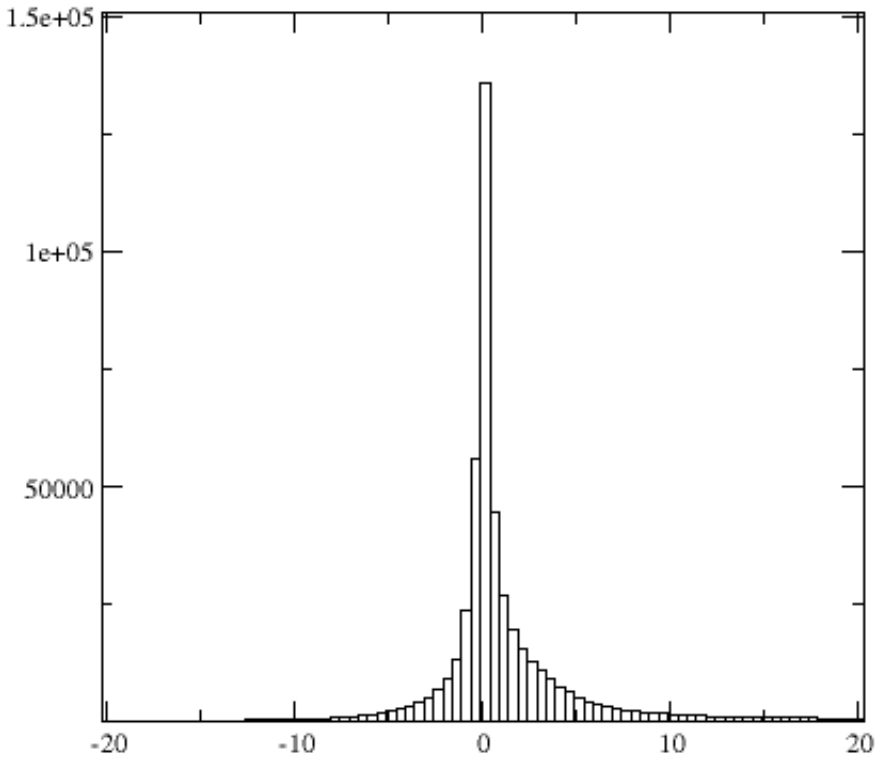
PM10 forecast (dayly means) with climatological initialization
(2006/01/27 to 2006/01/30)

First comparizons between GFS/MM5/CHIMERE and IFS/MM5/CHIMERE

- Comparizons point by point of the differences for O_3 and PM10 concentrations for the whole period and domain



O_3 (ppb)



PM10 ($\mu g.m^{-3}$)

Conclusions and perspectives

- GFS/MM5/CHIMERE on GEMS domain : operationnal
  - → need validation

available on the web :

- IFS/MM5/CHIMERE on GEMS domain : technically operationnal
  - → need analysis and validation
  - → better timing (parallell version for MM5 … and CHIMERE)

soon available on the web

- IFS/CHIMERE on GEMS domain : technically operationnal
  - → need bug correction, analysis and validation

no schedule: Time will tell …

Experimental daily forecast: *Chimere*-GEMS

[CHIMERE home page] - [GEMS home page]

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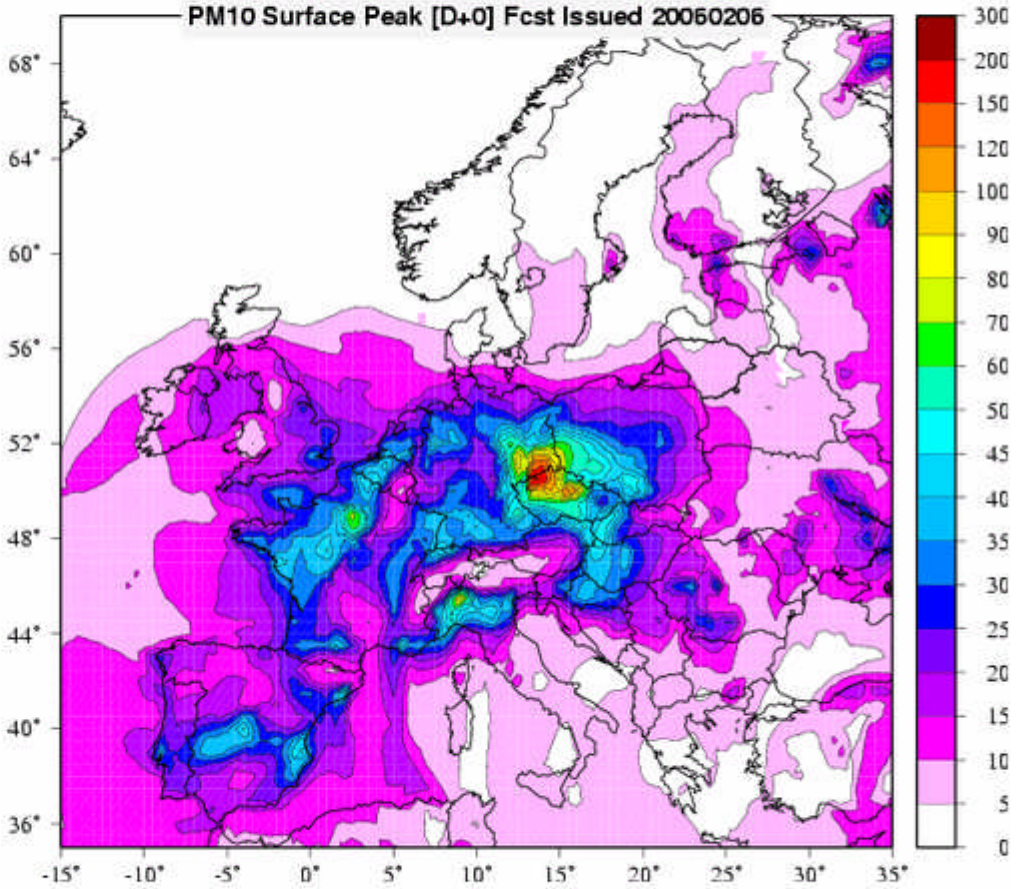
Choose a parameter to plot --> PM10 ug/m3



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