Regional Cooperation for
Limited Area Modeling in Central Europe

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Status of OPLACE system

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OPLACE system

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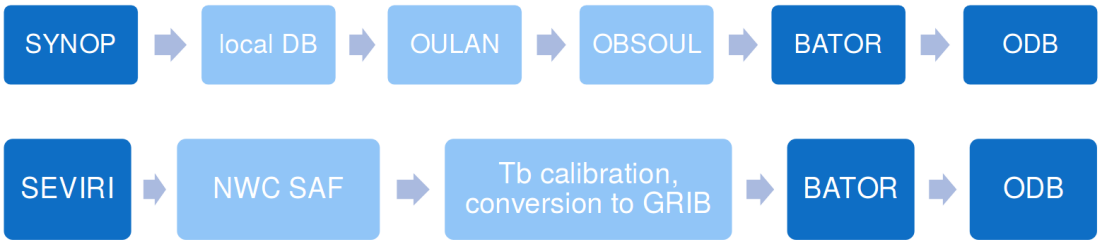
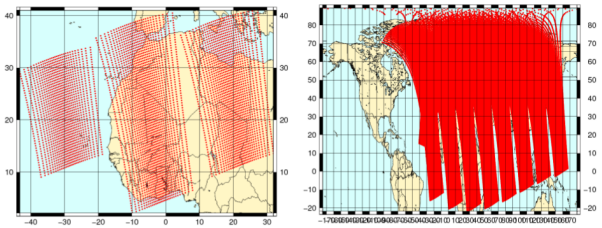
- **The common LACE observation pre-processing system (OPLACE)**
  - **aimed to support DA implementation, avoid duplication of work on observation pre-processing & to share the maintenance;**
  - **provides observations in appropriate format for DA;**
  - **comprises mainly decoding, conversion to the local databases, simple QC, conversions to suitable format for ODB conversion;**
  - **based on existing observation processing infrastructure of OMSZ; & operated by OMSZ and LACE Data Manager provides support;**
- **Observations: SYNOP, SHIP, TEMP, AMDAR, AMV, wind profiler, ATOVS, SEVIRI, IASI and ATMS, ASCAT**



OPLACE status

- **ATOVS data handling corrections for Metop-A**
  - lack of data fixed in February 2018



- **new EUMETSAT prime spacecraft Meteosat-11 (MSG-4) since 20 February 2018**
  - parallel data provision from Meteosat-10/11 till 6 March 2018
  - information and guidelines provided on the RC LACE Forum

    http://www.rclace.eu/forum/viewtopic.php?f=37&t=130&start=140#p1959
- **coastal winds observations over the oceans from Advanced SCATterometer (ASCAT)**
  - new observations (12.5km resolution) implemented in 26 March 2018
  - validated in collaboration with Benedikt Strajnar
- **corrections for TEMP data processing**
  - workaround to avoid BATOR crash due to too many levels
  - adaptation to merge as much BUFR & ASCII as possible

Ongoing development

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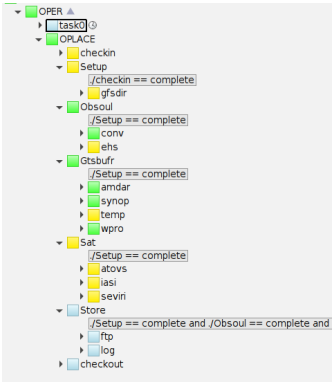
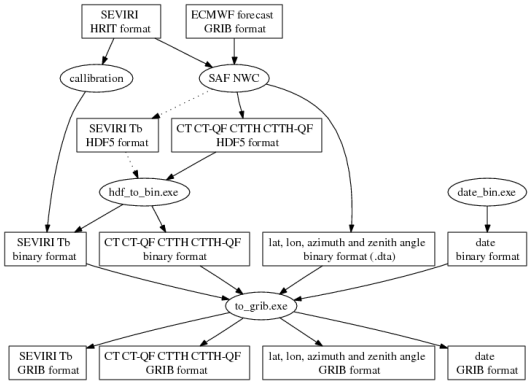
- **redesign of the OPLACE scripts**
  - more and more data is processed
  - complexity of the system is growing
  - aim is to improve the operations
    - - parallelization using ecFlow scheduler
    - - more robust to avoid data issues
    - - easier monitoring & supervision





- **technical upgrade for SEVIRI**
  - GRIB format to be replaced by netCDF
  - more simple product generation (using python, javac)
  - easier porting & more flexible for testing new NWC SAF versions
  - courtesy of CMS Lanion

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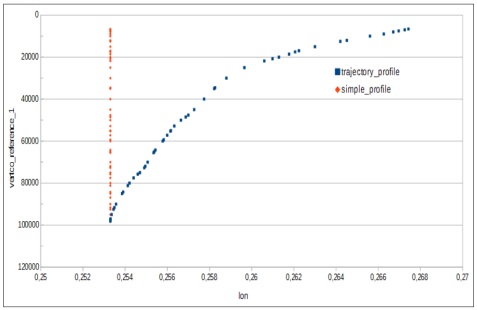
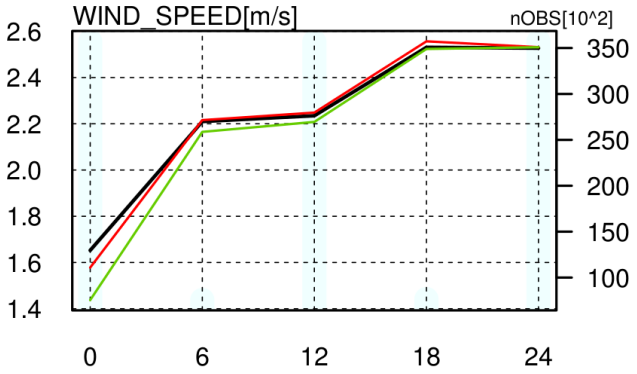
Ongoing development

- **TAC2BUFR migration**
  - first prototype of BUFR SYNOP & AMDAR data processing in OPLACE test suite
  - further testing & the redesign is needed before operational implementation to avoid delays in OPLACE data provision

- **BUFR TEMP handling**
  - BATOR CY41/CY43 offers the use of updated time & trajectory information
  - tested in collaboration with A. Satouri, see Satouri (2017)





RMSE at 200hPa

- **impact on 3DVAR analysis and forecast**
  - tested in collaboration with D. Ustuner
  - improved fit to observations at analysis
  - very small positive impact for +6h of wind above 400hPa

Ongoing development

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- **BUFR SHIP&BUOY handling**
  - **pre-processing of the data**
  - **evaluation of BATOR handling of SHIP&BUOY in collaboration with M. Monteiro**
  - **for more details see Monteiro (2018)**

OPLACE-national data exchange

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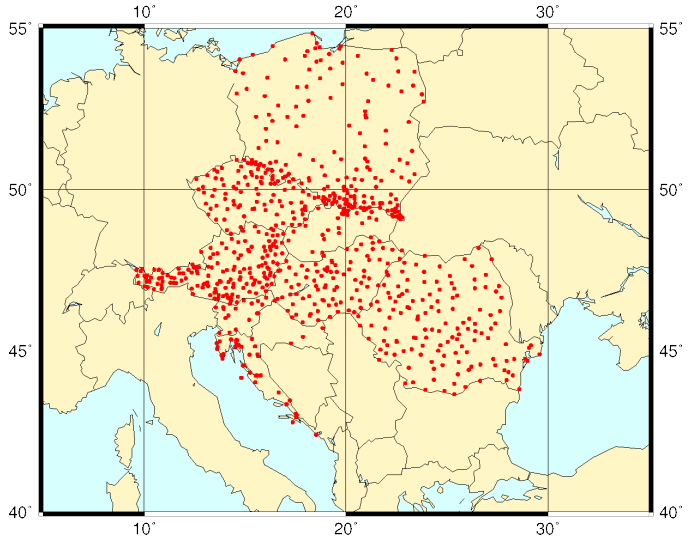
- internal data exchange within RC LACE
- high resolution surface synoptic data exchange
  - stable and reliable for operational use
  - only minor updates except for CZ due to technical issues with local DB
- extension by the national data from Poland
  - implemented in early 2018

Number of national stations		Update WRT 2017
Austria	169	-0/+0
Croatia	21	-0/+0
Czech Republic	60	-30/+0
Hungary	93	-2/+3
Romania	134	-0/+0
Slovakia	47	-0/+1
Slovenia	17	-0/+0
Poland	186	-0/+186
Total:	727	



OPLACE-national data exchange

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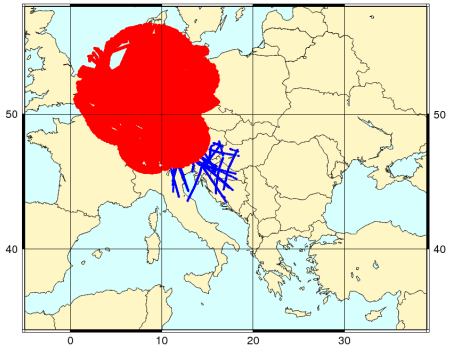
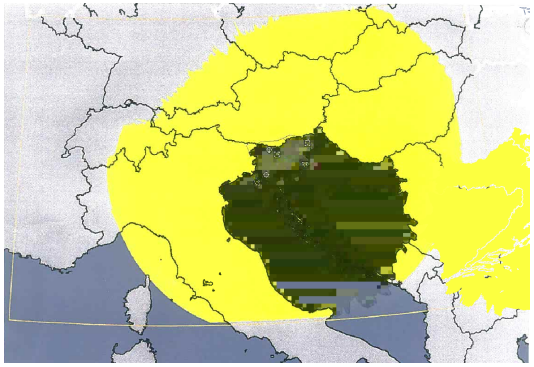
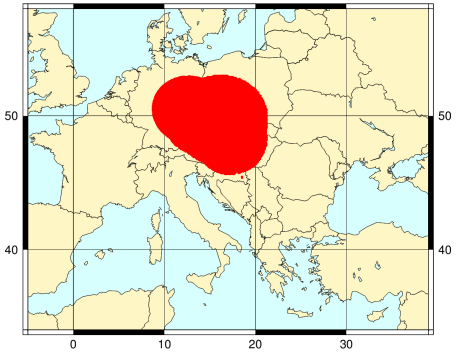
- high resolution aircraft data exchange from modern air surveillance systems
  - Mode-S MRAR from ARSO/Slovenia
  - Mode-S EHS from KNMI/Netherlands
  - stable and reliable data provision



- extension by Mode-S MRAR from the Czech Republic - ongoing
- Mode-S EHS from Slovenia and the Czech Republic - ongoing

- negotiation with KNMI about processing our data started
- in collaboration with Benedikt Strajnar





- All Members are kindly encouraged to explore availability of Mode-S data.

Plan for 2019

- **Priorities for 2019:**
  - **scripts redesign to improve OPLACE operations**
  - **TAC2BUFR migration**
  - **review wind profiler processing**
  - **explore an extension by GNSS**
  - **any other observations ???**
  - **observation monitoring**

Priorities for 2019:

- **Any question, comment and/or suggestion ?**
- **Is everybody happy with OPLACE data available, performance, ... ?**
- **Your feedback is important and appreciated!**

End

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Thank you for your attention !

References

Maria Monteiro. CPDA1.3 - implementation and validation of BATOR: SHIP&BUOY. Technical report, IPMA, 2018. http://www.rclace.eu/File/Data_Assimilation/2018/repStay_MMonteiro_Bator_CHMI_201803.pdf.

M.A. Satouri. Migration from TAC to BUFR for TEMP observations. Technical report, NIM, 2017. http://www.rclace.eu/File/Data_Assimilation/2017/TEMP_TAC2BUFR_anis_2017.pdf.