

# Overview of ALADIN data assimilation activities at Slovenian Environment Agency (ARSO)

January – August 2014

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## Summary

In the first half of 2014, DA activities at ARSO were focused on:

- operationalization of RUC on new HPC
- new B-matrix computation
- research&development on Mode-S data assimilation
- research&development on snow analysis

Table 1: Summary of DA related activities at ARSO (Jan – Aug 2014) in person/months.

Project/staff	Benedikt Strajnar (pm)	Jure Cedilnik (pm)	Total (pm)
Operationalization of RUC, scripts, validation	1.5	0.5	2
New B-matrix computation	0.5	1	1.5
Mode-S	2	0	2
Snow assimilation	0	1	1
total	4	2.5	6.5

## New operational assimilation suite HPC

The operational setup (from June 2014) includes:

- model cycle cy38t1
- new domain with 432 x 432 grid points, 4.4 km resolution
- 87 vertical levels
- recomputed B-matrix, based on ECMWF EDA (spring period)
- 3-hourly assimilation cycle
- ECMWF LBC coupling
- space-consistent coupling (no more DFI)

## New B-matrix computation

A new B-matrix was computed over the period between 15 March and 1 May 2012 using 4 ECMWF

EnDA ensembles (562 samples) to replace older B-matrix with the same geometry and 181 samples. Computations were mostly performed at ECMWF.

### **Mode-S data assimilation**

Assimilation of Mode-S from airspace around Slovenia became operational in June 2014 after validation over different periods. See the attached contribution for ALADIN/HIRLAM newsletter.

### **Snow analysis**

Work on snow analysis with use of satellite SAF products has been restarted. Procedures to interpolate observations (in hdf5 format) to model grid using R software were implemented. Observation monitoring (obs-minus-guess) has been performed over a winter period (2012/2013).