

2019 DAsKIT status, conclusions and plans

SPDA Goal: develop a cross-consortia coordination to set-up a basic 3D-Var data assimilation cycle with a limited set of observations suitable for operational implementation

- 1. Data acquisition**
- 2. Data pre-processing**
- 3. BATOR pre-processing**
- 4. Surface Data Assimilation**
- 5. Combined surface+upper-air Data Assimilation**
- 6. Plans vs. RWP2020**
- 7. Coming events**
- 8. Final remarks**

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1. Data acquisition (goal: WMO BUFR SYNOP, TEMP, AMDAR)

- . OPLACE users: *Poland, Tunisia*
- . GTS BUFR SYNOP, TEMP: *Algeria, Belgium, Bulgaria, Morocco, Portugal, Turkey*
- . GTS BUFR E-AMDAR: *Algeria, Belgium, Morocco, Portugal, Turkey (missing: Bulgaria)*
PLANS: Bulgaria will check if can get E-AMDAR locally

2. Data pre-processing (goal: WMO BUFR SYNOP, TEMP, AMDAR)

- . SYNOP - duplications between original GTS messages and retards: *Algeria, Belgium, Bulgaria, Portugal (missing: Poland→OPLACE, Tunisia→OPLACE, Turkey→SAPP)*
- . TEMP – duplications due to amends should be similar to the work done with SYNOP and in CY43T2 there is nothing to be done in BATOR
PLANS: DAsKIT partners should start pre-processing TEMP data
- . AMDAR – no duplications, but need the recognition of descriptor 311001: *Algeria* (missing: all the others) PLANS: do we need other descriptors ? See question/answer to M-F...

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3. BATOR pre-processing (goal: WMO BUFR SYNOP, TEMP, AMDAR)

conventional observations at CY40T1: *Algeria, Bulgaria (Morocco->CY41T1), Poland, Portugal, Turkey*

conventional observations at CY43T2: *Belgium*

PLANS: DAsKIT partners will port BATOR to CY43T2 pre-processing during the 1Q2020

4. Surface Data Assimilation (goal: CANARI with in-line OI_MAIN cycling)

Local cycling under testing/validation: *Algeria, Belgium, Poland (ALARO with CANARI), Portugal, Turkey (missing: Bulgaria**, Morocco*, Tunisia*)*; **new machine; **newcomers*

Issues: BATOR (HDF5 should be compiled and linked at 1.10 library at least), blendsur, T2M/H2M (H+00), LNOTS_T

PLANS: countries will validate the surface DA in the cycles they already installed locally

Cycle 40T1: *Algeria, Bulgaria, Poland, Portugal, Morocco, Turkey*

Cycle 43T2: *Belgium, Bulgaria, Tunisia*

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5. Combined surface+upper-air Data Assimilation

Cycle 40T1: *Turkey*

Cycle 43T2: *Belgium*

PLANS: local installation as well as its implementation will be done at CY43T2. DAsKIT partners will try to have parallel progress to minimize the efforts by sharing experiences; therefore its implementation will be done step by step; the first of it will be the parallel porting of BATOR from CY40T1 to CY43T2 during 1Q2020. A set of scripts for the AROME and ALARO combined DA assimilation will be created and shared in beaufix taking into account the expertise of RC-LACE and Belgium.

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6. Plans vs. RWP2020

A first draft of DAsKIT RWP2020 was shared by email but not discussed yet. Resources should be found to support the countries efforts in order to implement local DA procedures !!

For discussion, guidance can be given through the link:

<https://docs.google.com/spreadsheets/d/1REESm5USxpE7gQrjzSZTDul3ieCKPVzvvHq1rf22vmA/edit#gid=570245401>

Dead line for LTMs. 30 September 2019

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7. Coming events

2020DAsKIT > Next year the DAsKIT Working Days will be joint with LACE. They will be hosted by ZAMG in Vienna. The structure of the event will encompass: DAY 1 - Joint national status report; DAY 2 - MORNING: Joint dedicated topics presentation; AFTERNOON: DAsKIT practical session (OBSSMON practices is a possible candidate, but other topics proposals are welcome); DAY 3 - MORNING: Joint and separated planning sessions.

DAsKIT video-conferences > Next in December 2019 (a doodle to chose the day will be prepared)

DA users training > should be possible each two years; the suggestion (from HIRLAM and ALADIN PM) to organise it remotely is an option

DA coding training > there is less commitment from DAsKIT teams due to local short man power problems, although interest has been shown on the following topics: 2D-OI scheme (CANARI); B-matrix modelling (including Jk)

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8. Final remarks

1. B-matrix diagnostic tools are available from RC-LACE web page (one should ask if there is something new)
2. The perturbation of observations in order to create a B-matrix by the EDA method is done through “screening” tasks (LPERTURB)
3. Rfa has been installed in beaufix and can be used as a reference once migrated to the local systems (see /home/gmap/mrpe/deckmyn/public/R-libs)
4. HARP (users) training will occur during October at the DMI
5. The libraries of ODBSQL should be enough to install the post-processing part of OBSMON (it was proposed to do an installation in beaufix platforms, but that would need odbsql; at ECMWF platforms these libraries are available on the environment)
6. DAsKIT colleagues are invited to get a login at the hirlam.org web page
7. SAPP BUFR templates for SYNOP. TEMP and AMDAR have to be tested in BATOR (CY43T2); tests with SAPP BUFR SYNOP in BATOR (CY40T1) were not recognised by the software; support may need to be asked to Ireland colleagues
8. Countries are invited to give its suggestions to make take the best advantage of the DAsKIT program
9. 2019DAsKIT presentations will be shared in beaufix and at the ALADIN web page