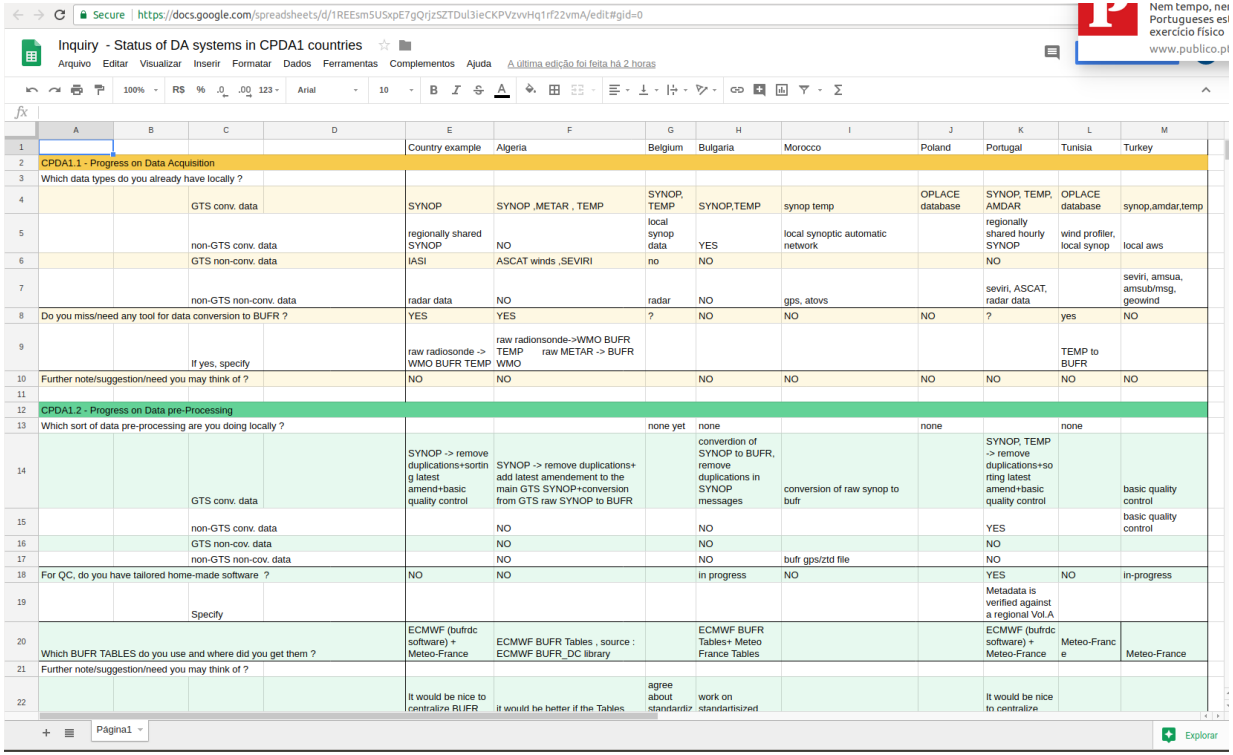
Progress on the CORE programme on DA

http://www.umr-cnrm.fr/aladin/

Joint 28th ALADIN Workshop & HIRLAM All Staff Meeting 2018
16-20/04/2018, Toulouse, France

On the Inquiry



Inquiry - Status of DA systems in CPDA1 countries

				Country example	Algeria	Belgium	Bulgaria	Morocco	Poland	Portugal	Tunisia	Turkey
CPDA1.1 - Progress on Data Acquisition												
Which data types do you already have locally ?												
		GTS conv. data		SYNOP	SYNOP ,METAR , TEMP	SYNOP, TEMP	SYNOP,TEMP	synop temp	OPLACE database	SYNOP, TEMP, AMDAR	OPLACE database	synop,amdar,temp
		non-GTS conv. data		regionally shared SYNOP	NO	local synop data	YES	local synoptic automatic network		regionally shared hourly SYNOP	wind profiler, local synop	local aws
		GTS non-conv. data		IASI	ASCAT winds ,SEVIRI	no	NO			NO		
		non-GTS non-conv. data		radar data	NO	radar	NO	gps, atovs		seviri, ASCAT, radar data		seviri, amsua, amsub/msg, geowind
Do you miss/need any tool for data conversion to BUFR ?				YES	YES	?	NO	NO	NO	?	yes	NO
		If yes, specify		raw radiosonde -> WMO BUFR TEMP	raw radionsonde->WMO BUFR TEMP raw METAR -> BUFR WMO						TEMP to BUFR	
Further note/suggestion/need you may think of ?				NO	NO		NO	NO	NO	NO	NO	NO
CPDA1.2 - Progress on Data pre-Processing												
Which sort of data pre-processing are you doing locally ?						none yet	none		none		none	
		GTS conv. data		SYNOP -> remove duplications+sorting latest amend+basic quality control	SYNOP -> remove duplications+ add latest amendement to the main GTS SYNOP+conversion from GTS raw SYNOP to BUFR		converdion of SYNOP to BUFR, remove duplications in SYNOP messages	conversion of raw synop to bufr		SYNOP, TEMP -> remove duplications+sorting latest amend+basic quality control		basic quality control
		non-GTS conv. data			NO		NO			YES		basic quality control
		GTS non-cov. data			NO		NO			NO		
		non-GTS non-cov. data			NO		NO	bufr gps/ztd file		NO		
For QC, do you have tailored home-made software ?				NO	NO		in progress	NO		YES	NO	in-progress
		Specify								Metadata is verified against a regional Vol.A		
Which BUFR TABLES do you use and where did you get them ?				ECMWF (bufrdc software) + Meteo-France	ECMWF BUFR Tables , source : ECMWF BUFR_DC library		ECMWF BUFR Tables+ Meteo France Tables			ECMWF (bufrdc software) + Meteo-France	Meteo-France	Meteo-France
Further note/suggestion/need you may think of ?												
				It would be nice to centralize BUFR	it would be better if the Tables	agree about standardiz	work on standartisized			It would be nice to centralize		

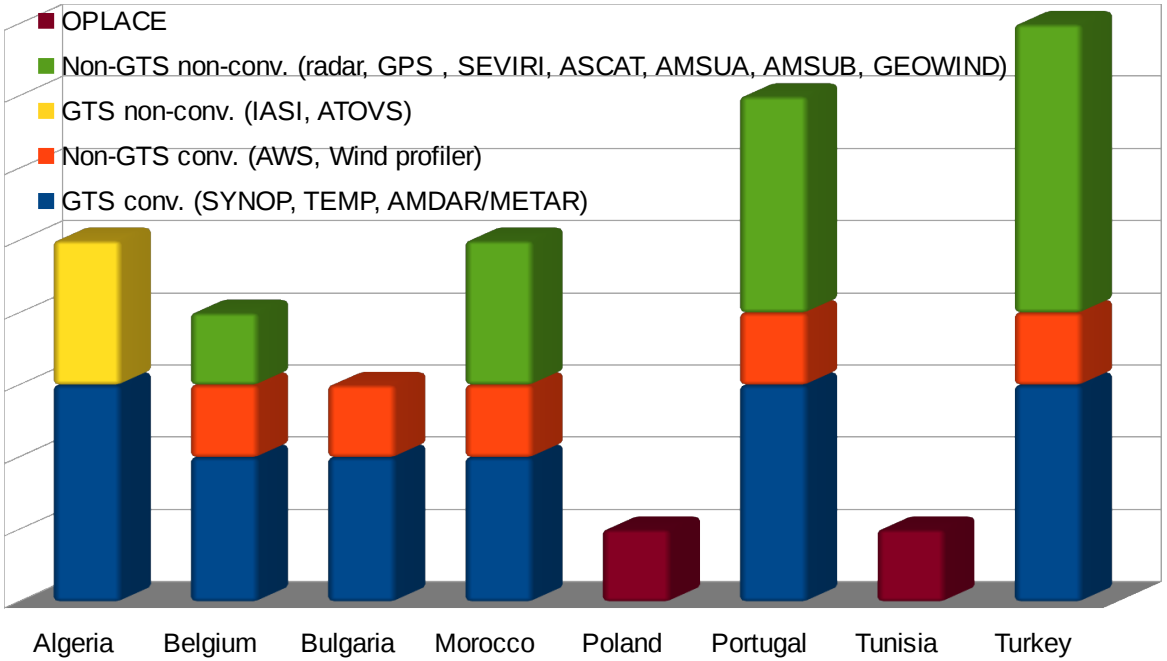
STATUS

8/8 countries (all the DAsKIT), have answered to the inquiry

closed in 01 March 2018

ALADIN-HIRLAM WP2018
CPDA1.1 – Progress on Data Acquisition
CPDA1.2 - Progress on Data pre-Processing
CPDA1.3 - Progress on Implementation and Validation of BATOR
CPDA1.4 - Setup of Observations Monitoring
CPDA1.5 - Setup of a Cycling System

Progress on Data Acquisition



STATUS

8/8 countries have conventional data available

7/8 countries have non-conventional data available (Bulgaria not)

availability: IT depart.; GTS; EUMETCast; or from OPLACE (Poland, Tunisia)

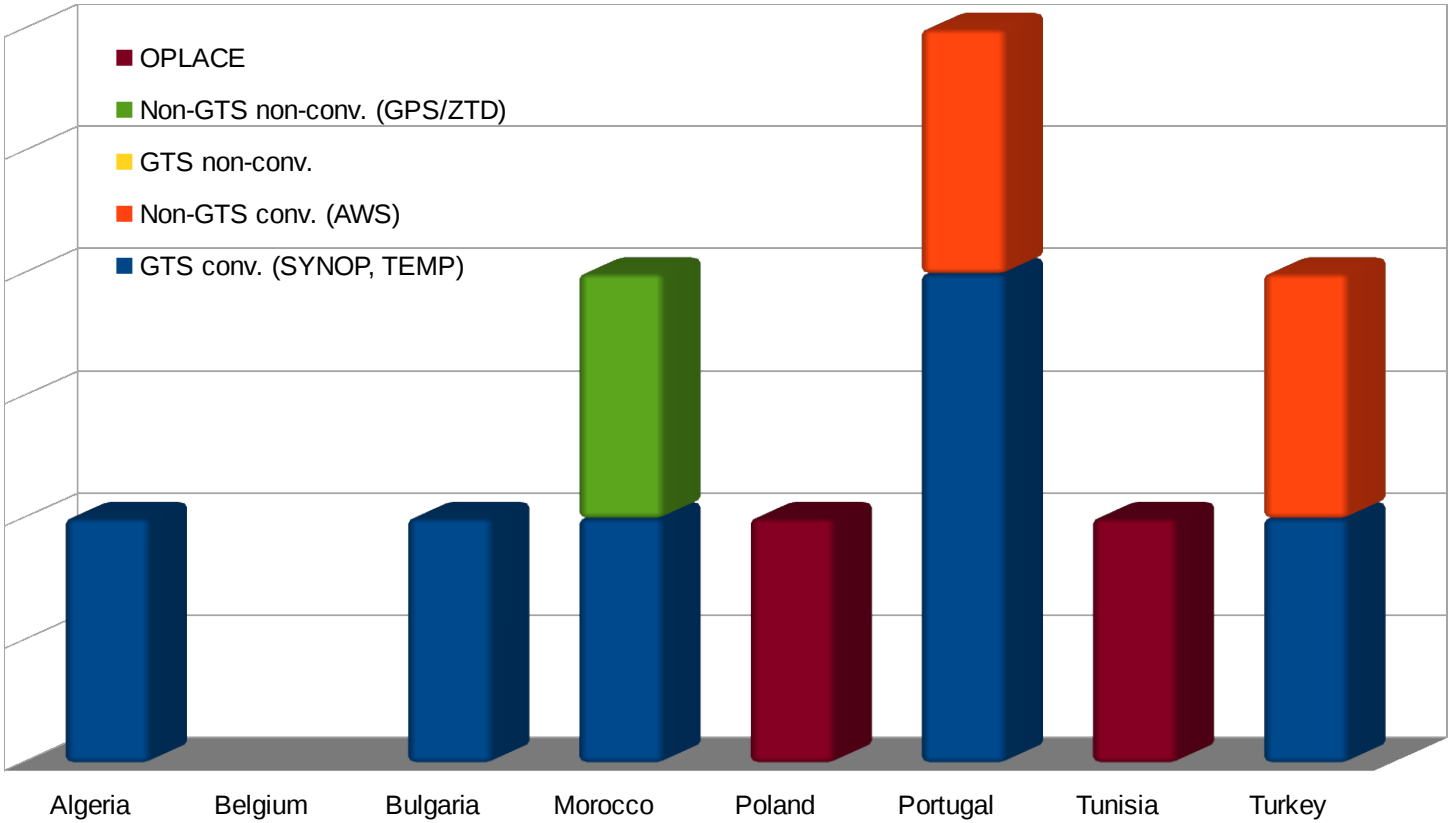
CONVENTIONAL

SYNOP, TEMP, AMDAR, METAR from GTS + SYNOP from local/regional networks (AWS) and wind profiler (Tunisia). NEEDS (conventional data): convert raw radiosonde to WMO BUFR TEMP (Algeria and Tunisia) and raw METAR to WMO BUFR METAR (Algeria); 2/8 is already converting raw SYNOP to WMO BUFR SYNOP (Algeria, Morocco)

NON-CONVENTIONAL

GTS > IASI, ATOVS, ASCAT winds (Algeria), SEVIRI (Algeria); non-GTS > radar, GPS, ATOVS, SEVIRI, ASCAT, AMSUA, AMSUB, MSG, GEOWIND. No needs identified so far

Progress on Data pre-Processing



STATUS

5/8 countries have some pre-processing know-how

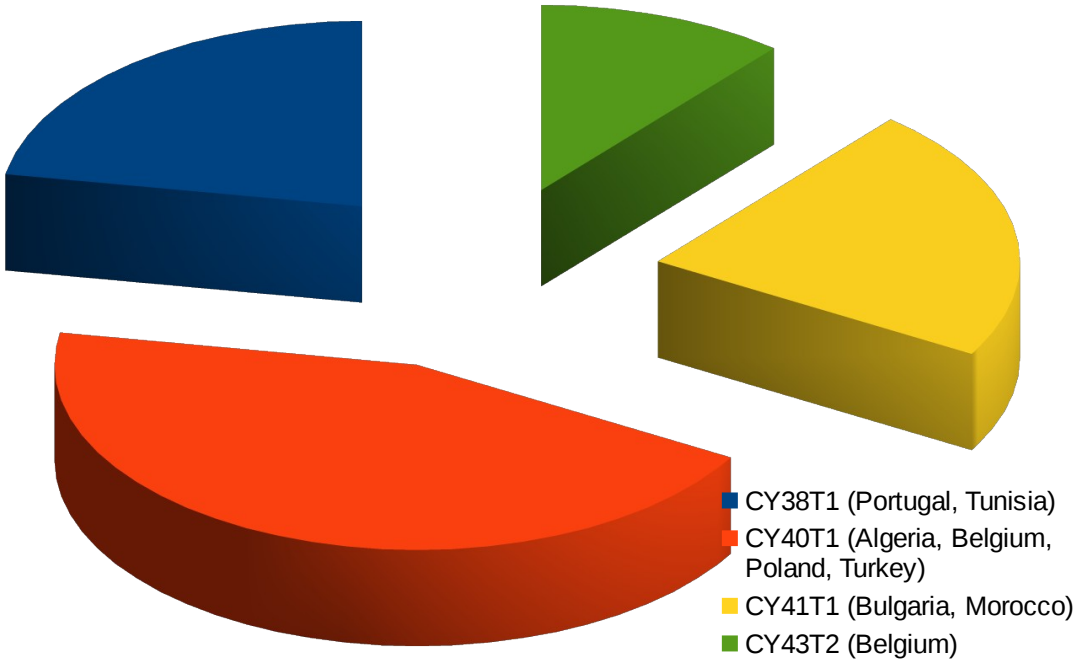
2/8 get data from OPLACE

1/8 did not started any pre-processing activity

NEEDS

BUFR TABLES are picked up from ECMWF and Météo-France basically; and it was pointed out that those tables' format should be standardized (and centralized)

Progress on Implementation and Validation of BATOR



STATUS

8/8 countries have implemented BATOR

- 4/8 have CY40T1
- 2/8 have CY41T1
- 2/8 still have CY38T1
- 1/8 is simultaneously testing CY43T2 (Belgium)

data types: SYNOP, TEMP and AMDAR

BLACKLIST

8/8 countries use export version blacklist file

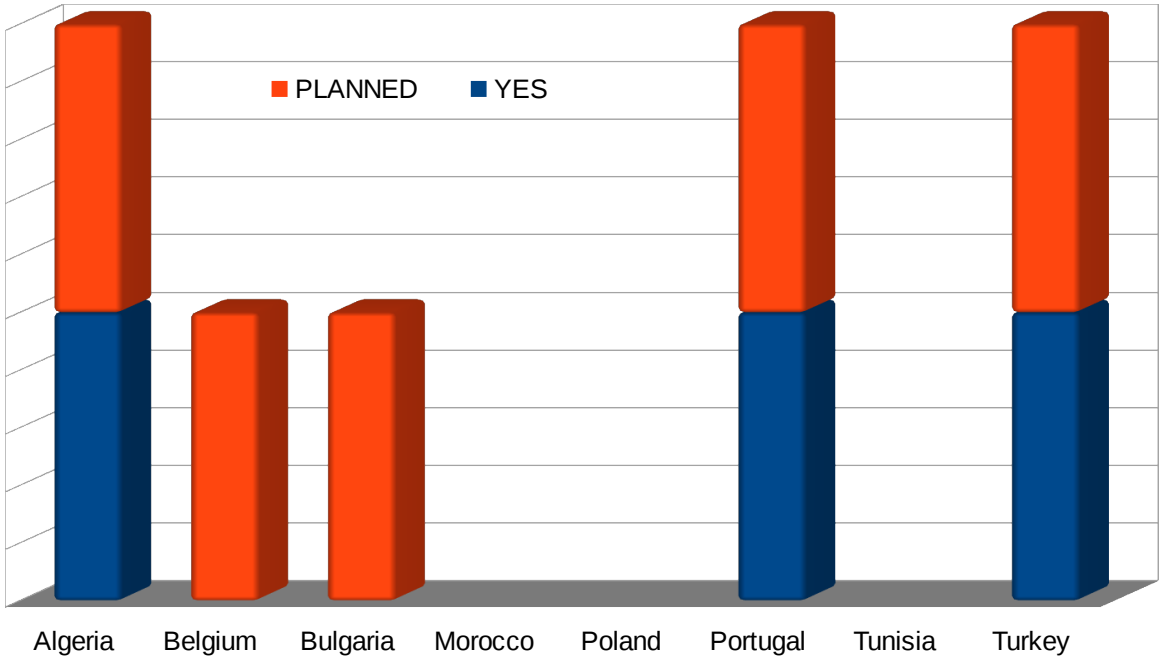
BACK-PHASING

(at least) 3/8 countries got know-how to back-phase BATOR

NEEDS

back-phase BATOR in order to process METAR (Algeria)

Setup of Observations Monitoring



STATUS

3/8 countries do some sort of DM

5/8 countries do not have it

PLANS

1/8 did not reply

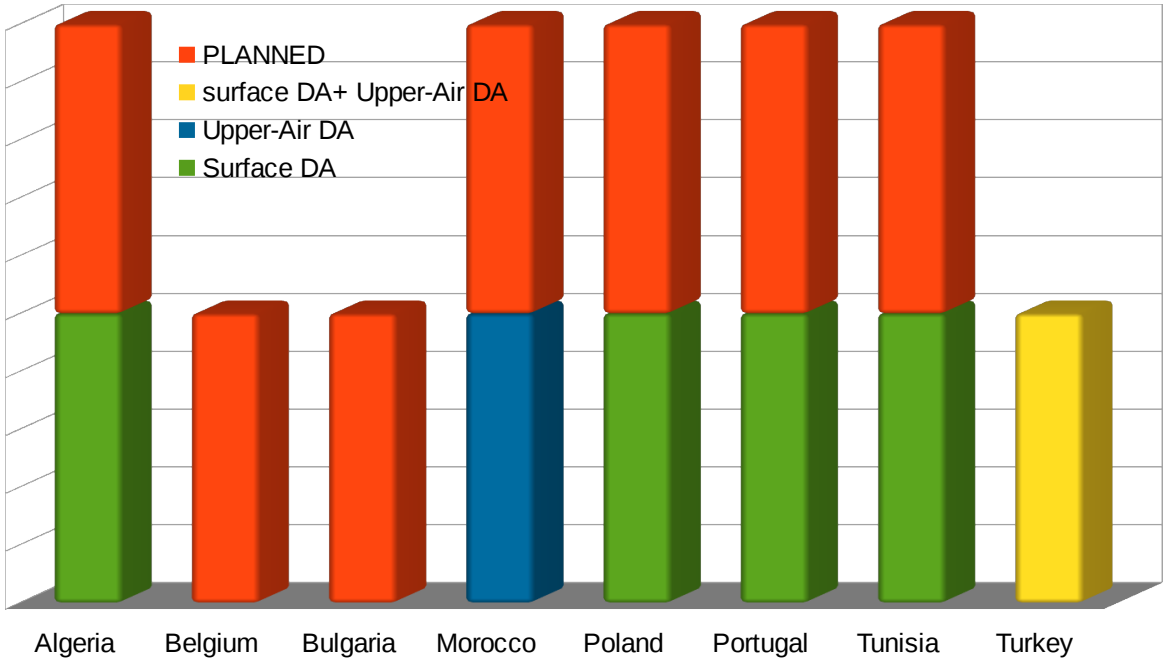
1/8 plan to use odbsql

1/8 plans to use MANDALAY

1/8 plan to test SAPP

3/8 do not have any future plan

Setup of a Cycling System



STATUS

2/8 do not have

6/8 countries have a DA cycling

4/6 countries have a surface DA cycling (using CANARI)

1/6 have an upper-air DA cycling (using 3D-Var)

1/6 have a surface+upper-air DA cycling

PLANS 8/8 countries are willing to improve their systems

7/8 wish to have a full combination of OI_MAIN (CANARI) + 3D-Var.

TUNNING 5/8 countries have a first B-Matrix (Turkey has used NMC method);

0/8 did any tunning on their local systems;

VERIFICATION 4/6 countries have used local surface verification tools to validate their systems

1/6 has used HARP (Poland)

1/6 uses HARMONIE verification tool. NEEDS (verification): for upper-air verification tool.

Conclusions, open questions and future actions

CONCLUSIONS

All countries have available data to be assimilated in their local DA systems

Know-how to process conventional data using ALADIN system already exists in all countries

Some countries already setup a DA cycling and there is a trend/common wish to invest on surface DA in this moment

Data Monitoring and validation tools know-how are missing

OPEN QUESTIONS

Is it opportune to think now in one single Data Monitoring tool, since HIRLAM plans to upgrade obsmon and LACE has somehow frozen its DM tool ?

Can SAPP (ECMWF) become a common observations (...) monitoring tool, if support for local operations will be provided (since more and more countries are testing it), at which distance?

Which verification tool to adopt for local validation DA systems ?

SHORT-TERM ACTIONS

Establish regular video-conf. with DasKIT countries

2018 DAsKIT WD, Lisbon, week 17-21 September 2018