

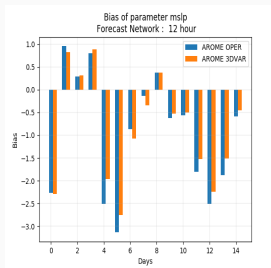
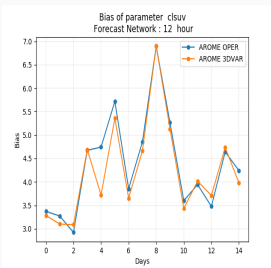
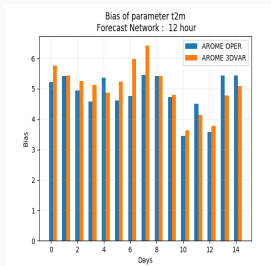
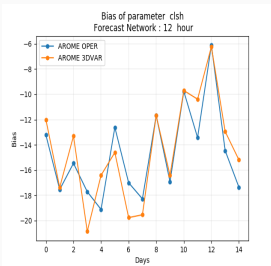
Current progress on Data Assimilation in Algeria

Data Assimilation team :
M. AIT MEZIANE &
G. CHEMROUK

Météo Algérie

New cycle cy43t2, experiment for validation of AROME

and ALADIN 3DVar using SYNOP, TEMP and AMDAR

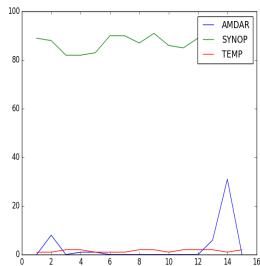


AROME 3DVar and AROME ADAPT (14-06-2020 to 29-06-2020)

14-06-2020 to 29-06-2020:

01-07-2020 to 15-07-2020:

model Parameter	AROME- 3DVAR	AROME- ADAPT	model parameter	AROME- 3DVAR	AROME- ADAPT
Clsh	09.5	05.5	Clsh	09	06
t2m	04.5	10.5	t2m	02	13
cluv	09.5	05.5	cluv	09.5	05.5
Mslp	09.5	05.5	mslp	09	06
Total	33	27	Total	29.5	30.5



Number of observations activated in screening for every analysis time

$$N_{Aver}(SYNOP) = 87.4; N_{Max}(SYNOP) = 91, N_{Min}(SYNOP) = 82$$

$$N_{Aver}(TEMP) = 1.53, N_{Max}(TEMP) = 2, N_{Min}(TEMP) = 1$$

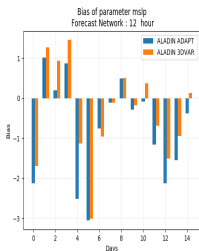
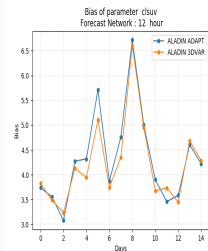
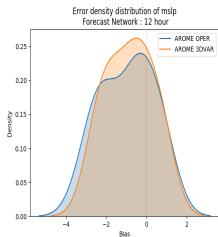
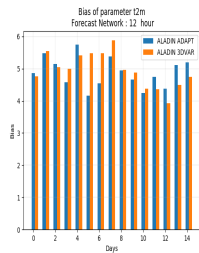
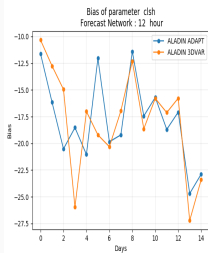
$$N_{Aver}(AMDAR) = 3.13, N_{Max}(AMDAR) = 31; N_{Min}(AMDAR) = 0$$

ALADIN 3DVar and ALADIN ADAPT (14-06-2020 to 29-06-2020)

14-06-2020 to 29-06-2020:

01-07-2020 to 15-07-2020:

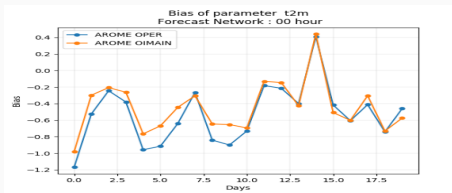
model	ALADIN-3DVAR	ALADIN-ADAPT	model	ALADIN-3DVAR	ALADIN-ADAPT
Parameter			parameter		
Clsh	07	08	Clsh	08	07
l2m	07	08	l2m	04	11
clsuv	10	05	clsuv	09	06
mslp	08,5	06,5	mslp	11	04
Total	32,5	27,5	Total	32	28



Conclusion

- 1- We conclude that there is an improvement in clshumidity, mslp and clsv parameters for AROME-3DVAR and ALADIN-3DVAR.
- 2- We noticed a degradation in t2m profil for both AROME-3DVAR and ALADIN 3DVAR.

In our previous experiment of AROME OIMAIN with cy40t1 (of our last meeting in 24-03-2020). There is a significant amelioration of t2m profil comparaing to AROME Adapt (oper), as we can see below:



Perspectives

- 1- Acquisition of GPS (11 stations from INCT : Institut Nationale de Cartographie et Télédétection), pre-processing and assimilation.
- 2- Acquisition and assimilation of satellite Data (twinning project between MF and FMI, work with SEVIRI clear sky)