

2nd ACCORD LTM meeting
Monday 4 October 2021
14:00-16:00
visio-conference

Minutes

Participants

ALGERIA	Mohamed Mokhtari	LITHUANIA	Martynas Kazlauskas
AUSTRIA	Christoph Wittmann	MOROCCO	Siham Sbiï
BELGIUM	Alex Deckmyn	NETHERLANDS	Jan Barkmeijer
BULGARIA	Boryana Tsenova	NORWAY	Jørn Kristiansen
CROATIA	Antonio Stanesic	POLAND	Bogdan Bochenek
CZECH REP	Radmila Brožková	PORTUGAL	Maria Monteiro
DENMARK	Bent Hansen Sass	ROMANIA	Alexandra Craciun
ESTONIA	Ivar Ansper	SLOVAKIA	Jozef Vivoda
FINLAND	Reima Eresma	SLOVENIA	Neva Pristov
FRANCE	Matthieu Plu	SPAIN	Javier Calvo
HUNGARY	Gabriella Szépszó	SWEDEN	Susanna Hagelin
ICELAND	Halldór Björnsson	TUNISIA	Haythem Belghrissi
IRELAND	Saji Varghese	TURKEY	Yelis Cengiz

PM: Claude Fischer
CNA: Maria Derkova (Mariska)
IL: Alexandre Mary
CSS: Patricia Pottier

Adopted agenda

<i>Item</i>	<i>Introduced by</i>	
1. Introduction of new LTMs	CNA	
2. Reporting in the CMR	PM	
3. Commitments in the RWP2022	PM	Commitments to be added as comments in the shared RWP2022-WP
4. Detailed Actions Plan 2021	PM	Status of actions to be filled by LTMs before the meeting in the shared DAP2021
5. Informations from MG + ST	PM	On-going actions
6. Information about MF progress on e-suites	M. Plu	information by MF/GMAP/DA
7. Information about cycles	A. Mary	information by ACCORD Integration Leader
8. DestinE and ACCORD	PM	Information by PM
9. A.O.B.		

1. Introduction of new LTMs

Mariska introduces the new LTMs: Susanna Hagelin (Sweden) and Reima Eresma (Finland).

2. Reporting in the Common Manpower Reporting

Claude thanks the LTMs for their reporting in the CMR and briefly recalls some general rules: the split between COM2 (new code versions, davai, phasing), COM3.1 (local maintenance and Partner's

implementations of the ACCORD codes) & MQA3 (Meteorological quality assessment of new cycles and alleviation of model weaknesses); how to report the management work of ACCORD AL and of LACE /HIRLAM PL (to be registered as management type of work in the WP that belongs to their area). Claude asks the LTMs to pay some attention to the description of the tasks of their staff (concise, short but accurate) as the CMR is also used by the MG. The MG members might contact the LTMs when they have questions on some actions and sometimes can propose to move some actions from one WP to another. Patricia reports positive comments from MG: they have found interesting and instructive the reading of the actions reported in the CMR.

3. Commitments in the RWP2022

Claude recalls what the LTMs are asked with respect to the RWP2022: LTMs are asked to give their best first guess as to who in their teams will work on which WP (at the tasks level) and the amount of their participation (number of person.months at the level of WP). The LTMs should indicate the names and person.months as comments in the relevant WPs. Then, the MG and the co-leaders of the WPs will edit their commitments. Then the CSS will produce statistics on the commitments, for MG and review by STAC. Eventually, the manpower figures will be presented to the Assembly.

Claude advertises the COM/SYS WPs. The work of the LTSR should be committed in COM2.T and carefully reported.

Claude reminds that the MG might contact the LTMs to propose to reallocate some commitments.

For manpower funded from outside the local institutes (eg PhD grant, research project etc.): the work is declared as national work (the institute who employs the person), as far as it is part of the ACCORD strategy and RWP, shared with ACCORD teams, discussed with MG and with a benefit to ACCORD.

Jorn comments that as it might be difficult to estimate the person.months for external projects, some projects are mentioned without numbers. Claude is fine with that and it is left to the judgement of each LTM to consider what should be declared.

Saji asks if the MG will also scrutinize the external contribution. Claude confirms that the MG will be informed and may ask for more information (it is important to report on external projects in the CMR even if announcement in the commitments could be difficult when you don't know yet whether you will have the funding).

4. Detailed Actions Plan 2021

Claude explains that PM+CSS need to monitor the realisation of the actions planned in the DAP2021. Claude thanks the LTMs for providing updated information in the shared document prior to the LTM meeting and asks them to continue to do so, for those who still have actions planned for 2021.

Claude explains that the practical conditions of organising the DA code training days in Toulouse in 2021 are not possible, and the training days will be postponed to the last week of February or the first week of March 2022¹. The local organisers will keep in touch with the LACE, HIRLAM PMs and the teams who had proposed participants.

5. Informations from MG + ST

Claude explains that as the new MG are organising their area, some requests and inquiries have been distributed to the LTMs. Claude thanks the LTMs who have already answered, and asks the others to check and answer:

- nominate a Local Team System Representative (by Daniel),
- MQA inquiry (by Carl),
- model output questionnaire (related to PH5).

Patricia recalls that, on the shared document [Information4LTM](#), she maintains a summary of the on-going actions on the LTMs with deadlines and links to the inquiries, documents etc.(See in sheet: "On-going").

¹ Post-meeting: the date of the DA code training days may actually shift further into March or spring 2022.

Claude thanks the teams for their contributions to the ACCORD NL1 that will be published the following day. Claude explains that the next contributions received by Patricia will enter the NL2 that will be published early February 2022, with a deadline for contributions at the end of January. The teams are welcome to submit article proposals on-the-fly (there is no need to wait until a firm reminder is being sent by CSS).

Claude informs that the Assembly Members have been invited to comment and approve new versions of the Research and Benchmark Licenses (Annexes IX and X from the MoU). Bent proposes that Claude sends to the LTMs a copy of the message sent to the Assembly Members. Claude agrees (this was done after the end of the meeting).

6. Information about MF progress on e-suites

Matthieu explains the general context, the guidelines and the scientific content of the present e-suite (cy46t1). He also presents some scores. Matthieu gives some highlights and the schedule of the future e-suite based on cy48. Details in Annex I.

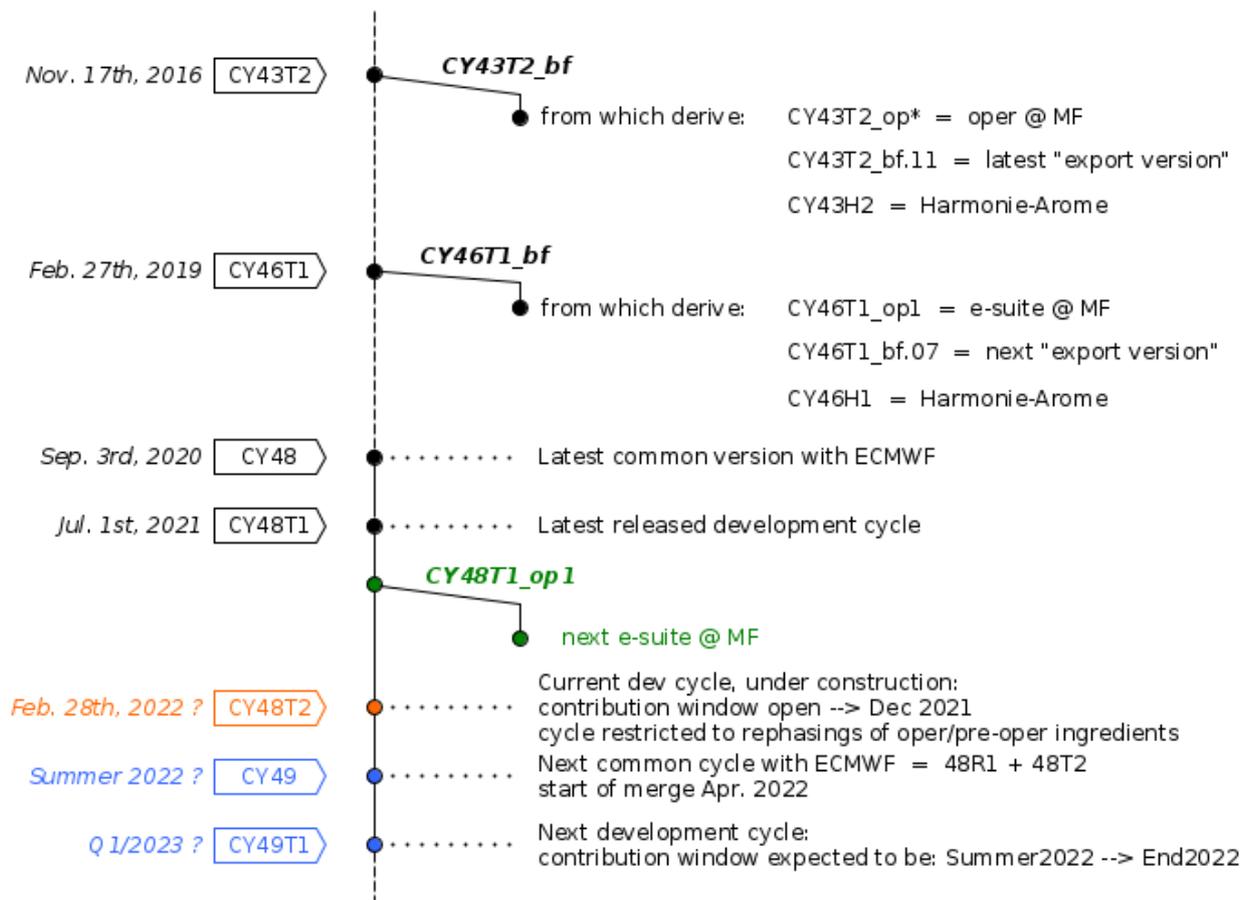
Radmila comments on the importance of the improvements of ARPEGE results, especially for Partners coupling with ARPEGE.

Javier asks about MF plans for single precision. Matthieu answers that single precision is implemented only in AROME-overseas systems for the moment (forecasts only), with currently no firm plans for a more general implementation.

7. Information about cycles

Alexandre presents some updates about the recent and upcoming cycles (see Annex II):

Recent and upcoming cycles



Cy48T1 is the first cycle prepared with continuous integration of individual GIT branches and has benefited from an unprecedented level of validation for a released T-cycle, specially regarding DA. A first version of portable DAVAI has just been released and will be used by beta-testers to validate cy48T2.

The next so-called export version will be based on cy46T1_bf.07 (it is already tagged and available in git) and its “aladin packaging” will – as usual- contain the namelists used to validate the AROME-France DA system, ALARO namelists, all source code and relevant phasing and validation documents/notes. Some help from Stéphane Martinez to our new GCO colleague (Mathilde Moureaux) might be needed. Claude stressed that in the future, the method of providing source code releases for some “official” local installation will evolve, as the ACCORD plans for new working methods materialize.

Claude acknowledges the efforts by Olda (collecting partners bugfixes), Alexandre and Ghislain for the AROME-3-DVar evaluation in preparation of the cy46T1_bf.07 release.

8. DestinE and ACCORD

Claude presents the status of preparation of the DestinE-LAM bid since the dedicated LTM information meeting organised in May: a preliminary structure was set up during the summer to prepare the bidding with a provisional advisory board (led by Sarah O'Reilly, Ireland, UWC and Marc Pontaud, Météo-France, with participants from LACE and other ACCORD members) and a drafting team who works on the content of the Work Packages and tries to identify 1-2 leaders per WP. The coordination is done by Roger Randriamampianina (No), Kristian Pagh Nielsen (Dk) for the scientific aspects and by Elisabeth Gerard (MF) for the administrative parts. German, Swiss and Italian colleagues are expected to be part of the bidding team.

The call for the DestinE LAM proposal is expected to be launched in November, as soon as the ECMWF Council approves (the EU approval is the first step).

9. A.O.B. & closing

The next LTM meeting will be organised at the end of January or the beginning of February 2022, to discuss items from the Assembly (if any), the preparation of the DAP2022 after the first inputs from the MG, etc. Bent explains that he will retire from DMI at the end of the year and thanks the LTMs for all the meetings during this first ACCORD year and during the ALADIN-HIRLAM convergence period.

Mariska thanks the LTMs and closes the meeting at 16:00.

Annex I: MF progress on e-suites – Some highlights by Matthieu Plu, deputy head of NWP (GMAP) research group

Present e-suite « cy46t1 »

General context & guidelines

- the first e-suite on the Météo-France HPC ATOS BULL Sequana XH2000 (in operations since Feb. 2021, providing ~x5 factor increase),
- a fundamental change in the ARPEGE physics: implementation of IFS/Tiedtke deep convection scheme,
- assimilation of new observation systems (« all-sky » microwave radiances in ARPEGE, new radar « SERVAL » chain in AROME, ...)
- the ensemble prediction systems ARPEGE-EPS (34 perturbed members) and AROME-EPS (16 perturbed members) reach the same vertical and horizontal resolution as the deterministic ARPEGE (T1798L105C2.2) and AROME (1.3kmL90),
- increase of resolution to 1.3km of all AROME tropical overseas, computationnaly affordable thanks to use of « 32b computations ».

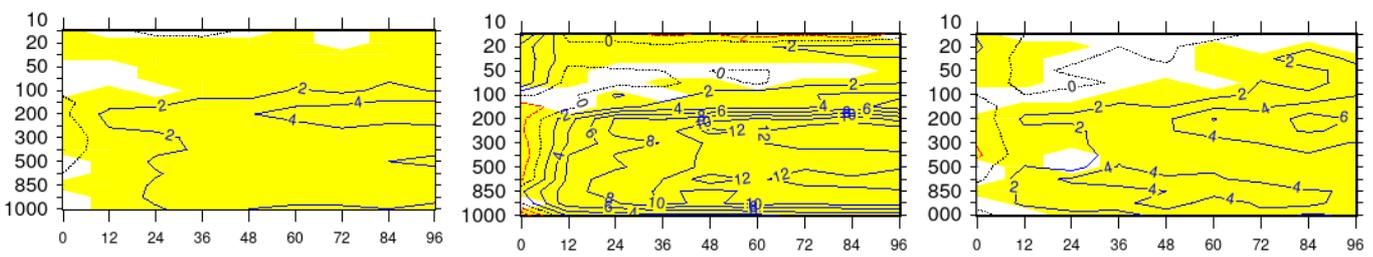
Present e-suite « cy46t1 »

Scientific content (other aspects)

- solar radiation: use of SRTM **#arpege**
- air/sea flux parametrisation: Ecume v6 **#arpege #arome**
- Coupling with 1d sea-ice model **#arpege**
- All-sky assimilation of microwave data from MHS and ATMS **#arpege**
- Snow analysis **#arpege**
- Change of **Arome dynamics to improve moist convection**: for hydrometeors, desactivation of SL horizontal diffusion and use of SL linear interpolators
- **Arome-EDA** model perturbations based on SPPT (same as AROME-EPS scheme),
- **Arpege-EP**S model perturbations based on parameter perturbations, using 2 convection schemes (Tiedtke & PCMT : 17 perturbed members each)

Present e-suite « cy46t1 »

Scores



Percentages of reduction of wind forecast RMSE (TEMP scores, over 7 months)

Schedule

in ARPEGE e-suite experiment (vs OPER) (Y. Bouteloup)

- ARPEGE 4D-VAR&forecast, ARPEGE-EDA, AROME 3D-VAR&forecast, AROME-overseas e-suites implemented in July 2021,
- AROME-EDA, ARPEGE-EPS and AROME-EPS in preparation (should start in October),
- 1 year reforecasts (covering 2021, including the e-suite) will be ran in order to update the statistical post-processing learning database,
- Operational implementation (NWP and post-processing) ~ June 2022.

Future e-suite « cy48 »

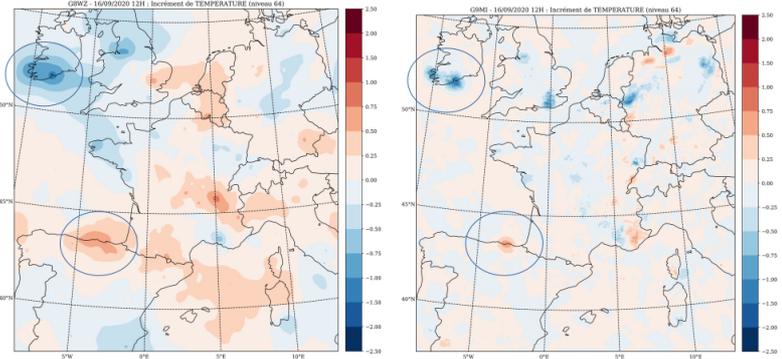
Some highlights :

- Based on cy48t1 or cy48t2, depending on validation status,
- 3DEnVAR AROME assimilation implemented using OOPS

Score cards 3DEnVAR vs 3DVAR

	Réf.	Radiosondages	Analyses CEP	SYNOPS
	Grille	EURW1S40	FRANGP05	EURW1S40
	Éch.	0H à 48H pas de 12H	0H à 48H pas de 6H	0H à 48H pas de 6H
Géopotentiel	100hPa	==	▼▲▲▲▲	==
	500hPa	==	▲▲▲▲▲	==
	850hPa	==	▲▲▲▲▲	==
	1000hPa	==	▲▲▲▲▲	==
Pression	Mer			▼▲▲▲▲
Température	100hPa	▼▲	▲▲▲▲▲	==
	500hPa	▼▲	▲▲▲▲▲	==
	850hPa	▲	▲▲▲▲▲	▲
	1000hPa	▲	▲▲▲▲▲	▲
Température corrigée	2m			▼▲▲▲▲
Vent	250hPa	==	▲▲▲▲▲	==
	500hPa	==	▲▲▲▲▲	==
	850hPa	▲	▲▲▲▲▲	▲
FF	10m			▼▲▲▲▲
Humidité	400hPa	==	▲▲▲▲▲	==
	700hPa	▲	▲▲▲▲▲	▲
	850hPa	==	▲▲▲▲▲	==
	2m			▼▼▲▲▲

T800hPa increments



3D-Var OOPS vs 3DEnVar OOPS (V. Vogt, P. Brousseau)

Future e-suite « cy48 »

Possible other contributions (if validation ok) :

- ARPEGE 4DVAR using OOPS (maybe also an opportunity to revise and tune 4DVAR implementation),
- EcRAD radiation scheme in ARPEGE and AROME,
- SST change (Mercator) and introduction of ocean mixing-layer 1D coupling,
- FLAKE scheme,
- Tuning of the ARPEGE physics and of the perturbation of ARPEGE-EPS parameters, accordingly,
- Assimilation of GOES-17, CrIS « FSR mode », HY-2* scatterometers, HIMAWARI/AHI winds, use of more realistic ozone field in RTTOV,
- Assimilation of Mode-S in AROME,
- Adding perturbation parameters (on top of SPPT) in AROME-EPS (and AROME-EDA).

18/10/2021

GMAP 2021

Future e-suite « cy48 »

Schedule :

- e-suite should start (some months) after « cy46t1 » e-suite becomes operational,
- End 2021 : validation of cycles,
- Beginning 2022 : consolidation of contributions to « cy48 » e-suite.

Other aspects (can be done independantly of the e-suite) :

- AROME-EPS overseas to be implemented (~2023),
- Extension of AROME-Indien towards to Equator (~2023),
- AROME-500m over small domaines to be implemented (~2023).

18/10/2021

GMAP 2021

Annex II: Cycles and collaborative development by A.Mary, ACCORD Integration Leader and Météo France – DESR/CNRM/GMAP/COOPE

46T1_bf.07

- 1 month of AROME-France 3DVar : neutral wrt. operational (43T2_op)

48T1

- Release notes : https://opensource.umr-cnrm.fr/attachments/download/4074/Contents_48T1.pdf
- Continuous Integration ⇒ unprecedented level of validation for a released T-cycle, esp. regarding DA.

48T2

- All rephasings from 46T1_op1 received, under integration in 48T2 → CY48T1_op1
- Table of expected/received contributions : [this link](#)

A.Mary (Météo France / GMAP) Cycles Oct. 4th, 2021 3 / 4

48T2, CI & DAVAĬ

- First version of portable/command-line version of DAVAĬ, just released
↳ in contact with identified contributors for 48T2 for :
 - them to use it to validate their branch
 - be beta-testers of it, and get a first round of feedback
- Posting of branches still (and hopefully for the last time) to MF/GCO central repository for this cycle
↳ next time on the Source Code Forge to be chosen

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