Minutes

CSSI-HMG meeting 2017

7 April 2017, 9:00 – 17:00
Helsinki, Finland

List of participants :
Ludovic Auger, Lisa Bengtsson, François Bouyssel, Alex Deckmyn, Daan Degrauwe, Maria Derkova, Claude Fischer, Inger-Lise Frogner, Bent Hansen Sass, Frank Lantsheer, Jeanette Onvlee, Patricia Pottier, Roger Randriamampianina, Patrick Samuelsson, Daniel Santos, Piet Termonia, Martina Tudor, Yong Wang, Christoph Zingerle
Excused *: Jean-François Mahfouf*
Remote participants (WebEx) *: Ryad El Khatib (from Toulouse), Alena Trojakova (from Prague)*

1 Opening

Claude opens the meeting and introduces the newcomers : Météo-France proposes that Ludovic replaces Pierre as CSSI member for Dynamics; François is punctually invited to this meeting and Frank is the new HIRLAM scientific secretary (he is from KNMI and has a background in meteorology although he is currently more involved in data policy).

2 Structure of the ALADIN-HIRLAM work plan: presentation on the rationale in the changes of the process (PMs) and round table (all)

Piet presents the rationale in the changes of the work plan build process, in the framework of the newly signed ALADIN-HIRLAM cooperation agreement[1], the strategy[2] meeting held in Toulouse and the last joint ALADIN General Assembly and HIRLAM Council[3]. For the current branding, it has been decided to use "the ALADIN-HIRLAM shared system" as the name of the common system and to use "HARMONIE-AROME" for the HIRLAM reference system[4]. The definition of the ALADIN-HIRLAM common codes will be based on the Canonical Model Configurations (CMCs), defined and maintained together. The Directors also approved the definition of these three types of activities :

- Part 1. common activities (activities necessary to create the export versions) : code delivery, maintenance and support activities;
- Part 2. core programs (R&D): commonly agreed programs of recognized strategic importance that will benefit all partners. Two core programs are proposed "Scalability" (numerics, scalability and HPC developments) and "DA for ALL partners" (Development of a DA "starters kit" to help those ALADIN Members who do not have an operational data assimilation yet, and further developments of 3Dvar);

1 ALADIN-HIRLAM cooperation agreement : http://www.umr-cnrm.fr/aladin/IMG/pdf/ah-agreement-with-appendix3-web.pdf
2 Strategy meeting : http://www.umr-cnrm.fr/aladin/spip.php?article300
3 Joint GA/C : http://www.umr-cnrm.fr/aladin/spip.php?article308
4 HIRLAM reference system : http://journals.ametsoc.org/doi/abs/10.1175/MWR-D-16-0417.1

- Part 3. specific activities : all activities carried out outside of the core programs that a.) are needed by a limited group of member states who invest resources in it, OR b.) do not lead in the short term to the creation of a new CMC or a major extension of the sanity check, OR c.) are not needed to guarantee operations; a first list of specific activities has been identified during the strategy meeting.

The Rolling Work Plan (RWP) should be reorganized accordingly, with commitments from all Partners to the core programs. The impact on the code design/code implementation of the science should be more visible and the new RWP should allow for a better planning and reporting in the future, with focus on deliverables. It should also help identify code contributions, thus defining the ALADIN-HIRLAM common codes.

A process is proposed by the ALADIN and HIRLAM PMs and discussed. It is finally agreed that :

- Part 1 & 2 will be left to the responsibility of the ALADIN and HIRLAM PMs for the moment, and should be written before the end of the summer;
- Part 3 will be organised in Work Packages (WPs), following the "best practice" of H2020 :
  - The PMs have prepared a template for the WPs, on the basis on the ESCAPE WPs, with an additional box on "code contributions", describing the later possible impacts on the cycling;
  - Some modifications are discussed on the above template : duration of work rather than month of delivery; indication of the full names (and abbreviation ?) of the people involved and their institute; better description for the code deliverable, with indication of the impacted cycle (one may explain on what cycle version a development is being done and tested, but eventually the important information is the "T"cycle in which it would enter since this in turn implies in which next common IFS/ARPEGE cycle it would appear; the translation between the "h" cycles and the "t" cycles numbering will be managed by Claude, Daniel and the PMs); more generally, the deliverable in a given WP would generally be either a scientific note and/or a code contribution proposed to enter the common codes.
  - Patrick proposes to prepare a new version of the proposed template. Patricia will make it available on a shared googledocs, for everybody to comment on it before April 21, when the 3 PMs will agree on the final version of the template, distribute it together with instructions for filling it.
- Each WP will have an editorial leadership, with a WP redactor (WPR) who is responsible for the redaction of the relevant part of the RWP and the coordination of the redaction, but not for its realisation. The WPRs should contact people in the consortia to make sure that they cover the topic of the WP.
- The list of WPs and their leader redactors will be set up and agreed on during the HMG/CSSI meeting every year and presented to HAC/PAC. For this year, the starting point is a simple re-ordering of the tasks from the former RWP, by filling the proposed templates, and realizing thus an inventory. The WPRs are free to stick to the tasks from the former RWP (often groups – MF, LACE, HIRLAM, ALADIN-non-LACE-non-MF- oriented), or to organise the WPs more topic oriented, with an enhanced collaboration between the groups.
- The WPRs will propose to the 3 PMs a concise draft of their WPs, using the new template, before 1st of June.

- The 3 PMs (ALADIN, HIRLAM, LACE) will integrate the components of the RWP.
- The Local Team Managers (LTM) for ALADIN will be presented with the RWP besides the EWGLAM meeting (1st week of October) and will commit the manpower.
- HAC will review the RWP at their meeting late October. It will be proposed to the PAC to move their annual meeting from spring to autumn, when they could comment on the proposed RWP, at a joint meeting with HAC.
- The joint GA/Council (end of November) will be presented with the RWP, including deliverables and manpower commitments.

3 Identification of the WPs and Assignments of WP REDACTORS

The list of WPs proposed by the PMs is discussed and some redactors are proposed.

Area	WP ID	Description	WP redactors and other contacts when known (the proposed WPR is underlined)
Data Assimilation	DA1	Further development of 3D-Var and development for nowcasting	Roger, Mate
	DA2	Development of flow-dependent algorithms	Roger and Claude joint redaction
	DA3	Use of existing observations	Roger
	DA4	Use of new observations	Jean-François, Alena, Roger
	DA5	Participation in OOPS and COPE	MF (Claude with Jean-François), Eoin, Roger, Alena
	???	OPLACE	Yong will ask to LACE Council if they want OPLACE as a WP in the RWP or not.
	???	Observation pre-processing	??
Dynamics (outside the Scalability core programme)	DY	Vertical discretization, semi-Lagrangian and boundary treatment	Ludovic, Lisa, Petra, Alvaro
Physics parametrizations	PH1	AROME CMC	Contacts : MF: (Yves, François, Claude), HIRLAM (Lisa), ALARO (Neva, Luc, Radmila) The split among CMCs will be easy to write but won't probably help increasing the synergy in the A-H community. It's a provisional division for this year, to be revisited at each HMG/CSSI.
	PH2	HARMONIE-AROME CMC	
	PH3	ALARO CMC (Martin)	
	PH4	validation	Understood in terms of scientific

			tools like MUSC, budgets etc. Perhaps start this WP focussing on MUSC, but a redactor needs to be found.
	PH5 ? ?	Post-processing and diagnostics	Proposed by Lisa, Neva. It was decided to start with an inquiry of existing PP tools, probably limited in scope, in order to avoid a "market place wish list" behaviour. No specific WP for the time being.
		ARPEGE physics (included in PH1)	Used to be in the RWP. As some science and codes are common with AROME, the decision was to include the ARPEGE physics within the AROME-CMC WP.
Surface analysis and modelling	SU1	Assimilation algorithms for surface assimilation	WPR: Patrick. Contact points : Rafiq, Jean-François & Yves for MF, Stefan and Mate for LACE. Patrick will make the starting point of SU1 to SU4, checking its consistency with the SURFEX plans by the SURFEX SC. The 3PMs will invite then the above contact points for adding their input.
	SU2	Use of observations in surface assimilation	
	SU3	SURFEX: validation of existing options for NWP	
	SU4	SURFEX: development of model components	
	SU5	Assess/improve quality of surface characterization?	MF (Jean-François or ?)
	SU6	Coupling with sea surface/ocean?	Slovenia, Norway (+ Croatia ?)
Ensemble forecasting and predictability	E1	Inger-Lise will contact Alex, François Bouttier and Martin and will try to split the Convection-permitting EPS topic into three or four perturbations type WPs (e.g. IC, LBC, surface, model error). If no agreement on this, then a split of this topic into E1:Arome-FR, E2:HarmonEPS and E3:LACE convection-permitting EPS parts will be reverted to .	
	E2		
	E3		
	E4	LAEF development and operation	Martin
	E5	GLAMEPS development and operation	Inger-Lise
	E6	Calibration methods for ensembles	Inger-Lise
Quality assurance and verification	QA1	Development of HARP	Christoph
	QA2	Development of new verification methods	Christoph , Bent
	QA3	Quality assessment of new cycles and model weaknesses	Bent (HIRLAM specific action)

Technical code and system development	SY1	Code optimization (outside what may come from the Scalability project)	Claude, in liaison with Daan, Daniel, Bent
	SY2	Maintenance and development of the HARMONIE Reference System	Daniel (HIRLAM specific action)
	SY3	Revision of the HARMONIE scripting system	Daniel, Roger, Alex
Transversal	T1	Towards higher resolution (physics, dynamics, system)	Lisa's successor

4 Identification of code impact; presentation (CSSI chair) and a few examples

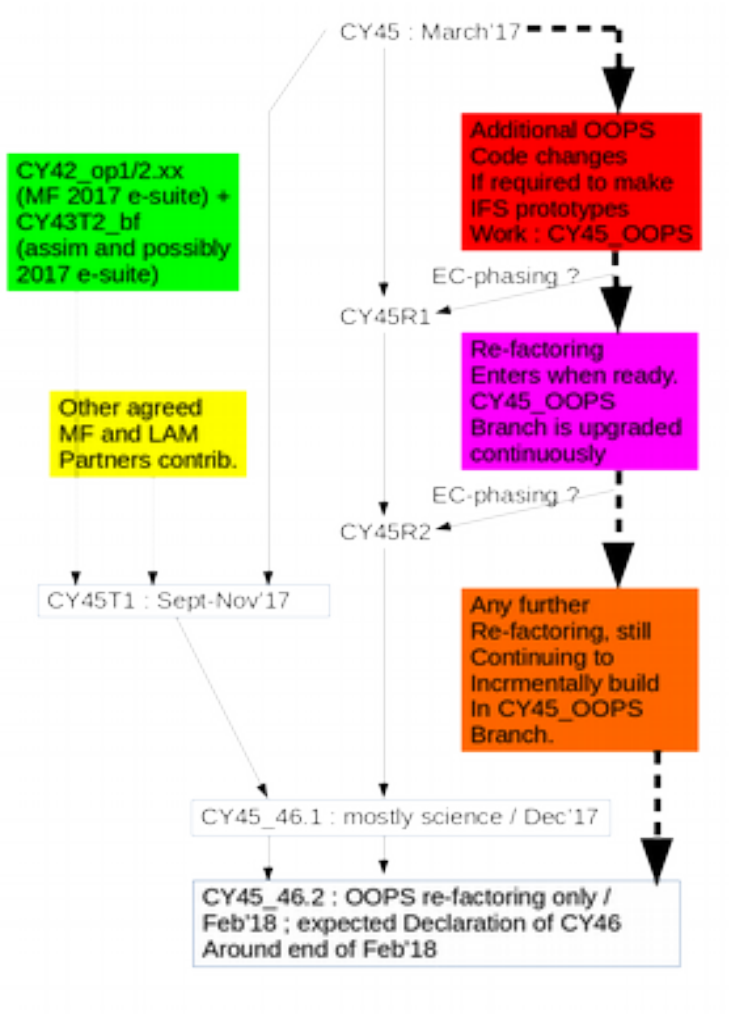
Claude opens the floor for comments or questions on "the chair of CSSI input document" he sent before the meeting that contains :

- list, content and timing of cycles of IFS/ARPEGE/LAM codes installed or planned in MF's GIT repository
- table overview of calendar of cycles, as discussed with ECMWF

Joint cycle	ECMWF	MF	Start of phasing	Declaration	Misc. / Oper plans
		CY43T1	April 2016	June 2016	Including Aladin and Hirlam
		CY43T2	October 2016	mid-November	Wrap-up of bugfixes from [CY40-CY42], as well as MF E-suite changes from CY42_op1/op2
CY44			mid-November 2016	Mid-March 2017	The build process of this cycle might be in multiple steps to accommodate necessary input for OOPS in IFS. Tbd in forthcoming video-conferences.
	CY44R1				*Dropped*
		CY44T1		*Cancelled in order to build the technical OOPS cycle CY45*	*Dropped*
CY45			March 2017	End of April 2017	MODEL object re-factoring
		CY45T1	September or October 2017	November 2017	Including Aladin and Hirlam
	CY45R1		May 2017	June 2017	Science tbc
	CY45R2		July 2017	September 2017	12h overlapping DA
CY46			End of November 2017	End of February 2018	

- a graphical sketch providing an overview of the code evolution in 2017.

Claude underlines some important points for the present situation : OOPS re-factoring keeps going on ; the next MF e-suite will increase the horizontal resolutions for global systems; it is expected to start running in October 2017, and it has still to be decided if it will be based on CY43T2 or CY44. It will be discussed at the next ALADIN ACNA WebEx (1st week of May) and Daniel will be invited to join for HIRLAM.



Claude explains that there will be no CY44T1 but directly a CY45T1 : the kind of contributions MF could expect to enter this CY45T1 from the partners (ALADIN, HIRLAM) is still to be defined. In the future, during the HMG/CSSI meetings, we should start listing the expected ALADIN and HIRLAM code contributions for the following 2 years.

Patrick proposes a method (and illustrates it with a graphic) to structure the phasing of the changes with SURFEX : first to collect the changes that everybody in NWP proposes for SURFEX into a single branch of SURFEX, to test this branch and then to ask the SURFEX team to put it into the SURFEX trunk. The proposal is discussed in the meeting and a few comments for clarification are made. It is agreed that the proposal should be further discussed at management level. For the next steps, Claude will work on Patrick's proposed graphic and prepare a new one in liaison with Patrick and Daniel. This updated graphical outline shall then serve as illustration for further discussing the proposed SURFEX code contribution process with local teams and management. At MF, Claude will for instance liaise with GMAP relevant staff and management. Claude concludes that, in the future, HMG/CSSI should keep track of the SURFEX changes for NWP, anyway.

5 Overview of last years actions

The status of the 2016 actions list as defined in April 2016 was filled in the "HMG/CSSI meetings" googledoc. Nothing problematic is pointed, thus the 2016 actions are closed.

6 AOB

None.

7 Closing and next year meeting

The next meeting will take place in Toulouse on Friday 20 April, 2018.