

Minutes of the NEMO Developers' Committee Meetings

14th Sept 2020

Present: Mario Acosta (BSC), Mike Bell (Met Office, chair), Rachid Benshila (CNRS), Romain Bourdallé Badié (MOI), Laurent Brodeau (Ocean Next), Diego Bruciaferri (Met Office), Momme Butenschön (CMCC), Miguel Castrillo (BSC), Jerome Chanut (MOI), Stefania Ciliberti (CMCC), Andrew Coward (NOC), Emmanuel Clementi (CMCC), Massimiliano Drudi (CMCC), Frederic Dupont (EC), Italo Epicoco (CMCC), **Malcon Faria, Pier Giuseppe Fogli**, Wayne Gaudin (NVIDIA), Helene Hewitt (Met Office),, Dorotea Iovino (CMCC), Claire Levy (CNRS), Tomas Lovato (CMCC), Gurvan Madec (CNRS), Sebastien Masson (CNRS), Francesca Mele (CMCC), Silvia Mocavero (CMCC), Jean Marc Molines (CNRS), Stella Paronuzzi (BSC), Renaud Person (CNRS), Clement Rousset (CNRS), Julien Le Sommer (CNRS), Joanna Staneva (HZG), **Laura Stefanizzi**, Sybille Techene (CNRS), Oriol Tinto (BSC), Martin Vancopenolle (CNRS), Amy Young (Met Office)

Apologies: David Marshall (Uni Oxford)

1. Reflections on the 2020 Workplan

See overview presentation from Claire and presentations from each of the NEMO officers.

2020 has been a very busy year with a lot of new developments, many related to IMMERSE, and disruption due to Covid-19. The NEMO officers gave clear and informative presentations on their actions in the work plan.

Issues that were discussed are:

Seb and Clement plan to prepare sea-ice functionality for the Met Office coupled model developed at vn4.0.3 for the merge. **What are the actions here?** Seb, Clem, Ed, Mike to clarify what happened?

Jerome noted that z-tilde code at vn4.0.1 also needs to be “rescued” and the IMMERSE work on z-tilde needs to be clarified.

Andrew and Seb noted that further work will be needed on the haloes. Seb suggested the tiling code should be merged next year rather than this year.

Amy noted that the Met Office and others could seek to provide more timely validation of functionality in new releases. Andrew suggested that distinguishing changes in the interface from internal changes to the code might assist earlier validation of new releases. Claire emphasised the need to include validation of the candidate release in next year's work-plan.

The long-term home for the CMEMS/NEMO interface being developed by CMCC will need to be decided.

Seb noted that some code from the BSC/ECMWF mixed-precision work was successfully included in the mid-year merge.

2. Organisation of merges in 2020

Claire noted that there are a large number of candidates for the merge and that they must be based on a version of the trunk post the mid-year merge that the NST will shortly determine. There is a lot of work to do to prepare for the merge.

The NEMO System Team will need to look at the candidates for the merge. The priorities for IMMERSE should be taken into account but reasonable delays can be explained to the IMMERSE evaluators. The new NEMO version must be reliable. The merge will generate a candidate version that will need to be evaluated over the following 3-6 months.

Action: Claire to arrange an NST discussion on the candidate release (this will surely happen without an action to ensure it?)

3. Set up of NEMO Scientific Advisory Committee

Mike recalled how the NEMO System Team, Developers Committee and Working Groups fit together and the need for an Advisory Committee focused on the 3-5 year horizon. The NEMO Steering Committee (NSC) has agreed that a SAC be set up and are considering the criteria for its chair and a suggested chairperson. Suggestions for SAC members covering HPC and software engineering issues would be particularly welcome.

4. Preparation of the next NEMO Development Strategy

Mike outlined why the Strategy is important and the role of the WGLs in developing it.

The HPC, kernel and TOP WGs expect to be better placed to write new strategies in 2022 than in 2021. The sea-ice chapter covers ice shelves so is wider than the sea-ice WG (?) The sea-ice WG can develop its strategy to its own time-table.

It was agreed to aim to write the next NDS in 2022.

5. AoB

5.1 SASIP (Scale-aware sea-ice project) .

Martin drew attention to this major new project led by Pierre Rampal (now at Grenoble). The project includes work on the impact of ice on waves and ocean mixing. The ocean model chosen for the project is NEMO. Specific developments in 2021 (or 2022?) on the modularisation of thermodynamics and dynamics in SI3 will be needed for NEMO to articulate well with SASIP.

Action: Martin to circulate the project description to the devcom mailing list.

5.2 Development of the 2021 NEMO Work Plan

It was agreed to hold the next NDC meeting to discuss the 2021 WP in the period 14-23 December and that the NEMO officers and WGLs should submit proposals for work plan items by 20 November. The second half of this NDC meeting will take place in the first half of November.

Action: Claire to organise doodle polls for NDC meetings in the first half of November and the period 14-23 December.