

2018 workplan in 1 second:
nemo 4.0 release

What have we done during the last 6 months?

What will we do during the next 6 months?

What have we done during the last 6 months?



What have we done during the last 6 months?

12/13/2017

creation of
dev_merge_2017

285 commmits

05/14/2018

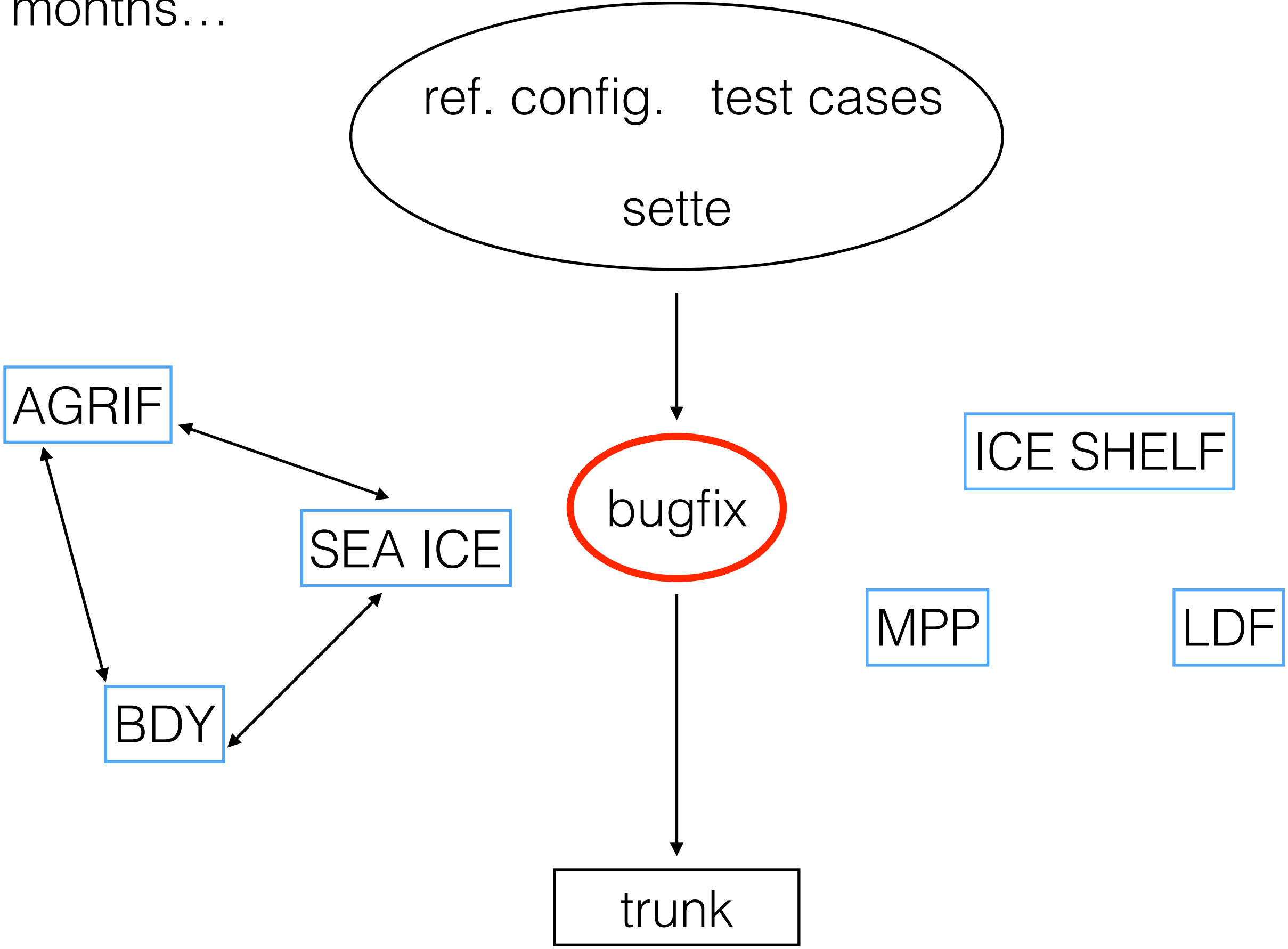
move it back to
the trunk

104 commmits

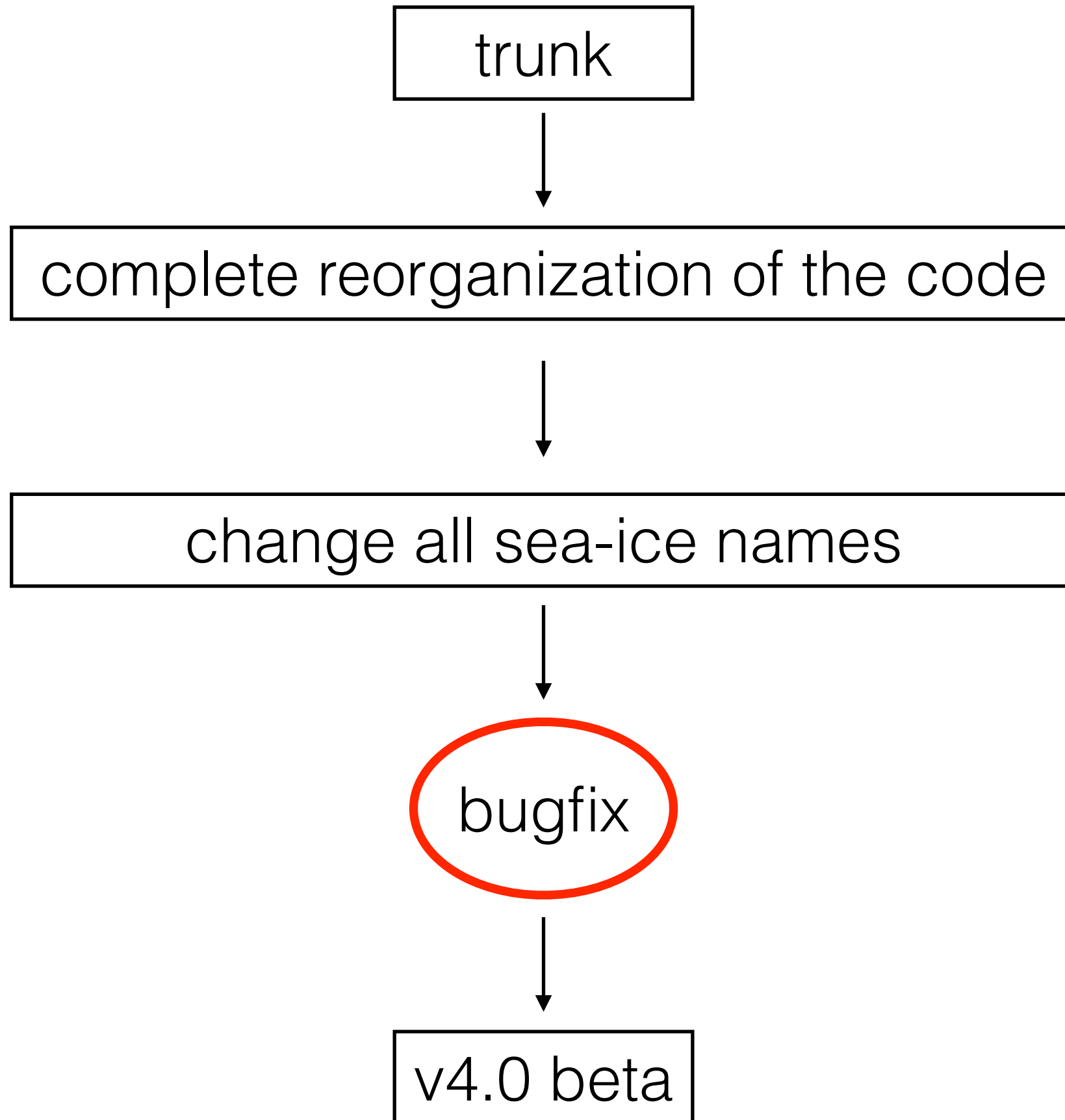
07/03/2018

ready to announce
V4.0 beta

5 months...



1.5 month...



nemo 3.6

```
.
|-- ADM
| `-- DOC_SCRIPTS
|-- DOC
| |-- Figures
| |-- Namelists
| `-- TexFiles
`-- NEMOGCM
    |-- ARCH
    |-- CONFIG
    | |-- makenemo
    |-- EXTERNAL
    |-- NEMO
    | |-- LIM_SRC_2
    | |-- LIM_SRC_3
    | |-- NST_SRC
    | |-- OFF_SRC
    | |-- OOO_SRC
    | |-- OPA_SRC
    | |-- SAS_SRC
    | `-- TOP_SRC
    |-- SETTE
    |-- TOOLS
    `-- fcm-make
```

nemo 4.0

```
.
|-- arch
|-- cfgs
|-- doc
|-- ext
|-- makenemo
|-- mk
|-- src
| |-- ICE
| |-- NST
| |-- OCE
| |-- OFF
| |-- SAO
| |-- SAS
| `-- TOP
|-- tests
`-- tools
```

nemo 4.0 : what's new compared to previous release 3_6_STABLE?

AGRIF:

- add vertical refinement
- Now compatible with new sea ice component
- Now compatible with vvl
- Nesting tools for setup now up to date and working

HPC

- Reduce number of MPI communications (suppression of redundant communications, gather multiple communications into one)
- Back to standard dynamical allocation (remove of wrk_alloc/dealloc statements)
- Generalised lbc_ink and lbc_nfd (simplification)
- Unify mppini (simplification)
- Use non uniform jpi/jpj with dynamic allocation to avoid ghost rows/columns (simplification)
- Message passing re coded

XIOS2 as default and for read

ENHANCEMENTS

- z-tilde and split explicit stability improvements
- bulk formulae : move to aerobulk package (Brodeau et al. 2016), i.e. NCAR, COARE and ECMWF bulk (remove Clio and MFS bulk)
- wetting and drying
- self loading and attraction
- add a 4th order centered (CEN) and Flux Corrected Transport (FCT) tracer advection (using a 4th compact in the vertical)
- iso-neutral mixing (iso and triad operators): add the Method of Stabilizing Correction (MSC) (more accurate calculation) + add a bilaplacian case
- Lateral physics (LDF): scale aware setting of eddy viscosity and diffusivity
- vorticity: 2 new energy conserving scheme: ENT with Coriolis defined at T-point (better for Flux form) and EET a variant of EEN where e3t is used instead of e3f (solved the issue with e3f specification but is not enstrophy conserving)

SIMPLIFICATION

- revised structure of namlist_ref/_cfg and default reference values.
- lateral physics (LDF): simplification of user interface and removal of CPP keys
- vertical physics (ZDF) (modularity, share shear production calculation between TKE and GKS, removal of all ZDF CPP keys, removal of avmu & avmv, minimization of MPP comm.: ~15 removed)
- remove the split-explicit ZDF scheme for both TRA and DYN
- remove the acceleration of convergence

ROBUSTNESS

- configuration interface completely rewritten (DOM module mainly suppressed , and in place: domain_cfg.nc file, or usr_def module)

TEST Cases

- Introduce test cases
- Implement 6 different cases (list)

WAVE coupling

- coupled interface to external wave model
- large scale wave interaction process added in momentum and tracer equations

SEA ICE

- New SI3 component, improvements in natural and computational sciences so as friendlier user interface

Collaborative Development Environment

- move of website from EzP IPSL to Wordpress Mercator
- define appropriate portals on forge wiki for users/developers/System Team and complete refactoring of all wiki pages and their organisation
- complete reorganisation of svn repository
- install open shared space for input files of reference configurations
- define and install separate repository github for test cases
- create forums
- redefine/install mailing lists
- Elaborate tasks splitting for sette versus trusting

What will we do during the next 6 months?



What will we do during the next 6 months?

WP2018, the big missing part: **VALIDATION**

Validation (2018WP/VALID-*)

- [01_cbricaud_HR](#)
- [02_smasson_regionalagrif](#)
- [03_SFlavoni_global_configuration](#)
- [04_SFlavoni_Overflow_Lock](#)
- [05_clevy-AGRIF](#)
- [06_storkey_global](#)
- [07-odea-AMM](#)
- [08_Drudi_Wave_ORCA2](#)
- [09_Lovato_Test Wave_Med Sea](#)
- [10_GeorgeN-evalOSMOSIS](#)
- [11_CEthE_TOP_OFF](#)

Robustness (2018WP/ROBUST-*)

- [01_rbourdal_C1D](#)
- [02_Martin_Clem-LIM3_DOC](#)
- [03_CEthE-TOPDoc](#)
- [04_SFlavoni-DOC-Userdef](#)
- [05_clevy-shaconemo_future](#)
- [06_AndrewC-reporting](#)
- [07_SFlavoni-Notebook-testcases](#)

... and **Documentation**

What will we do during the next 6 months?

Enhancement (2018WP/ENHANCE-*)	HPC (2018WP/HPC-*)
<ul style="list-style-type: none">• 01_Romain-massfluxconvection• 02_Jerome_freesurface• 03_jchanut-ZTILDE• 04_Gurvan-RK3• 05_Gurvan-Vertical_Advection• 06-Gurvan-Bulk_improvements• 07-CRousset_LIM3adv_valorisation• 08_Gurvan-Implicit_Drags• 09_Gurvan-GEOMETRIC• 10_Nicolas-Trusting Sette Cooperation• 11_Nicolas-Repository Cleaning• 12_Yevgeny-Ice Waves• 13_Olivier-Vertical_Sinking• 14_CEthE_PISCES_LBC	<ul style="list-style-type: none">• 01_Silvia Mocavero_singlecoreperf• 02_Francesca Mele_hybrid• 03_Silvia Mocavero_globcomm• 04_Silvia Mocavero_mpi3• 05_AndrewC-extendedhaloes• 06_andmirek-XIOSread• 07_andmirek_XIOSwrite• 08_Mixed_precision

source: NEMO / branches / 2018

Name ▲
↑ ../
▶ dev_r8864_nemo_v3_6_ZTILDE
▶ dev_r9368_fcheck
▶ dev_r9759_HPC09_ESIWACE
▶ dev_r9838_ENHANCE04_MLF