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ESM-Tools

Newsletter January 2021 – Release 5.0

Announcements:

Latest Releases:

Release 5.0: December 1, 2020

Release 4.2: September 8, 2020

Next planned major release:

Release 6: June, 2021

Next ESM-Tools Dev Meeting:

9:00-11:00, February 2, 2021

Video Conference

a link will be sent via e-mail

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🌐 www.esm-tools.net

📺 [ESMTools](https://www.youtube.com/ESMTools)

🐦 [@ToolsEsm](https://twitter.com/ToolsEsm)



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Release 5.0

After two weeks of happy merging and bugfixing, we are proud to present the version 5.0 of the ESM-Tools. As presented in the developers' meeting at Dec 1, the new Tools include the following new features:

- **Linking of input files:** By default, files are copied into and out of the work folder for safety / reproducibility reasons. As that can waste disk space however, you can use runscript settings to control whether a file gets linked instead of copied now.
- **Cleanup of the run directories:** Customizable cleaning up of the run_<DATE> directories in the experiment folder.
- **Virtual environment for simulations:** Simulations can be run in a virtual environment, so that changes in ESM-Tools (updates, user changing config files, ...) do not affect this simulation, ensuring stable long simulations.
- **-inspect argument for esm_runscripts:** allows you to quickly check results of a prepared / executed run, takes *overview*, *lastlog*, *datefile*, *explog*, *filename*, *dirname*, *size* as options
- **Message of the day (motd):** As of Release 5.0, `esm_motd` allows us to inform users about serious problems or important bugfixes when `esm_runscripts` or `esm_master` are executed.
- **Runscript update feature:** If your runscript changes between two runs of the same experiment, `esm_runscripts` will write out a warning including the changed entries, and ask the user for interactive confirmation. Can be turned off.
- **Clearer output and better error handling:** We cleaned up the default output of `esm_runscript` to only include a very basic overview of the experiment, the old, lengthy output can be turned on though. Also, an error checking of the used YAML-files is performed that gives clearer advice on how to fix problems.

Apart from new functionality, we extended the support for configurations for the following models and setups:

- **OpenIFS** (by Joakim Kjellsson (GEOMAR), Sebastian Wahl (GEOMAR), Jan Streffing): Atmosphere model OpenIFS (standalone), various resolutions available, output written via XIOS I/O server
- **NEMO** (by Joakim Kjellsson and Sebastian Wahl, both GEOMAR): Ocean model NEMO (standalone) technically included, DEMO setup (GYRE) up and running, global ocean configuration (e.g. ORCA05 or ORCA025) prepared.
- **FOCI** (by Joakim Kjellsson and Sebastian Wahl, both GEOMAR): Coupled setup: Ocean model NEMO + Atmosphere model ECHAM
- **FOCIOIFS** (by Joakim Kjellsson and Sebastian Wahl, both GEOMAR): Coupled setup: Ocean model NEMO + Atmosphere model OpenIFS

- **AWIESM 2.2** (PISM+SCOPE) (by Paul Gierz): FESOM-2.0 + PISM ice sheet model, SCOPE coupler (to couple PISM to AWIESM), using ECHAM version 6.3.05p2 with concurrent radiation (by Kai Himstedt, DKRZ)
- **AWICMMOD** (by Nadine Wieters, part of esm-interface implementation): standard AW-ICM coupled setup with the possibility of easily switching couplers (OASIS/YAC) using esm-interface
- **AWICM 3** (by Jan Streffing and Miguel Andrés-Martínez): Ocean model FESOM-2.0 + Atmosphere model OpenIFS, ongoing work

Other news

Shell Version Discontinued: We would like to remind you that the shell version of the ESM-Tools is no longer supported.

Paper: The preprint of our GMD-paper is available [here](#).

Code Hosting

The ESM-Tools are hosted on <https://github.com/esm-tools>.

Each subproject has at least two branches, the default branch being 'release'. This is the branch that will come with 'git clone' and holds the latest stable version of the ESM-Tools. We will only give full user support to this 'release' branch.

Documentation

User Manual

You can find the latest user manual here: https://esm-tools.readthedocs.io/_/downloads/en/latest/pdf/

Also, you can find the newest (and html-) version on our website:

<https://esm-tools.readthedocs.io/en/latest/index.html>

GitHub Issue Tracking

Issues in GitHub is a great feature that allows us to organise the work needed for bugfixes and enhancements. Discussions about how to solve the issue are held there, where referencing commits, merges and other issues is smoothly integrated. Labelling and issue assignment help us to better manage your bugfixes/requests. For all these reasons GitHub Issues is our preferred way for you to report your suggestions and bugs. Of course, if you'd rather not use this feature, you can always contact us by email.

https://github.com/esm-tools/esm_tools/issues

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