

ESM Tools

- Documentation and References
- How-to Guide and Examples

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Outline



1 Documentation and References

- esm-usermanual
- GitLab Wiki

2 How-to Guide and Examples

Documentation and References



esm-usermanual

Where can I find the esm-usermanual?



esm-tools project on GitLab

`https://gitlab.dkrz.de/esm-tools/esm-usermanual`



`https://gitlab.dkrz.de/esm-tools/esm-usermanual/blob/master/esm_usermanual.pdf`

How can I contribute to the esm-usermanual?

- Read the esm-usermanual and give feedback to it (nadine.wieters@awi.de)
- Ask questions to the esm-tools
- Work on the document

Documentation and References



esm-usermanual

How can I work on the esm-usermanual document?

- Written with the \LaTeX typesetting system (using KOMA-Script)
- Create your own branch (mybranch) on GitLab
- Get a local copy of your branch on your desktop computer
- `git clone -b mybranchname https://gitlab.dkrz.de/esm-tools/esm-usermanual.git`
- Do your changes
- `git add, commit, push`
- Do a merge request for your branch

Documentation and References



GitLab Wiki

The screenshot shows a web browser displaying the GitLab Wiki page for the 'esm-tools / esm-runcscripts' repository. The page title is 'Home' and it was last edited by 'Nadine Wieters' a week ago. The page content includes a welcome message, a note about the FAQ page, and sections for 'General', 'Where Do I...?', 'How Do I...?', 'AWI-CM', and 'How Do I...?'. The 'General' section lists several bullet points: 'Run an initial model run (cold start)', 'Run a simple Pre-Industrial Control simulation', 'Restart AWI-CM from an already existing run (spins)', 'Continue a model run that has been successfully completed or that unfortunately crashed', 'Overcome numeric instability by temporarily setting enhanced diffusion ENSTOF', 'Change AWI-CM restart frequency', 'Change AWI-CM output schedule (output data)', 'Switch on / off postprocessing', and 'modify the postprocessing (e.g. keep daily output for selected variables, while generating monthly output for the rest of the data)'. The 'Paleoclimate' section is also visible at the bottom.

AWI-CM (CMIP6)



Tasks to get and run AWI-CM (CMIP6)

- ➊ Downloading the source code → [esm-master](#)
- ➋ Compiling the source code → [esm-master](#), [esm-environment](#)
- ➌ Set up and configure an experiment → [esm-runscrip](#)ts
- ➍ Executing the run → [esm-runscrip](#)ts

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AWI-CM (CMIP6)



0. Getting the tools

```
$ git clone https://gitlab.dkrz.de/esm-tools/esm-master.git
...
$ cd esm-master
```

```
esm-master
├── esm-master.conf
└── Makefile
```

Configure esm-master: edit esm-master.conf

```
1 SWREPO-USERNAME=<your-swrepo-username>
2 DKRZ-GITLAB-USERNAME=<your-dkrz-gitlab-username>
```

AWI-CM (CMIP6)



```
$ make get-esm-environment
...
$ make get-esm-runscripts
...
```

```
esm-master
├── esm-environment
├── esm-master.conf
├── esm-runscripts
└── Makefile
```

1. Downloading and 2. compiling

```
$ make get-awicm-CMIP6
```

```
...
```

```
esm-master
```

- ├─ awicm-CMIP6
- ├─ esm-environment
- ├─ esm-master.conf
- ├─ esm-runscripsts
- └─ Makefile

```
$ make comp-awicm-CMIP6
```

```
...
```

AWI-CM (CMIP6)



3. Set up an experiment and 4. execute the run

- Copy a prescribed runscript to your working directory

```
$ ./awicm-CMIP6.run -e awicm-cmip6-experiment
```

Thank you for your attention