
MOM4 Quickstart Guide

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Brief instructions for running MOM4 experiment

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1. Where to start?

A good place to start is the "doc" directory, where you will find "user" guides for the MOM.

2. How to get the source code and scripts

After you do CVS checkout successfully a directory will be created (refer to [the manual](#) [mom4_manual.html] for details). For convenience, this directory will be referred to as the ROOT directory. A README file in the ROOT directory will tell you the contents of each subdirectory under ROOT.

In the sections below, `test_case` is a generic name referring to the name of a specific experiment you are working on. Thus, `test_case` in the path `ROOT/exp/test_case` should be replaced by a concrete name (for example `test1`, `test2`, etc.)

3. How to compile and run the MOM4 tests

MOM4 requires that NetCDF and MPI libraries be installed on users' platform.

MOM4 tests provided in `exp` directory divide in two types, both using the GFDL shared infrastructure (FMS) :

1. Solo models : Run stand alone MOM4 Ocean model.
2. Coupled models: Run MOM4 coupled with GFDL ice model (besides null versions of atmosphere and land models).

To run Solo models:

1. a. cd to `exp` and run `mom4p1_solo_compile.csh` first.
2. b. Modify the 'name' variable in the script `mom4p1_solo_run.csh` to be the name of the test you want to run. A list of available tests is included in the script.
3. c. Get the required input data for the test from GFDL ftp site. You can get the info by running the script

mom4p1_solo_run.csh and following the instructions.

4. d. Run mom4p1_solo_run.csh
5. e. The results go into subdirectory name/workdir

Users may also want to change the following before starting compilation and execution:

```
set npes = number of processors used in the run
set days = the length of the run in days
set months = the length of the run in months
```

Those are the most basic settings for any run. Experienced users may go to the namelist section in the script to set the values for namelist variables. Details on namelists can be found in the corresponding Fortran module.

To run Solo models: Do the same steps above to mom4p1_coupled_compile.csh and mom4p1_coupled_run.csh



Warning

The Solo and Coupled run scripts have been tested only on 10 and 20, ia64 processors respectively.



Warning

Some of these tests require a large disk space to save the input data. Choose a partition with enough space (1-2 G) to untar the code and data bundels.

4. How to prepare input data

The input data needed to run the selected experiments (tests) that are included in this release are available via [anonymous ftp](ftp://ftp.gfdl.noaa.gov/perm/MOM4/mom4p1_pubrel/exp) [ftp://ftp.gfdl.noaa.gov/perm/MOM4/mom4p1_pubrel/exp]. Note that data in ASCII, HISTORY, RESTART directories are *NOT* needed for running experiments. They are the outputs of the experiments and are provided for the purpose of comparing your results with results produced at GFDL.

Tools are provided so that users can create data from scratch for their own experiments. For more details refer to `ROOT/src/preprocessing`.

5. Examine the output

To keep the runscript simple all output files of a model run will be in the work directory. There are three types of output files:

1. ascii file with `.fms.out` extension: the description of the setup of the run and verbose comments printed out during the run.
2. restart files in RESTART directory: the model fields necessary to initialize future runs of the model.
3. history files with `.nc.tar` extension: output of the model, both averaged over specified time intervals and snapshots.

The ascii file contains everything written to the screen during model execution. The total time for model execution as well as the times of separate modules are reported here. All `.tar` files should be decompressed for viewing. The decompress command is:

```
tar -xvf filename.tar
```

Users will see result files in NetCDF format. Postprocessing tools such as Ferret, ncview, grads or matlab can be used to view data in these files.

The outputs of the selected experiments are provided on [GFDL ftp site](ftp://ftp.gfdl.noaa.gov/perm/MOM4/mom4p1_pubrel/exp) [ftp://ftp.gfdl.noaa.gov/perm/MOM4/mom4p1_pubrel/exp] for the purpose of comparing your results with results produced at GFDL.