

# HOMME

The High Order Method Modeling Environment (HOMME) is a computational framework to solve the 3D most primitive equations of the global atmospheric circulation model. HOMME is one of the main dynamical cores of the Community Atmospheric Model (CAM), which is the atmospheric component of the Community Climate System Model (CCSM).

HOMME requires a Fortran compiler, an MPI implementation and NetCDF.

HOMME can be downloaded from <http://web.ncar.teragrid.org/~bmayer/interconnectHOMME.tar.gz>

## 1 Procedure

This example assumes that you are building HOMME on a Linux machine. There are several other Makefiles for different architectures. They are identified by filenames starting with "Makefile." and ending with the string returned from 'uname -s'.

```
vim Makefile.Linux
Modify LDFLAGS, FFLAGS and NETCDFROOT. Make sure that there is *not* an extra space at the end of NETCDFROOT

make
cd build.Linux
make
```

To run HOMME

```
copy the preqx file (or the file that looks like pr96810011Mx) into the ../benchmark directory.
cd ../benchmarking
mpirun -np <proc> ./preqx < standard.nl
```

## 2 Data

The output needed from the runs is displayed to the screen. Report the number after "total time (sec)=". It is also useful to record the "COMMUNICATION TOTAL" time.