

Hyak_SAM

SAM is System for Atmospheric Modeling.

Below are steps to compile and run SAM with Intel MPI on Hyak.

```
{{h4. h4. Compileh4. }}
Step (1) load modules
module load netcdf_fortran_4.4.1-icc_15.0
module load icc_15.0-impi_5.0.1
Step (2) export Intel compiler variables
export I_MPI_CC=icc
export I_MPI_CXX=icpc
export I_MPI_F77=ifort
export I_MPI_F90=ifort
Step (3) Verify Makefile:
Verify that the -L and -I in your Makefile correspond to the above module file locations.
so your Makefile should contain below lines. Then run ./Build .
##-----
## Linux, Intel Compiler (Modified for HYAK at Univ. Washington)
## module load intel/13.1.1 openmpi netcdf/4.3.0
ifeq ($(PLATFORM),Linux)
FF77 = mpif90 -c -fixed -extend_source -r8
FF90 = mpif90 -c -r8
CC = mpicc -c -DLINUX
FFLAGS = -O3 -fp-model source -I/sw/netcdf-fortran-4.4.1-icc-15.0/include
LD = mpif90
LDFLAGS = -L/usr/lib64 -L/sw/netcdf-4.3.2-icc-15.0/lib -lnetcdff -lnetcdf
-L/sw/netcdf-fortran-4.4.1-icc-15.0/lib
endif
##-----
{{h4. h4. Runh4. }}
Step (4) Modify PBS script resub_hyak:
In file MAG3D.14A.20130708.0539_94h/resub_hyak
below are the only two modules which should be loaded
# load modules
module load netcdf_fortran_4.4.1-icc_15.0
module load icc_15.0-impi_5.0.1
Also in the same file use below command to run SAM:
mpiexec.hydra -bootstrap rsh -rmk pbs $SAMname >> $logfile
```