

Makefiles for parallel processing

- ◆ **Have set of *.in models**
- ◆ **Edit makefile to have proper “path-to-cloudy.exe”**
- ◆ **Great if you want to run n different models**
- ◆ **examples**

2012 Cloudy workshop

Grid command

- ◆ **Vary one or more input parameters**
- ◆ **Examples**

2012 Cloudy workshop

Save output with grids

- ◆ **Save grid**
- ◆ **Save others, no hash, last iteration**

2012 Cloudy workshop

MPI

- ◆ **Message passing interface**
- ◆ http://en.wikipedia.org/wiki/Message_Passing_Interface
- ◆ **Arrays of cores which “talk” to one another**
- ◆ **Cloudy can run one model per core in its grid and optimizer modes**
 - Qualifies as “embarrassingly parallel”
 - http://en.wikipedia.org/wiki/Embarrassingly_parallel

MPI aware systems

- ◆ **Build directories under source**
- ◆ **Must set up your login shell**
 - mpi_selector on our systems
- ◆ **Define special run command, “runmpi”**

mpirun -np xx path-to-cloudy.exe -r \$1
- ◆ **Runs xx cloudy’s at one time**
 - Be careful you don’t run out of memory!

Grid command is MPI aware

- ◆ **But also runs on single processors**
- ◆ **Examples**

2012 Cloudy workshop