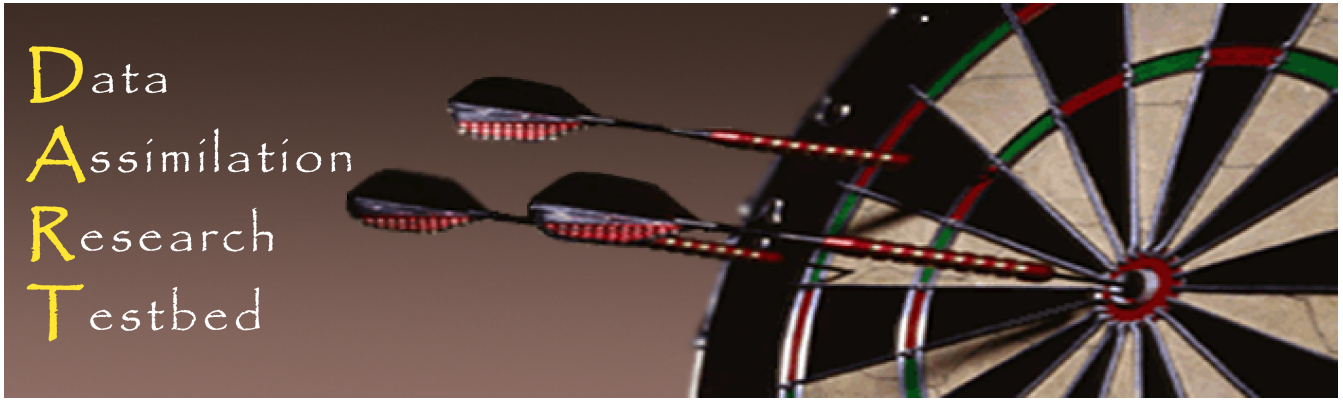
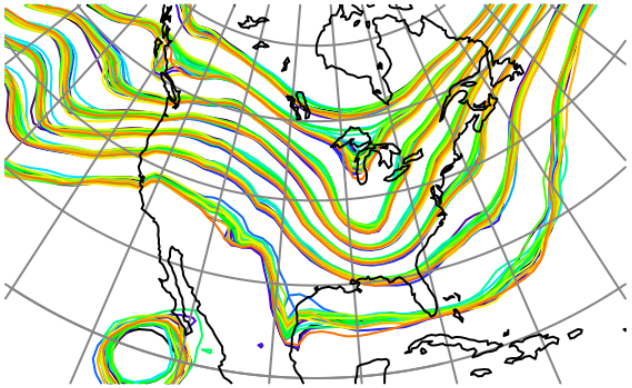


DART Tutorial Section 2: The DART Directory Tree



The National Center for Atmospheric Research is sponsored by the National Science Foundation. Any opinions, findings and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

The DART Code Tree

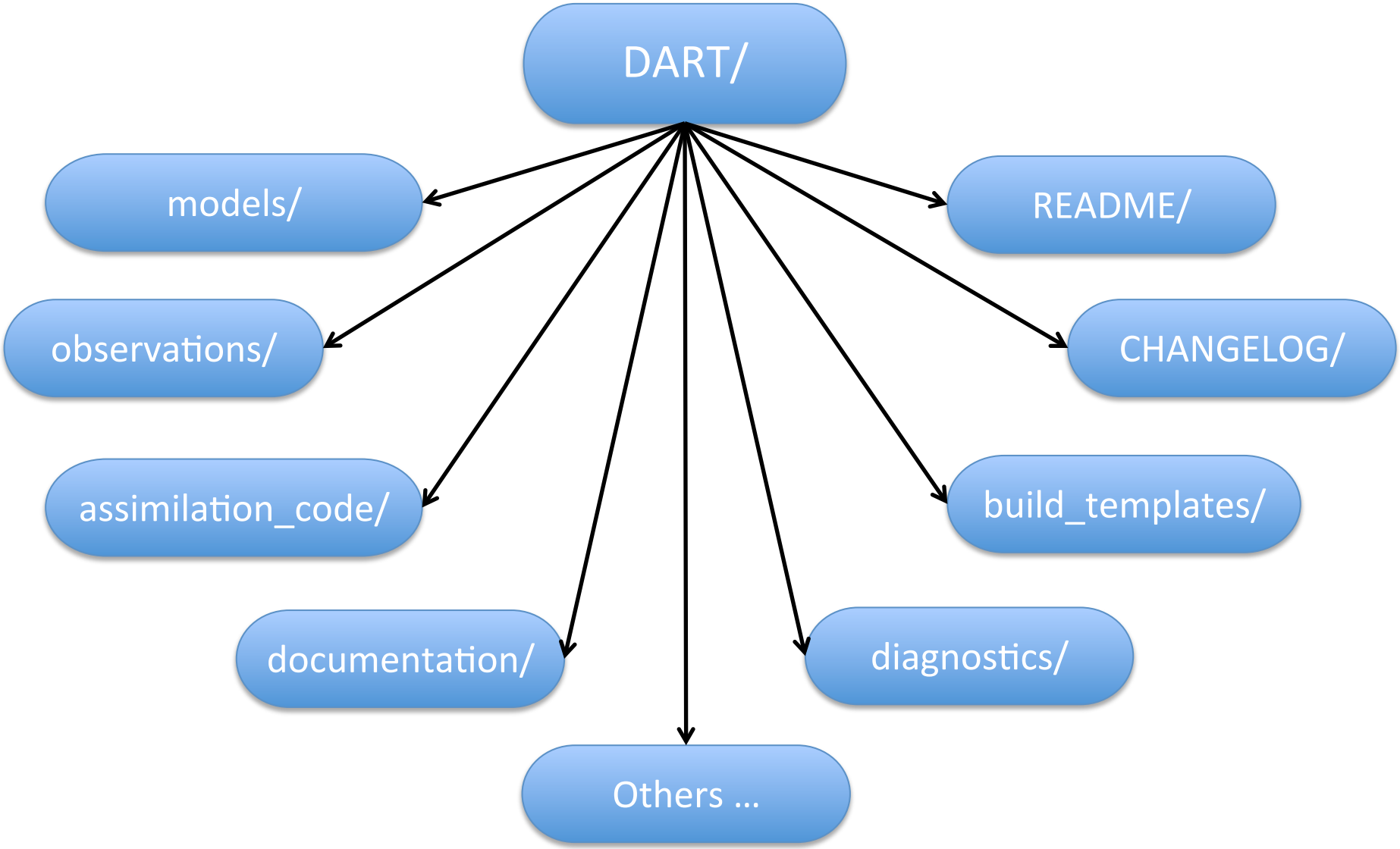
The main portion of DART is implemented as Fortran-90 modules.

Modules are contained in directories under the main DART directory.

DART also contains:

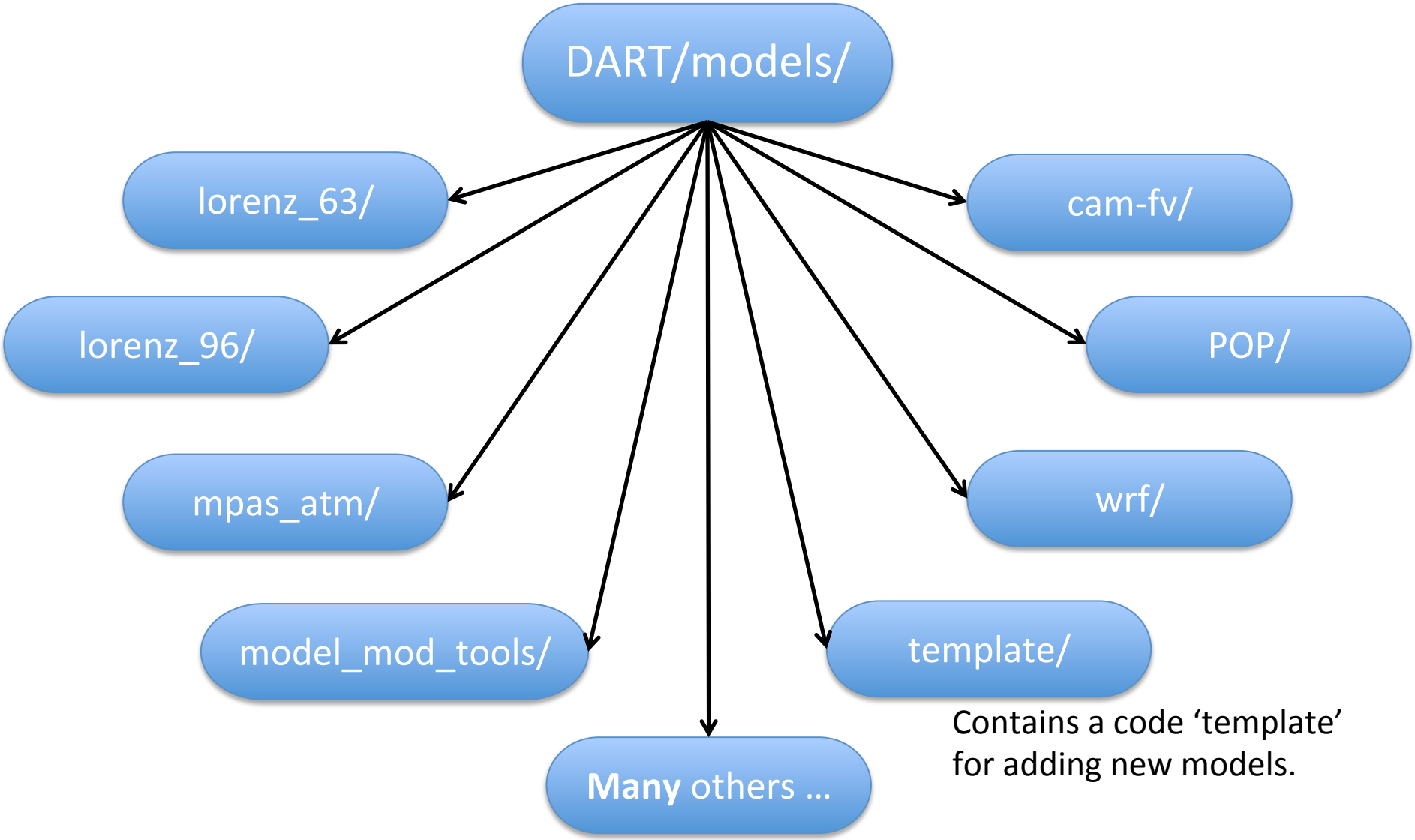
- Documentation (really!),
- Namelist control files,
- Compilation tools,
- Shell scripts for managing large applications, and
- Diagnostic tools.

DART Top-level directory structure



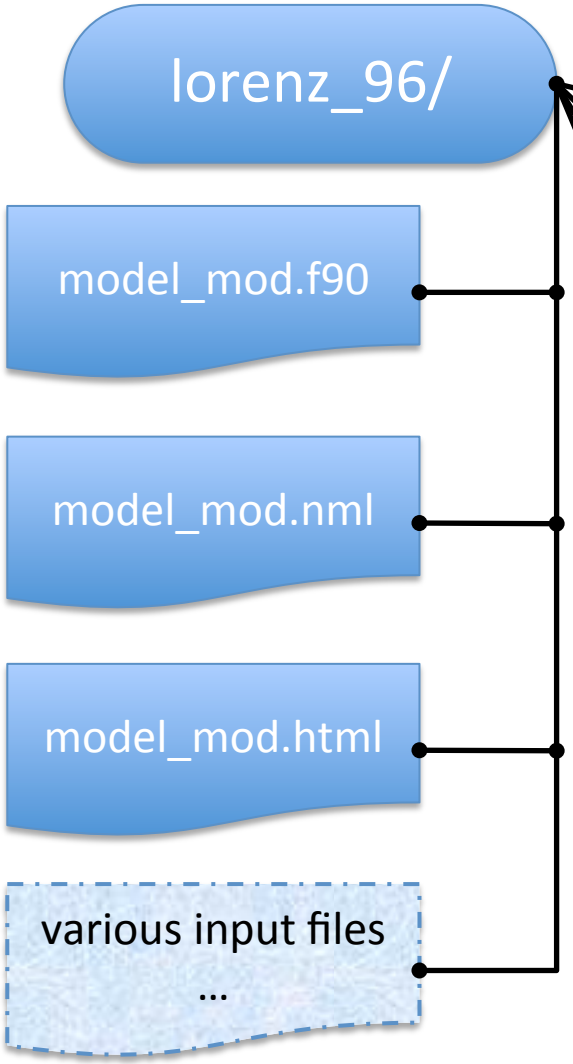
Peruse *your* DART subdirectories!

DART /models directory:



Contains a code 'template' for adding new models.

DART models directory detail:



shell_scripts/

Model-specific scripts. None 'required'.

tests/

Optional. Not required.

matlab/

Model-specific functions to aid analysis, if any.

work

Where all the action happens!

Anything with this background is optional.

DART module files:

DART Fortran-90 code comes as code, documentation, and run-time control files.

Code for module ***cov_cutoff_mod***

Documentation for module.

Run-time control for module.

DART model/work directory details:

work/

Executables are built and run in model work directories.
Makefiles and compiler output files reside here.
Input and output files generally reside here.
Lots of other junk files tend to accumulate here.
Check out contents of ***models/lorenz_63/work***.

mkmf_*xxxxxx*	files that control what compiler is used, compiler options, etc. – for program *xxxxxx*
path_names_*xxxxxx*	files that control what source code files are needed for program *xxxxxx*
input.nml	file used by all DART programs for user control
workshop_setup.csh	script used to run 'set' experiments for some workshop exercises. Not all models run workshop experiments.
quickbuild.csh	script used to compile ALL applicable DART programs for this model. Take a look at it. Nothing mysterious.
obs_seq.out.xxxxxx	Sequence of observations to be assimilated for case xxxxxx

Coding style:

Look at ensemble adjustment filter observation increment subroutine.

In *assim_tools/assim_tools_mod.f90* search for the string '`subroutine obs_increment_eakf`'.

`obs_increment_eakf()` computes updated mean in a temporary variable named `new_mean`.

Computes ratio of updated standard deviation to prior. Compare to tutorial slides in section 1.

DART Tutorial Index to Sections