

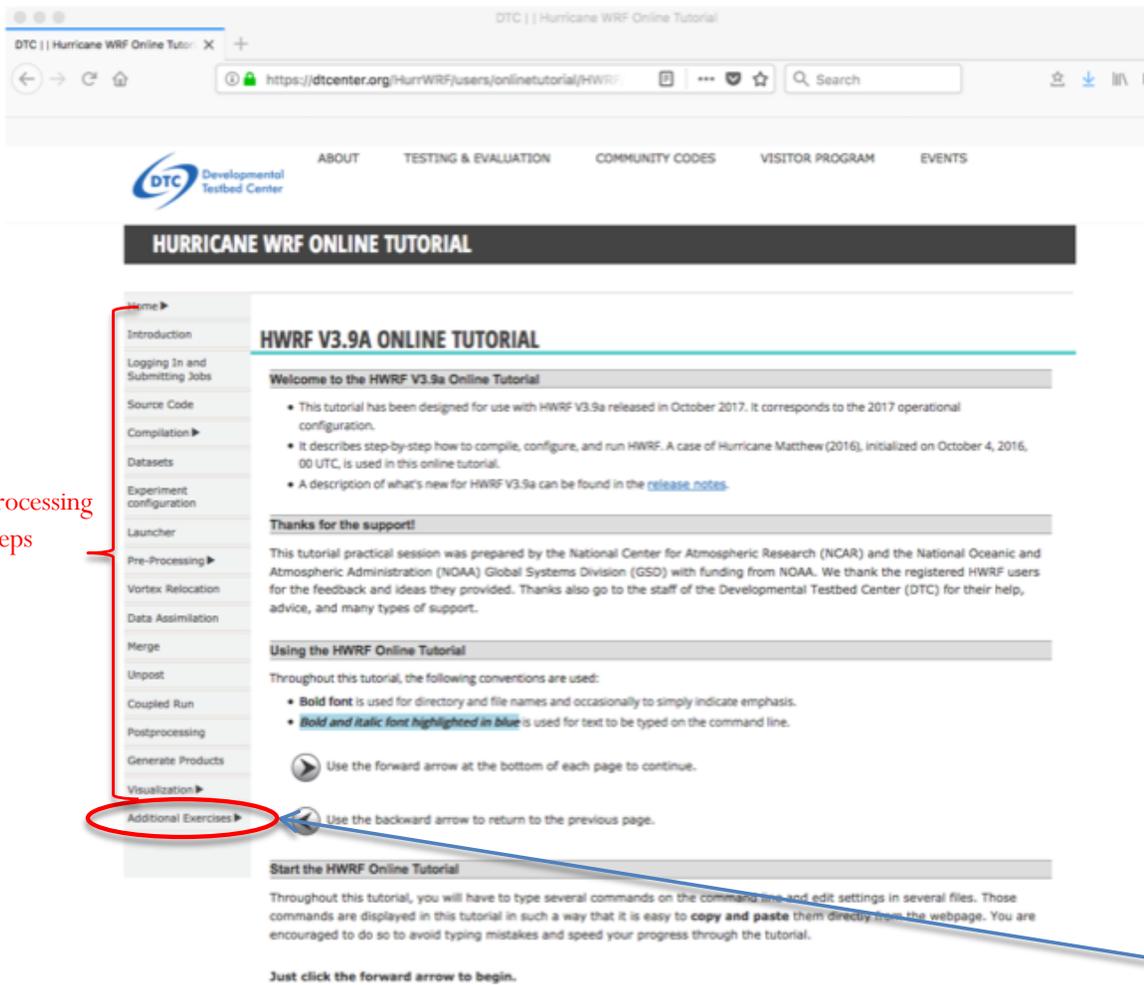
HWRF v3.9a Tutorial  
NCWCP, January 23-25, 2018

# Practical session

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# Overview of tutorial website



- Hurricane Matthew 2016100400
- Cold start
- NCAR's cheyenne computer

**Bold font** = Emphasis  
***Bold, italic and highlighted***  
= Command you need to type

- Additional exercises
- If you get time or are an advanced user
  - If you want to run the Idealized case

# 1. Modules and environment settings

- Several modules are needed to compile and some are used during runtime
- Load the modules using the *module load* command
  - Required modules listed on HWRF tutorial website
  - You have to edit your `~/.cshrc` file to add the modules
- Several environment variables are also needed frequently, and should be added to your `~/.cshrc` file
  - Some are packages/libraries
    - e.g. MKLROOT, LIB\_Z\_PATH, LIB\_JASPER\_PATH etc.
  - Some are for our own convenience
    - e.g. WORKhwrp, COMhwrp etc.

## 2. Get the source code

- Source codes for the HWRF system are available on a shared space on NCAR's Cheyenne

*/glade/p/ral/jnt/HWRF/HWRF\_v3.9a\_tut\_codes*

- **WRF, WPS, GSI, UPP are pre-compiled**
- Users will compile
  - hwrf-utilities
  - pomtc
  - ncep-coupler
  - gfdl-vortextracker
- To compile:
  - *./configure* → Choose appropriate option
  - *./compile >& build.log* → Re-direct compile log to a file

## 3. Get the input datasets

- Input datasets are available on a shared disk on NCAR's Cheyenne  
*/glade/p/ral/jnt/HWRF/datasets\_v3.9a/Matthew*

**!! DO NOT COPY THE DATASETS !!**

- Input datasets are also available on the HWRF website

<http://www.dtcenter.org/HurrWRF/users/downloads/observations/index.php>

# 4. Submitting jobs on Cheyenne

- A template is provided  
*/glade/p/ral/jnt/HWRF/HWRF\_v3.9a\_tut\_codes/  
qsub\_Cheyenne\_wrapper.csh*
- You will copy template and edit these fields each time you run a different component.
- The template looks like this:

```
#!/bin/csh
#PBS -N myjob           # Job name, stdout and stderr will be named with this plus job ID
#PBS -A NRAL0012       # Project number to use
#PBS -l walltime=00:20:00 # wall-clock time (hrs:min:sec)
#PBS -q premium        # queue name
# node and task layout: this will change for each wrapper!
#PBS -l select=1:ncpus=13:mpiprocs=13+20:ncpus=24:mpiprocs=24+1:ncpus=12:mpiprocs=12
```

`$WRAPPER_NAME`

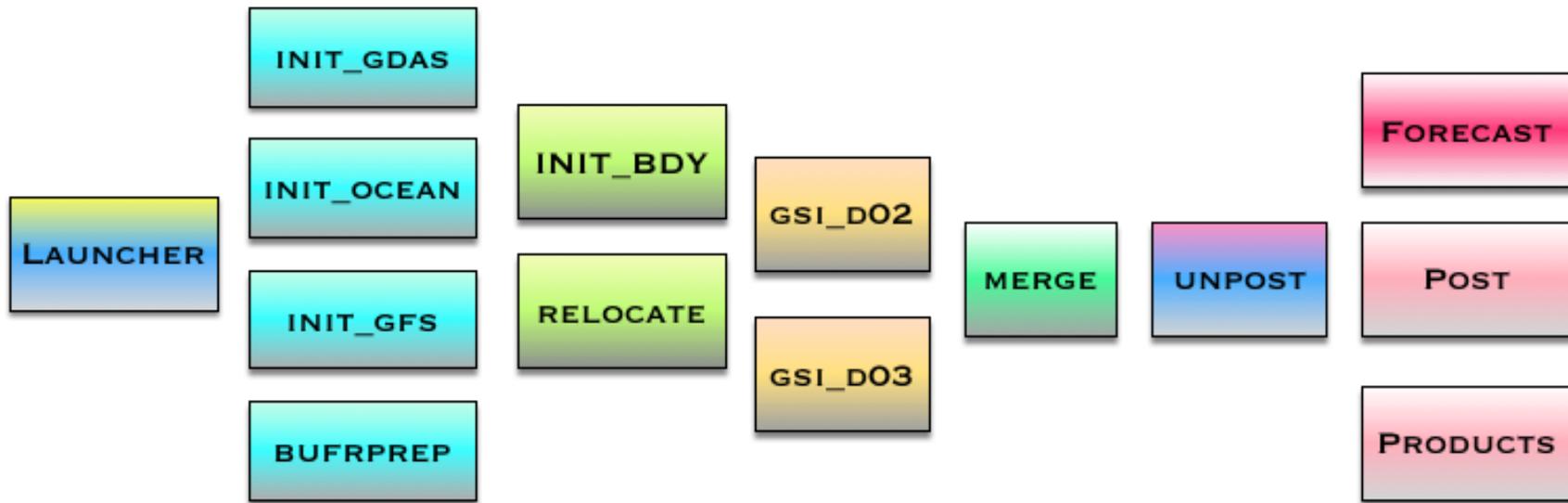
- To submit the job
  - *qsub run.init\_gfs.csh*
- To check the status of jobs
  - *qstat -u \$USER*

**For each wrapper: CHANGE the information noted at the end of the template:**

```
#PBS -l walltime=00:20:00
```

```
#PBS -l select=1:ncpus=11:mpiprocs=11
```

# 5. HWRF Workflow



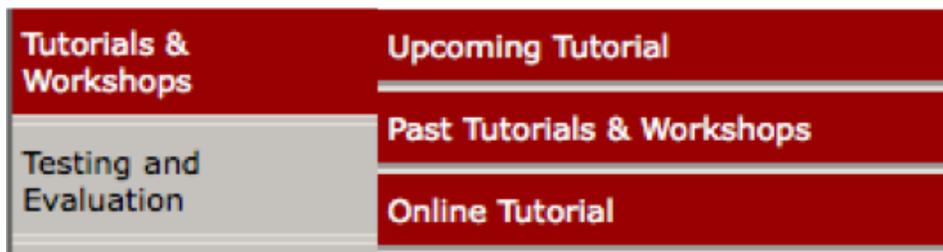
# Tutorial website

[http://www.dtcenter.org/HurrWRF/users/tutorial/2018\\_NCWCP\\_tutorial/practical/](http://www.dtcenter.org/HurrWRF/users/tutorial/2018_NCWCP_tutorial/practical/)

Or,

Go to

<http://www.dtcenter.org/HurrWRF/>



Click on Online tutorial and select V3.9a