How to compile WRF-Hydro-RAPID as one executable?

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1.1)   Prerequisite library:

- 1) NetCDF 3.6.3   (I/O file format)
- 2) PetSc 3.4   (Vector-based calculation)
- 3) HDF5 1.8.9   (Maybe okay without this library)
- *Note: Known problem with PetSc 3.5 or above; possible bug with NetCDF 4 or above; Currently the mvapich 1.9 is used.*

1.2)   Setting up environment variables:

- 1) setenv NETCDF_INC ${your_netcdf_include_dir}   (for ./configure)
- 2) setenv NETCDF_LIB ${your_netcdf_lib_dir}   (for ./configure)
- 3) setenv WRF_HYDRO 1   (compile HYDRO code)
- 4) setenv HYDRO_D 1   (display HYDRO debug)
- 5) setenv WRF_HYDRO_RAPID 1   (compile RAPID with HYDRO)

1.3)   Compile your code:

- ./compile_offline_NoahMP.csh
- *(If any problem occurred during this process, please check if both the NetCDF path and the PetSc path are correctly defined in the following two places: (A) "Rapid_routing/makefile.cpl", (B) "LandModel/Run/Makefile", and then try to re-compile till success.)*

1.4)   Successful compilation of code:

- In "Run/" directory, it will generate "wrf_hydro.exe"
- If the routing option in the "hydro.namelist" is set as Option 4, the model will directly use the RAPID vector-based river routing option.