IFS-OASIS-TM5

The first steps are always difficult …

Test suite IFS-OASIS-TM5

- Installed on workstation

- IFS T21, 19 levels

  - 'reduced' gaussian grids to coupler (but in fact regular)

  - Standard meteo fields send to coupler

  - Chemical P/L rates received (zeros)

- TM5 global 6x4 grid, 19 levels

- Latest OASIS version

- Individual components compile ok

Test suite IFS-OASIS-TM5

- Link IFS, OASIS, TM5:
  - OASIS uses NetCDF, TM5 uses HDF
    - Libraries cannot be linked together by default
    - Solution: new HDF library compiled by User Support
  - All libraries and executable should be up-to-date:
    - Single compile/link/run script necessary to not forget something
    - Learn more about makefiles …

- Run parallel:
  - IFS, OASIS, and TM5 each a single process
  - … but together 3 processes communicating using MPICH
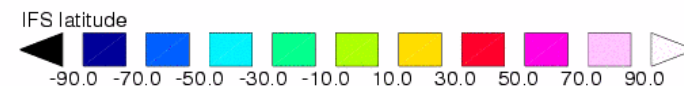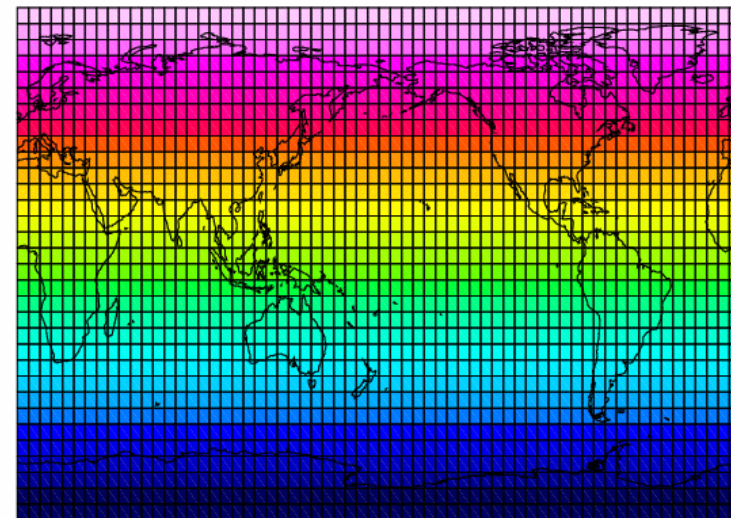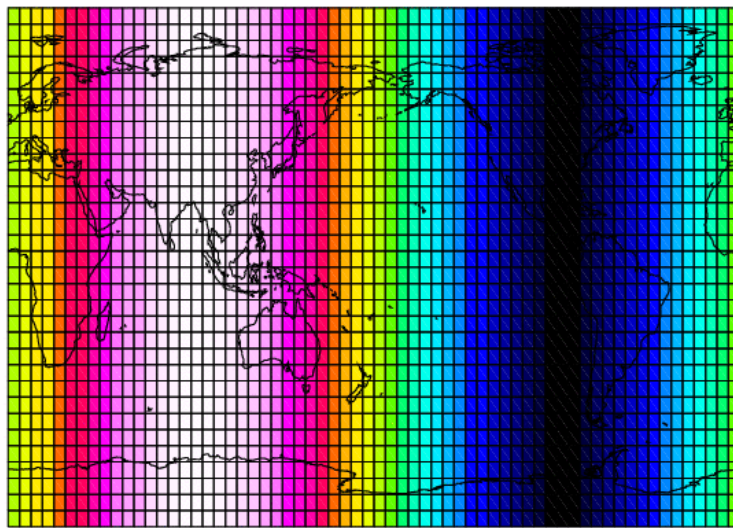 - no MPI_COMM_WORLD in TM5 anymore ….

Test suite IFS-OASIS-TM5

- Coupler requires proper exit of all applications
  - NOT: stop, call exit
  - NOT: mpi_stop, mpi_abort, …
  - NOT: prism_abort
  - OK: trace back to main program, prism_terminate

- Coupler writes huge amounts of messages to standard output:
  - User gets confused …
  - TM5 now writes messages to private log files

Test suite IFS-OASIS-TM5

- Timing is critical
  - Start/End times obtained from coupler
  - Time intervals should not show a gap
  - Not al time settings in xml files are currently used
 - To avoid errors: synchronize code with xml files

Interpolation tests

- IFS sends 3 special fields to coupler: sinus longitude, latitude, levels
- After interpolation to TM5 grid, result should be the same (up to interpolation accuracy)

IFS sinus longitude
-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0

IFS latitude
-90.0 -70.0 -50.0 -30.0 -10.0 10.0 30.0 50.0 70.0 90.0

Interpolation tests

- Something wrong with interpolation near south pole :

CTM sinus longitude

-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
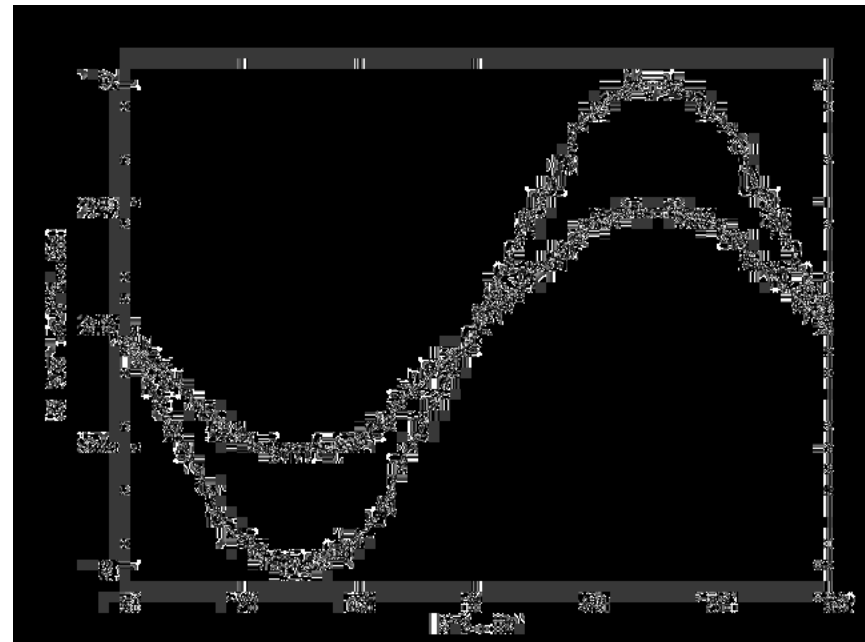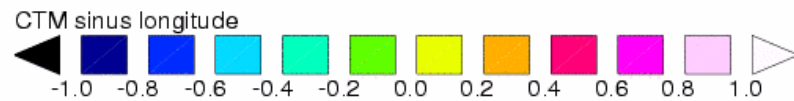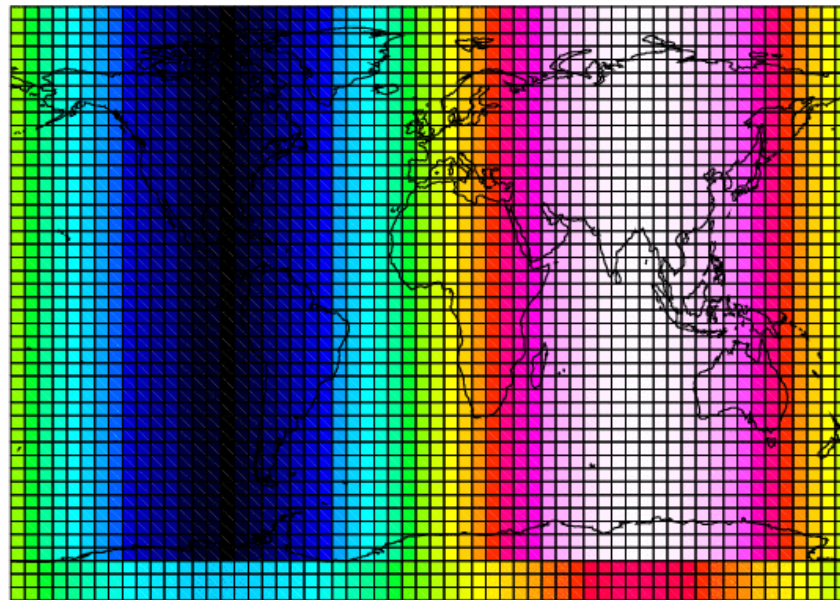
Interpolation tests

- Latitudes show staircase pattern: