

Update on meteo format

From HDF to NetCDF ?

TM5 meteo files

from previous meeting

- **current format:**
 - hdf
 - internal compression
 - saves 25% of disk space
 - useful when we only used workstations with small disks
 - multiple 3D records in a file
 - 8-10 years old ?
- **testing a new format:**
 - NetCDF4
 - = based on HDF5
 - ! bug in HDF5 for IBM AIX machines (ecmwf ...);
therefore tests with 'classic' NetCDF
 - 4D records
 - uncompressed
 - allows parallel i/o

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solved !



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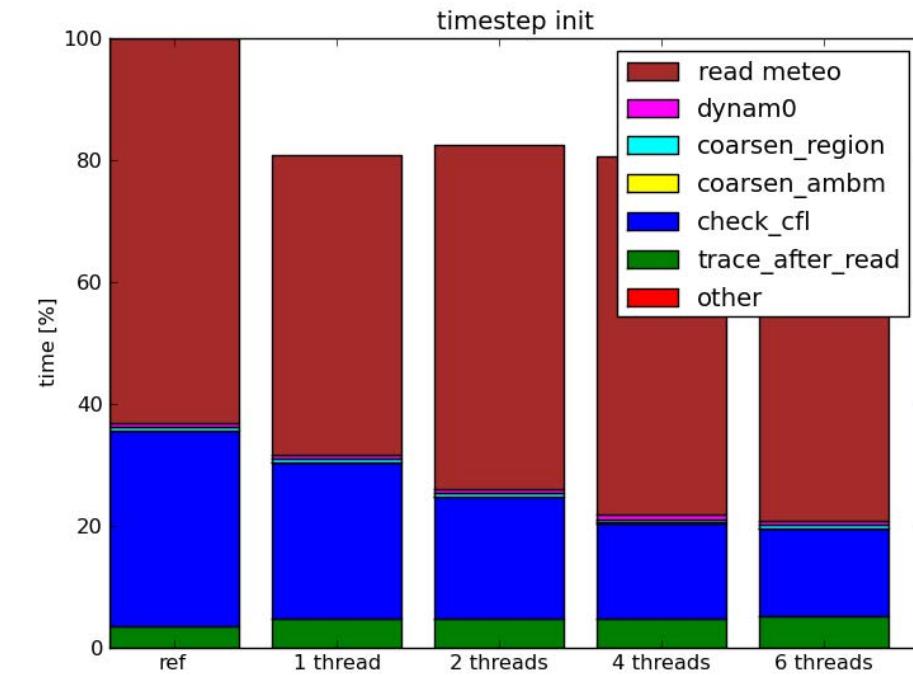
TM5 meteo files

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- Compared runs with old and new meteo:
 - tiny difference in land/sea mask (% is not a CF unit);
round to integer values 0-100 ...
 - run output exactly the same

- run time for reading meteo: -20%
- ... but slightly increasing when using more threads (memory?)
- similar for input from glb3x2 and glb1x1
- ! overall time strongly depended on file system !



The chart shows the percentage of total time spent on various tasks during the first timestep for different thread counts. The tasks are stacked vertically in each bar.

Thread Count	read meteo (%)	dynam0 (%)	coarsen_region (%)	coarsen_ambm (%)	check_cfl (%)	trace_after_read (%)	other (%)
ref	65	0	0	0	35	2	0
1 thread	50	0	0	0	30	5	0
2 threads	55	0	0	0	25	5	0
4 threads	50	0	0	0	20	5	0
6 threads	50	0	0	0	20	5	0

- **Proposal: commit branch into trunk:**
 - backwards compatible
 - cleaner
 - ready for use in future (far, far away ...)
- **Proposal: start converting archives:**
 - era-interim
- ... at the same time : clean up ALL archives !