

ERA-5 forced ACCESS-OM2: Status

Current Testing Runs:

- 100-year 1-degree RYF run
- 10-year 1/4-degree RYF run
- 3-year 1-degree IAF run

Run-times:

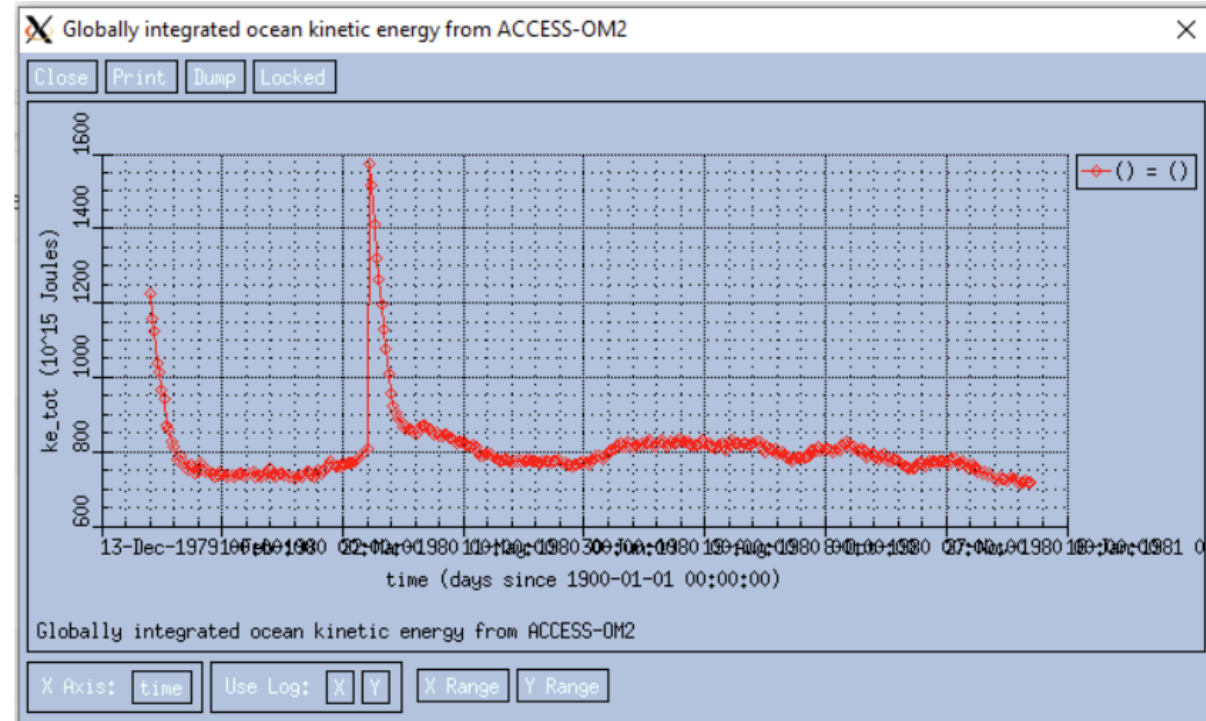
- 1deg JRA-55 RYF9091 and IAF: ~15 mins
- 1deg ERA-5 IAF: ~60 mins
- 1deg ERA-5 RYF (better chunking): ~40 mins
- 025deg JRA-55 RYF9091: ~97 mins
- 025deg ERA-5 RYF9091: ~113 mins

Problems/issues yet to be addressed:

- **IAF 1-degree** run blowing up 1981-11-01 due to netcdf packing issue in libaccessom2.
- Bulk formula – we should be using ECMWF bulk formula rather than NCAR bulk formula.
- Should shift temperature from 2m to 10m (small!?)
- No “do” adjustments! ERA-5 raw

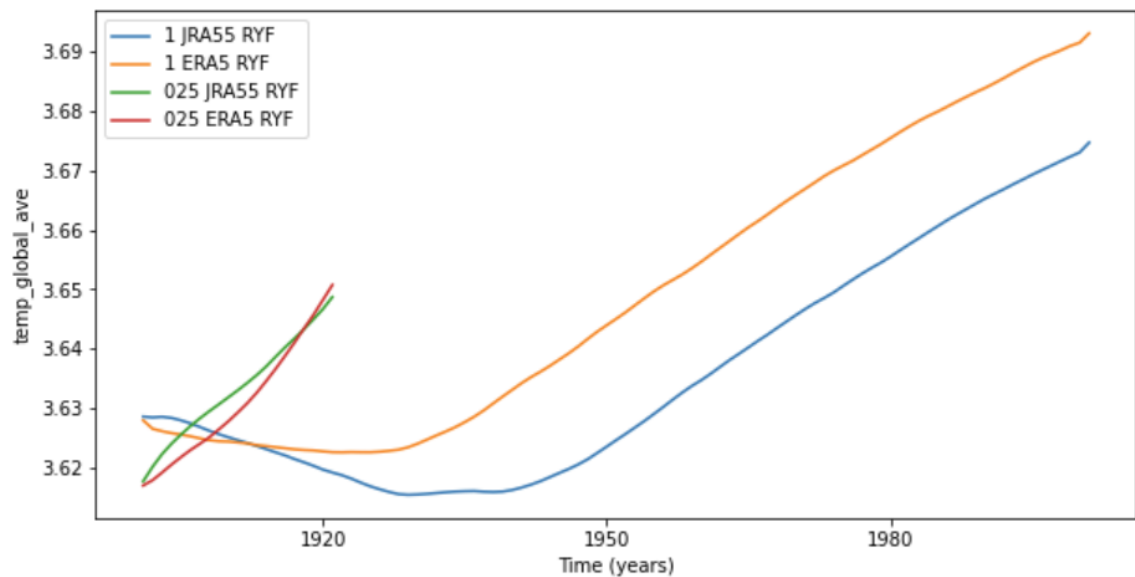
Problems that have been solved:

- Runoff issue (now using JRA-55 for liquid/solid runoff)
- Leap years issue
- Remapping weights files issues.
- RYF forcing file efficiency (chunking).

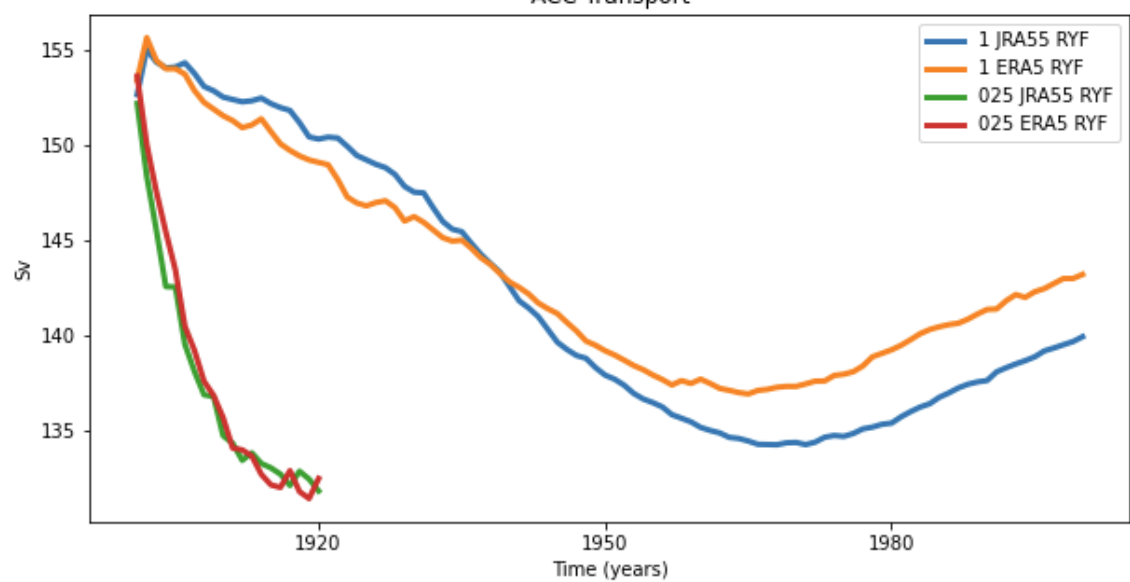


Initial RYF analysis

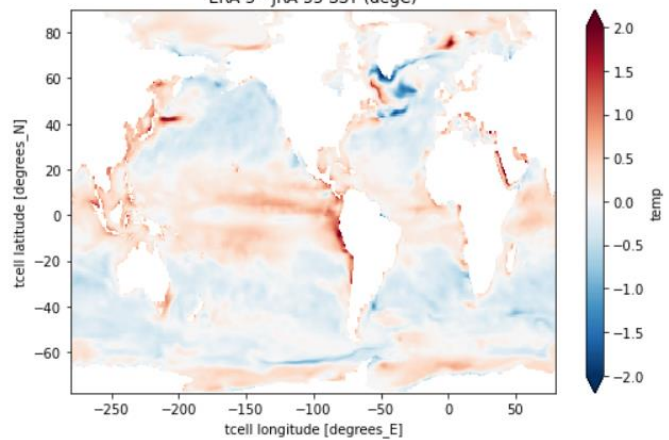
Global Average Temperature



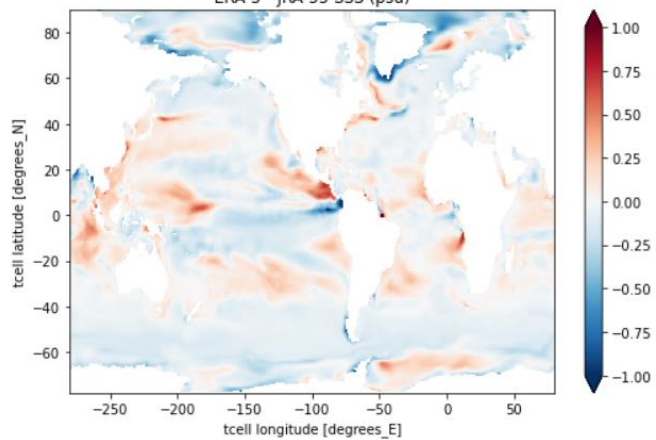
ACC Transport



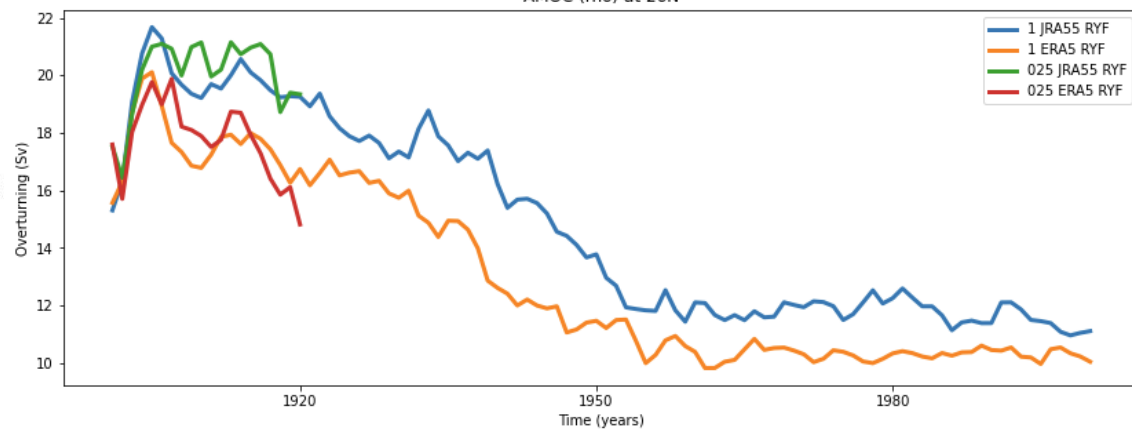
ERA-5 - JRA-55 SST (degC)



ERA-5 - JRA-55 SSS (psu)



AMOC (rho) at 26N



ERA-5-do in the works



[aekiss](#) commented 2 weeks ago

Member

Author



An ERA-5 based model forcing dataset is being planned, to replace JRA55-do.

From Alistair:

As you probably know, JRA55-do will no longer be updated starting sometime this year. Moving forward, as was just announced by Gustavo Marques at the DRAKKAR meeting, there is a plan to develop a new ocean forcing dataset based on ERA-5. NCAR will collaborate with GFDL and ECMWF to produce this product and NCAR is currently looking for some funds to start the effort. ERA-5 meets all the criteria for a new upstream product and ECMWF has just completed a back-extension to 1940. ECMWF plans to routinely update ERA-5 until after ERA-6 is made available, which is scheduled for 2026. It is not clear how long it will take to produce the adjustments and new ocean-forcing dataset but there is a sense of urgency to minimize the gap once JRA55-do is discontinued.