ECCO Version 4 Release 2 [https://dataverse.harvard.edu/dataverse/ECCOv4r2] [doi:10.7910/DVN/EE3C40]

- This dataset (http://dx.doi.org/10.7910/DVN/EE3C40) provides the 'ECCO version 4, release 2' ocean state estimate and collocated observations (see below for details) for variables observed in-situ:

    *.nc in situ T-S profiles from various online collections (See Forget et al 2015)

- List of variables in *.nc:

prof_T	"potential temperature (observed)" ;
prof_TeccoV4R2	"potential temperature (ECCO v4 release 2; 1992-2011)" ;
prof_TeccoV4R2clim	"potential temperature (ECCO v4 release 2; monthly climatology)" ;
prof_Tweight	"pot. temp. least-square weight" ;
prof_S	"salinity (observed)" ;
prof_SeccoV4R2	"salinity (ECCO v4 release 2; 1992-2011)" ;
prof_SeccoV4R2clim	"salinity (ECCO v4 release 2; monthly climatology)" ;
prof_Sweight	"salinity least-square weight" ;

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- Comments:

- 'ECCO Version 4 Release 2' is a global ocean state estimate that covers the period from 1992 to 2011 (Forget et al. 2015, 2016). It was produced on behalf of the ECCO consortium (http://ecco-group.org/) with major support provided NASA's Physical Oceanography Program. General documentation of the 'ECCO Version 4 Release 2' dataverse and all included datasets can be found at https://dx.doi.org/10.7910/DVN/ODM2IQ (see README.pdf in that dataset).
- The various in-situ profile data collections were processed, vertically interpolated to standard depth levels, and formatted using MITprof (See Forget et al 2015). The origin of the data is indicated within each file (see prof_T and prof_S attributes).
- The MITprof files can be read in Matlab or any other netcdf enabled software (see http://www.unidata.ucar.edu/software/netcdf/software.html). They are also directly readable by the MITgcm when using the LLC90 setup to re-run the ECCO v4 ocean state estimate (see eccov4.pdf link provided below).
- The formatting, online publishing, and archiving of the ECCO V4 R2 dataverse and datasets have benefited from guidance that was graciously provided by the MIT Libraries Data Management Services (http://libraries.mit.edu/data-management/). At time of writing the contents listed above can alternatively be downloaded from ftp://mit.ecco-group.org/ecco_for_las/version_4/release2/

- References:

- Forget, G., J.-M. Campin, P. Heimbach, C. N. Hill, R. M. Ponte, and C. Wunsch, 2015: ECCO version 4: an integrated framework for non-linear inverse modeling and global ocean state estimation. Geoscientific Model Development, 8, 3071-3104, http://dx.doi.org/10.5194/gmd-8-3071-2015
- Forget, G., J.-M. Campin, P. Heimbach, C. N. Hill, R. M. Ponte, and C. Wunsch, 2016: ECCO Version 4: Second Release, http://hdl.handle.net/1721.1/102062

- Software:

- The ECCO V4 R2 files were produced using the 'checkpoint64u' versions of the general circulation model (MITgcm and ECCO v4 settings) and Matlab analysis toolboxes (gcmfaces and MITprof). These software versions are available at http://mitgcm.org/download/other_checkpoints/ and http://mit.ecco-group.org/opendap/ecco_for_las/version_4/checkpoints/contents.html
- The up to date software documentations are available at http://mitgcm.org/public/r2_manual/latest/online_documents/manual.pdf, http://mitgcm.org/viewvc/*checkout*/MITgcm/MITgcm_contrib/gael/verification/eccov4.pdf, and http://mitgcm.org/viewvc/*checkout*/MITgcm/MITgcm_contrib/gael/matlab_class/gcmfaces.pdf

- Contact Us:

- questions regarding the ECCO model set-up, grid, software, or files should be addressed to
  either ecco-support@mit.edu (please subscribe via http://mailman.mit.edu/mailman/listinfo/ecco-support)
  or mitgcm-support@mitgcm.org more generally (please subscribe via http://mitgcm.org/mailman/listinfo/mitgcm-support).

- README file revision history:

- README file overhaul for use within dataverse [Gael Forget] [2016/08/03]