

ECCO Version 4: Fourth Release (1992-2017) ECCO V4r4

<https://podaac.jpl.nasa.gov/ECCO>

This dataset contains ECCO V4r4 ancillary data. The tar file `ancillary_data_input_init_ECCO_V4r4.tar` contains files needed to initialize MITgcm to produce V4r4 in the directory `input_init`:

FILE/DIRECTORY	DESCRIPTION
README	README file
pickup*.data	initial condition
bathy_eccollc_90x50_min2pts.bin	bathymetry
smooth*	settings for MITgcm/pkg/smooth
fenty_biharmonic_visc_v11.bin	biharmonic viscosity
total_diffkr_r009bit11.bin	vert. diff. of release 1 (this field plus xx is the total)
total_kapgm_r009bit11.bin	Kappa GM of release 1 (this field plus xx is the total)
total_kapredi_r009bit11.bin	Kappa Redi of release 1 (this field plus xx is the total)
xx_*.*	non-dimensional control adjustments
NAMELIST	namelists

- Notes:

These files are 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). For Matlab users, the '.data' + '.meta' file pairs can be read using `rdmms2gcmfaces.m`, '.mitgrid' files using `read2memory.m`, and '.bin' files using `read_bin.m` (codes available in the `gcmfaces` toolbox at http://mitgcm.org/viewvc/MITgcm/MITgcm_contrib/gael/matlab_class/gcmfaces_IO/).

- References:

ECCO Consortium, Fukumori, I., Wang, O., Fenty, I., Forget, G., Heimbach, P., & Ponte, R. M. (2021, February 10). Synopsis of the ECCO Central Production Global Ocean and Sea-Ice State Estimate (Version 4 Release 4). <https://doi.org/10.5281/zenodo.4533349>

Fukumori, I., O. Wang, I. Fenty, G. Forget, P. Heimbach, and R. M. Ponte, 2017: ECCO Version 4 Release 3, <http://hdl.handle.net/1721.1/110380>.
<https://doi.org/1721.1/110380>

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. <https://doi.org/10.5194/gmd-8-3071-2015>

- Software:

The ECCO V4r4 files were produced using the 'checkpoint66g' versions of the general circulation model (MITgcm and ECCO v4 settings), Python analysis package (ECCOV4-py), and Matlab analysis toolboxes (gcmfaces and MITprof). These software versions are available at http://mitgcm.org/download/other_checkpoints/, <https://github.com/ECCO-GROUP/ECCOV4-py>, and <https://github.com/MITgcm/gcmfaces>.

- Contact Us:

ecco-support@mit.edu (please subscribe via <http://mailman.mit.edu/mailman/listinfo/ecco-support>)

README file revision history:

- README file creation [Ou Wang and Ian Fenty] [2021/06/28]