

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_forcing_ECCO_V4r4.tar` contains V4r4 atmospheric forcing (adjusted, unadjusted, and control adjustments) and other forcing, including geothermal flux and river runoff, in the directory `input_forcing`:

FILE/DIRECTORY	DESCRIPTION
README	README file
adjusted	total forcing (sum of ERA-Interim and atmospheric control adjustments if there is any)
unadjusted	unadjusted forcing, i.e. the ERA-Interim forcing interpolated onto model grid
adjustments	dimensional atmospheric control adjustments (=adjusted-unadjusted)
other	other forcing
control_weights	control weights

- Notes:

Each atmospheric forcing file is a yearly file with 6-hourly records (3Z, 9Z, 15Z, and 21Z) on native ECCO V4 grid. YYYY is for a particular year from 1992 to 2017. Because wind speed and air pressure are not part of the control variables, `eccov4r4_wspped_YYYY` and `eccov4r4_pres_YYYY` contain no control adjustments.

- 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>.

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README file revision history:

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