Gekco

Global surface current Data Product

The surface current data at ¼° spatial resolution are available in NetCdf format, with one file per day. Each file contains the absolute dynamic topography (h) and surface wind stress (tx,ty) files used as input, and the surface currents as output. The files contain the total surface currents (u, v), but also the two components: surface geostrophic currents (ug , vg) and the wind-driven Ekman currents (ue, ve).

This product is no longer distributed

Each netcdf file's name is labelled: v_gekco_exp_b_YYYYMMDD.nc with YYYYMMDD: date of the data (YYYY: year, MM: month, DD: day)

Each daily file includes 11 fields corresponding to the GEKCO product :

- **Longitude** in degrees: lon (vector field)
- **Latitude** in degrees: lat (vector field)
- **Absolute Dynamic Topography** (from AVISO DT_MADT_UPD) in (cm): h (matrix field)
- **Zonal wind stress component** (from NCDC Blended product) in (Pa): tx (matrix field)
- **Meridional wind stress** component (from NCDC Blended product) in (Pa): ty (matrix field)
- **Zonal geostrophic current** component in (cm/s): ug (matrix field)
- **Meridional geostrophic current** component in (cm/s): vg (matrix field)
- **Zonal Ekman current** component in (cm/s): ue (matrix field)
- **Meridional Ekman current** component (cm/s): ve (matrix field)
- **Zonal total surface current** : sum of zonal geostrophic and Ekman current component in (cm/s): u (matrix field)
- **Meridional total surface current** : sum of meridional geostrophic and Ekman current component in (cm/s): v (matrix field)

Note : the **flag value** for each field is 999 (missing values in the netcdf file)

2. Disclaimer and term of use policy

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We encourage that the users communicate to Joël Sudre any problem they find with the GEKCO product (joel.sudre@legos.obs-mip.fr).

Acknowledgements:

Please do not forget to mention the following sentence in all publications or communications referring to a work based on the GEKCO product: "The GEKCO product used in this study was developed by Joël Sudre at LEGOS, France"

Reference:

Joël Sudre, Christophe Maes and Véronique Garçon, On the global estimates of geostrophic and Ekman surface currents, Limnology and Oceanography: Fluids and Environments, 2013, 3, pp 1–20, DOI 10.1215/21573689-2071927