**Background**

Gliders are autonomous underwater vehicles that measure pressure, temperature, salinity, velocity (depth-averaged and depth dependent), fluorescence, acoustic backscatter.

**Data Ingestion**

Data are transmitted via Iridium satellite from the glider to the Rudnick lab at the Scripps Institution of Oceanography in La Jolla. These transmissions occur every 3 hours as the glider surfaces.

**Data Management**

Data are managed through the source provider in-house at the Rudnick lab. Glider data have been created in a standard CF-compliant NetCDF format. This format allows for exchange between US glider operators, submission to a glider data assembly center, and subsequent distribution to the Global Telecommunication System (GTS). All recent data are forwarded to ERDDAP every 4 hours from the Rudnick lab.

**Data Distribution**

Data are available every 4-6 hours. Data are sent in NetCDF to the ERDDAP group at NOAA fSWFSC. NetCDF are files are transmitted to NOAA CoastWatch West Coast Regional Node where they are made available through ERDDAP. In turn, ERDDAP makes the data publically available, and forwards the data through a national glider data assembly center to NDBC for distribution on GTS.

The data and/or data products are available on web pages: <http://spray.ucsd.edu>, <http://sccoos.ucsd.edu/data/spray/> and <https://gliders.ioos.us/index.html>.

1. ERDDAP is a data server that gives you a simple, consistent way to download subsets of gridded and tabular scientific datasets in common file formats and make graphs and maps. ERDDAP offers all data as .html table, ESRI .asc and .csv, Google Earth .kml, OPeNDAP binary, .mat, .nc, ODV .txt, .csv, .tsv, .json, and .xhtml.
2. THREDDS makes data available through OPenDAP and SOS protocols and raw NetCDF files.

**Quality Control**

Quality control tests have been done through QARTOD procedures for the following variables:

-pressure

-temperature

-salinity

<https://gliders.ioos.us/static/pdf/Manual-for-QC-of-Glider-Data_05_09_16.pdf>

The following variables are QC’ed in the Rudnick lab. After recovery of the glider QC is performed using first an automatic flagging range test, then a manual examination to confirm, add, or change QC flags.

-velocity (depth-averaged and depth dependent)

-fluorescence

-acoustic backscatter

**Archiving**

IOOS National Glider Data Assembly Center has submitted a SIF through the National Oceanographic Data Center (NODC).

<https://gliders.ioos.us/static/pdf/IOOS_National_Glider_Data_Assembly_CenterSIF.pdf>

**Permission Restrictions**

The data may be used and redistributed for free but, is not intended for legal use, since it may contain inaccuracies. Neither the data Contributor, ERD, NOAA, nor the United States Government, nor any of their employees or contractors makes any warranty, express or implied, including warranties of merchantability and fitness for a particular purpose, or assumes any legal liability for the accuracy, completeness, or usefulness, of this information.

**Intellectual Property**

The funding agency & the University of California, San Diego through a contractual agreement.

**Publications:**

Davis, R. E., M. D. Ohman, D. L. Rudnick, J. T. Sherman, and B. Hodges, 2008: Glider surveillance of physics and biology in the southern California Current system. *Limnol. Oceanogr.*, **53,** 2151-2168.

Todd, R. E., D. L. Rudnick, and R. E. Davis, 2009: Monitoring the greater San Pedro Bay region using autonomous underwater gliders during fall of 2006. *J. Geophys. Res.*, **114**, doi:10.1029/2008JC005086.

Todd, R. E., D. L. Rudnick, M. R. Mazloff, R. E. Davis, and B. D. Cornuelle, 2011: Poleward flows in the southern California Current System: Glider observations and numerical simulation. *Journal of Geophysical Research*, **116,** C02026, doi:10.1029/2010JC006536.

Todd, R. E., D. L. Rudnick, R. E. Davis, and M. D. Ohman, 2011: Underwater gliders reveal rapid arrival of El Niño effects off California's coast. *Geophysical Research Letters*, **38,** L03609, doi:10.1029/2010GL046376.

Todd, R. E., D. L. Rudnick, M. R. Mazloff, B. D. Cornuelle, and R. E. Davis, 2012: Thermohaline structure in the California Current System: Observations and modeling of spice variance. *Journal of Geophysical Research*, **117,** C02008, doi:10.1029/2011JC007589.

Rudnick, D. L., R. Baltes, M. Crowley, O. Schofield, C. M. Lee, and C. Lembke, 2012: A national glider network for sustained observation of the coastal ocean. *Oceans 2012*, doi: 10.1109/OCEANS.2012.6404956.

McClatchie, S., R. Cowen, K. Nieto, A. Greer, J. Y. Luo, C. Guigand, D. Demer, D. Griffith, and D. Rudnick, 2012: Resolution of fine biological structure including small narcomedusae across a front in the Southern California Bight. *Journal of Geophysical Research*, **117,** C04020,doi:10.1029/2011JC007565.

Ohman, M. D., D. L. Rudnick, A. Chekalyuk, R. E. Davis, R. A. Feely, M. Kahru, H.-J. Kim, M. R. Landry, T. R. Martz, C. L. Sabine, and U. Send, 2013: Autonomous ocean measurements in the California Current Ecosystem. *Oceanography***,** **26,** 18-25, doi:10.5670/oceanog.2013.41.

Johnston, T. M. S. and D. L. Rudnick, 2015: Mixing estimates in the California Current System from sustained observations by underwater gliders. *Deep Sea Research Part II: Topical Studies in Oceanography*, **112,** 61-78, doi:10.1016/j.dsr2.2014.03.009.

Jacox, M. G., C. A. Edwards, M. Kahru, D. L. Rudnick, and R. M. Kudela, 2015: The potential for improving remote primary productivity estimates through subsurface chlorophyll and irradiance measurement. *Deep Sea Research Part II: Topical Studies in Oceanography*, **112,** 107-116, doi:10.1016/j.dsr2.2013.12.008.