

Data Management Plan

1. Type of Data

The expected data from this project will produce site-to-site connectivity estimates for the Southern California Bight. Connectivity measure the probability that water parcels from one site are advected to another site over a given time interval. The calculations will be made using 1 km Regional Ocean Modeling System (ROMS) solutions for the Southern California Bight (Mitarai et al. 2009; Simons et al. 2013). Particles will be released at the same frequency from 135 evenly spaced nearshore sites (Figure 1). The sites, which include all of the shallow (< 100 m) nearshore waters of the Southern California Bight, cover a 10 km strip from the shore and span the entire coastline of the study area. Particles are released evenly throughout each site on a 1 km grid. There are 12 years of ROMS output from 1996-2007. Connectivity estimates will be made for each month of the 12 years for daily transport times up to 70 days. Each connectivity estimate will be a 135x135 matrix.

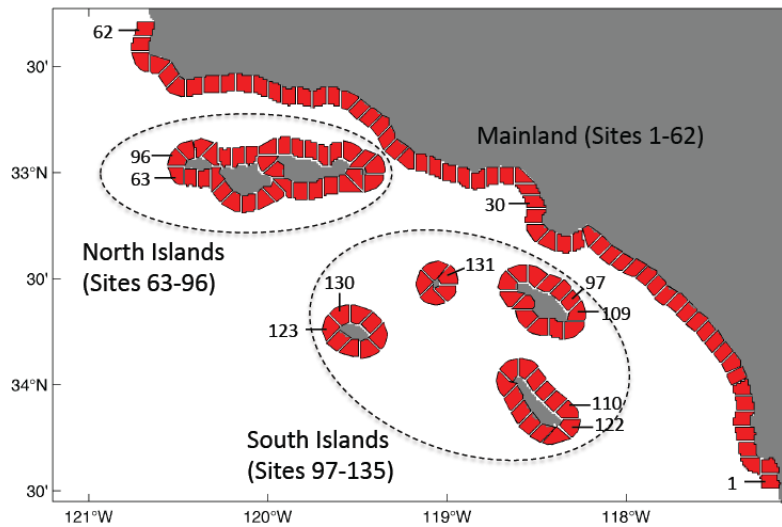


Figure 1: Nearshore sites in the Southern California Bight

References:

Mitarai, S., Siegel, D.A., Watson, J.R., Dong, C., McWilliams, J.C., 2009. Quantifying connectivity in the coastal ocean with application to the Southern California Bight. *J Geophys Res-Oceans* 114.

Simons, R.D., Siegel, D.A., Brown, K.S., 2013. Model sensitivity and robustness in the estimation of larval transport: A study of particle tracking parameters. *Journal of Marine Systems* 119, 19-29.

2. Data Format

We will distribute the connectivity information as NetCDF .nc and MATLAB .mat file. We have found that most users who want to use our connectivity estimates are MATLAB or R users and are adapt at using MATLAB .mat format files and multidimensional arrays.

3. Access to Data and Data Sharing Practices and Policies

Data collected under the project will be made available to the public with as few restrictions as possible. As a collaborator with the SBC LTER, and thus the LTER Network, we (and users of our data) also will abide by the LTER Network Data Access Policy (2005). Under these policies, we plan for publication of most data with metadata after primary publication of results, or at most two years after the completion of the study. Certain datasets may warrant proprietary restrictions, such as those associated with student dissertations, and for in these cases, it is our policy to publish metadata with instructions for requesting data delivery. We are also committed to protecting the privacy and accuracy of users confidential information, according to the SBC LTER Privacy Policy. We will adopt the data policies of the SBC LTER project and apply the following conditions for use of our data:

1. The user of data agrees to contact the data owner (i.e., the project investigator responsible for data) prior to publishing. Where appropriate, users whose projects are integrally dependent on our data are encouraged to consider collaboration and/or co-authorship with the data owner.
2. The user agrees to cite our project in all publications that use our data by including the following statement in the Acknowledgments using this statement: "Data were provided by [DATA OWNER'S NAME] funded by the US National Science Foundation ([AWARD NUMBER])".
3. The user agrees to send the full citation of any publication using our data to the data owner.
4. Users are prohibited from selling or redistributing any data provided by our project.
5. Extensive efforts are made to ensure that online data (from website) are accurate and up to date, but we will not take responsibility for any errors that may exist.
6. Any violation of the terms of this agreement will result in immediate forfeiture of the data and loss of access privileges to other project data sets.

4. Archiving of Data

Generally we plan to publish datasets using the XML specification, Ecological Metadata Language (EML), which is adaptable for a variety of data types, and is in wide use among ecological and environmental sciences, including the LTER Network. We plan to leverage software in use by SBC LTER for creating and managing datasets, as well as other tools which might become available. We will make use of guidelines for data and metadata developed by SBC LTER and the LTER Network which are designed to promote long-term usability. These include high-precision geo-referencing, the use of standard keywords, units and measurement descriptions, and the inclusion of methods and/or protocols with all datasets.

Data will be archived with metadata, unless there are proprietary restrictions (as described above). As much as possible, data will be archived in ASCII format, which is the most flexible and readable over the long term. We will archive data in tabular formats that have been proven successful when sharing data among the project collaborators. It is expected that certain data

products, such as for GIS, may be more easily preserved in their native (binary) formats. To the best of our ability, data in binary formats will be kept up to date and readable by current software.