

LIMPETS - USING OCEANOGRAPHIC DATA

WHY USE OCEANOGRAPHIC DATA?

Ocean conditions can greatly affect coastal biology. Many intertidal organisms live in the ocean during the larval stage of their lives. Upwelling brings nutrients to the surface increasing primary productivity along the California coast. Decreases in ocean pH can impede animals from their calcium-carbonate shells. For all these reasons, LiMPETS wants to help you find oceanographic data that will best answer your research question.

ENVIRONMENTAL FACTORS

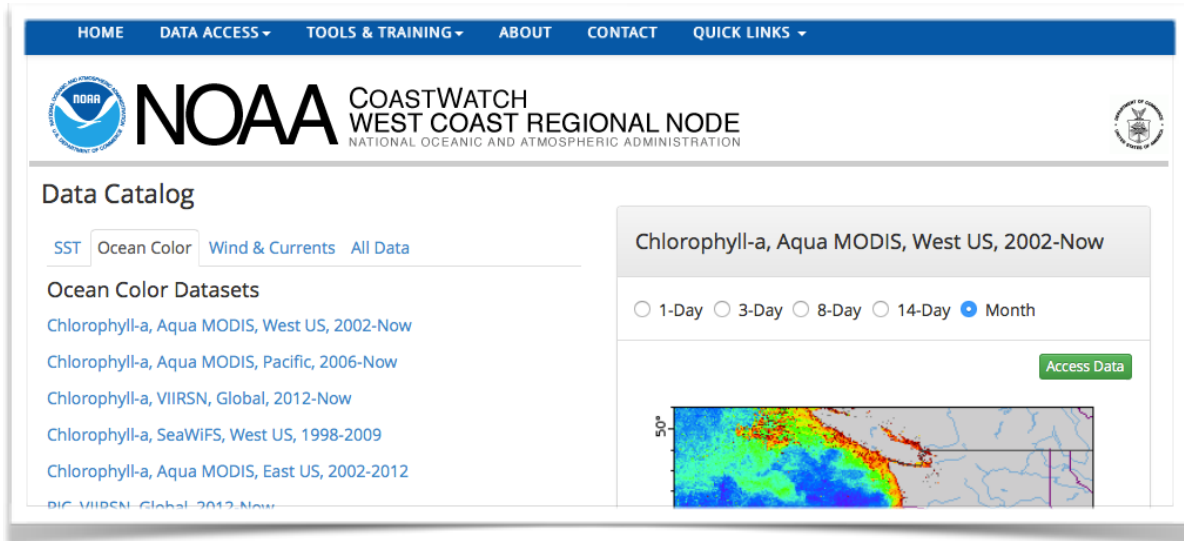
Sea-surface temperature	pH (measure of CO ₂ in the water)
Sea-level rise	Chlorophyll (indicates primary productivity)
Fresh water input	Air temperature
Cloud cover	

HUMAN FACTORS

Marine Protected Areas	Number of visitors
Population	Marine Reserves

STEP 1: FIND POTENTIAL DATA SOURCES

The National Oceanic and Atmospheric Administration (NOAA) is a trusted government source for environmental data. It has a combination of locally-taken measurements as well as measurements from satellites.



<http://coastwatch.pfel.noaa.gov/data.html>

Finding the right dataset can be challenging. Go to the [LiMPETS Student Resources](#) for a list of good websites for oceanographic data related to LiMPETS.

STEP 2: QUERY A DATASET

Once you found a good source, you need to 'query' for the data you want. Query means to request a smaller amount of information from a large dataset based on parameters that you indicate. Usually, there will be a dropdown menus to choose and/or blank fields for you to

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answer. Here are some common parameters that you will be asked by the database query webpage:

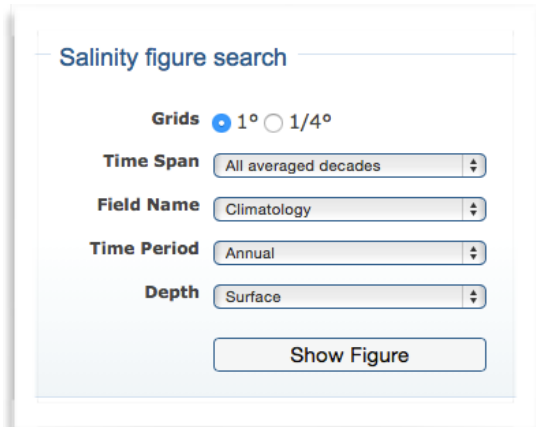
Geographic region - LiMPETS sites are within 38.5 to 32.5 in latitude and -123.2 to -117.0 in longitude.

To find the exact coordinates of your site, go to [Rocky Intertidal Monitoring Site Map](#) or [Sandy Beach Monitoring Site Map](#).

Time range - Are you looking at long-term data trends, seasonality, or day-by-day interactions?

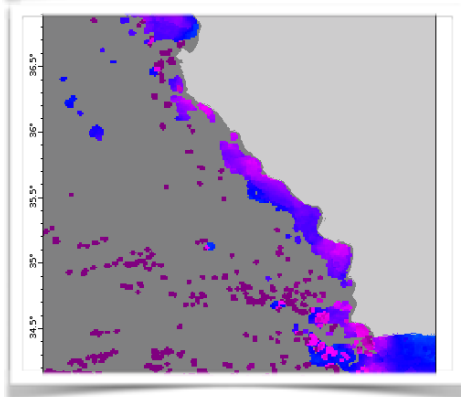
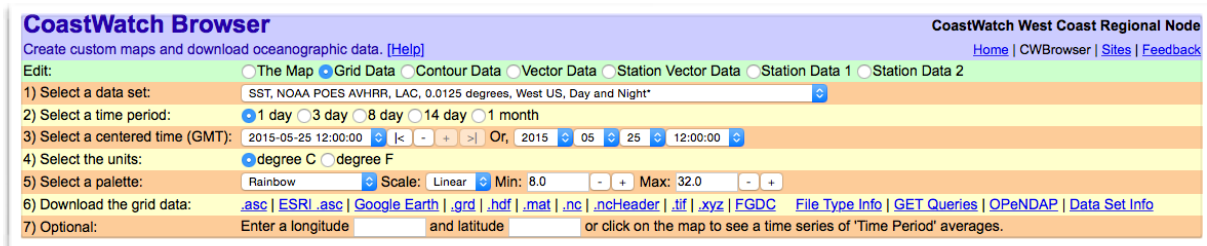
Resolution - Are you looking at localized trends or big general global trends?

Other Fields - Some fields on a data request webpage are for advanced users of the data. If you are ever confused by a question, don't change the default answer or leave the field blank.



STEP 3: DOWNLOAD THE DATA

Time to export the data. Your output format can be anything from a simple worksheet to a file that needs special software to use. Some data sources can give you an image output, like a map from CoastWatch.



<http://coastwatch.pfeg.noaa.gov/coastwatch>

If you want to make your own graphs or tables with the data, keep it simple with files that will work in Excel, including the extensions: .csv, .xls, .xlsx, and .txt.