The University of Colorado Long-Term Sea Level Change Web Site

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Abstract

The Long-Term Sea Level Change web site (http://sealevel.colorado.edu) at the Colorado Center for Astrodynamics Research has provided time series of 10-day altimeter estimates of global mean sea level and the mean level of major ocean basins for the last 5 years. The web site typically receives several hundreds visits each month.

A popular feature of the current web site is the Interactive Sea Surface Height Wizard, used to supply local sea level time series from a one-degree latitude/longitude database of TOPEX/POSEIDON and Jason data. Users can enter their desired locations either with a form or from a global map. Locations that users have chosen during a recent two-month period are shown in The viewer provides users a variety of filtering options for each time series, which can be returned as either a graph or table of text.

Peer communication and public information

The University of Colorado's Long-Term Sea Level Change web site (Figure 1) provides high-quality mean sea level data and images for peers. Our goal is to issue a release of mean sea level products every 3 to 4 months. A secondary goal of the site is to provide information to the general public and stakeholders.

Web site organization

Overview	Support
	Contact Page
Data and Plots	
Time series	**Related Links**
Maps	Altimetry
Interactive Wizard	Tide gauges
Publication Requests/Permissions	Global change
	CCAR
Information	
Documentation	
Calibration	
Tide gauges	
Bibliography	
Acknowledgments	

Figure 1. The Long-Term Sea Level Change web site home page.

Time series data and images

The site supplies global mean sea level time series data and plots. The images are provided as high-resolution, publication quality files in JPEG, EPS, and PDF formats. The site provides time series with and without the inverted barometer correction and with and without seasonal terms.

Selected regional time series are also available. Some of the regions that the web site provides were selected based on peer requests.
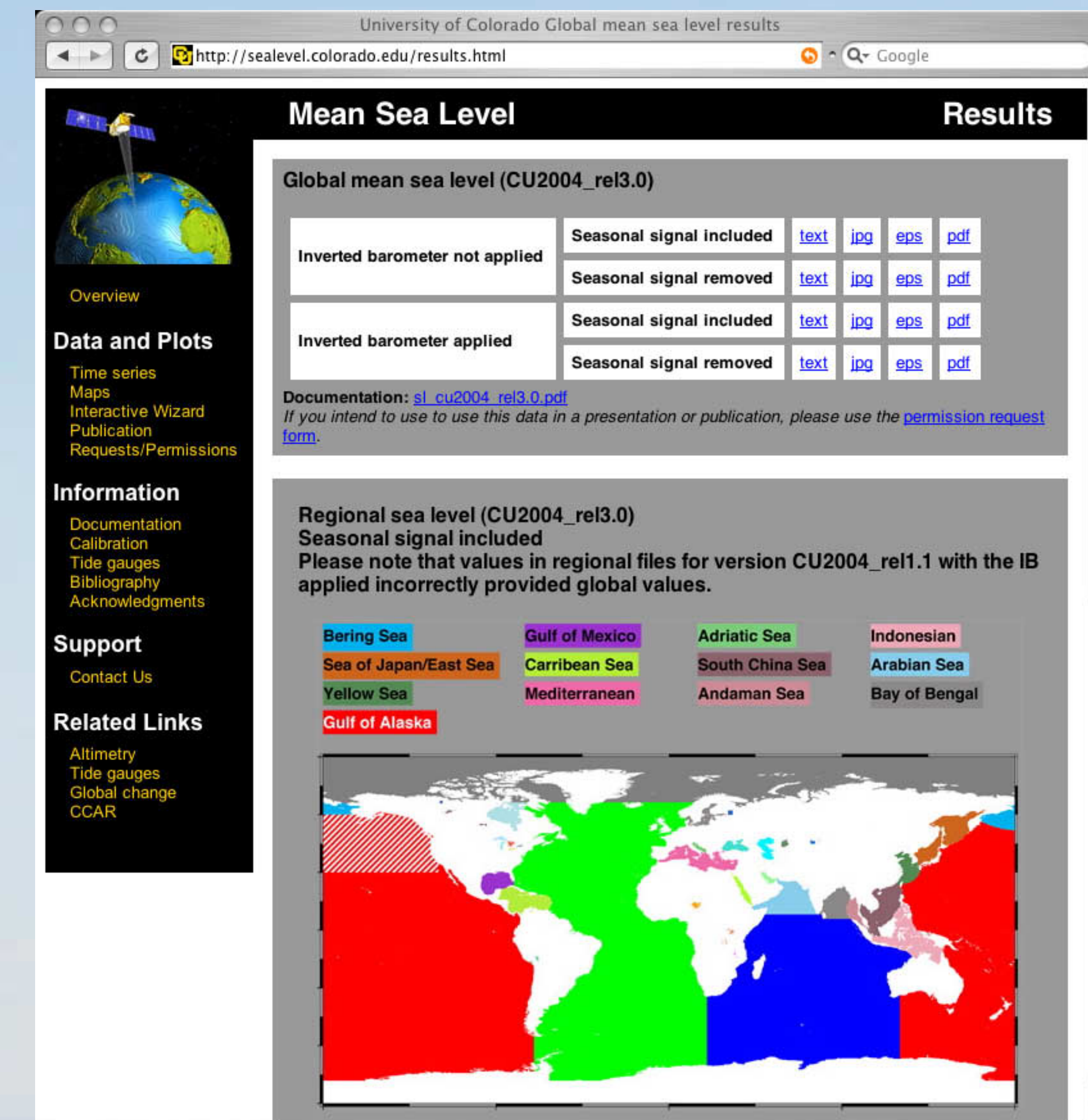

Figure 2. Global and regional mean sea level time series results page.

Local trends in sea level

The site supplies maps of local trends in sea level as data files and plots. The images are provided as high-resolution, publication quality files in JPEG, EPS, and PDF formats. The site provides maps with and without the inverted barometer correction and with and without seasonal terms.
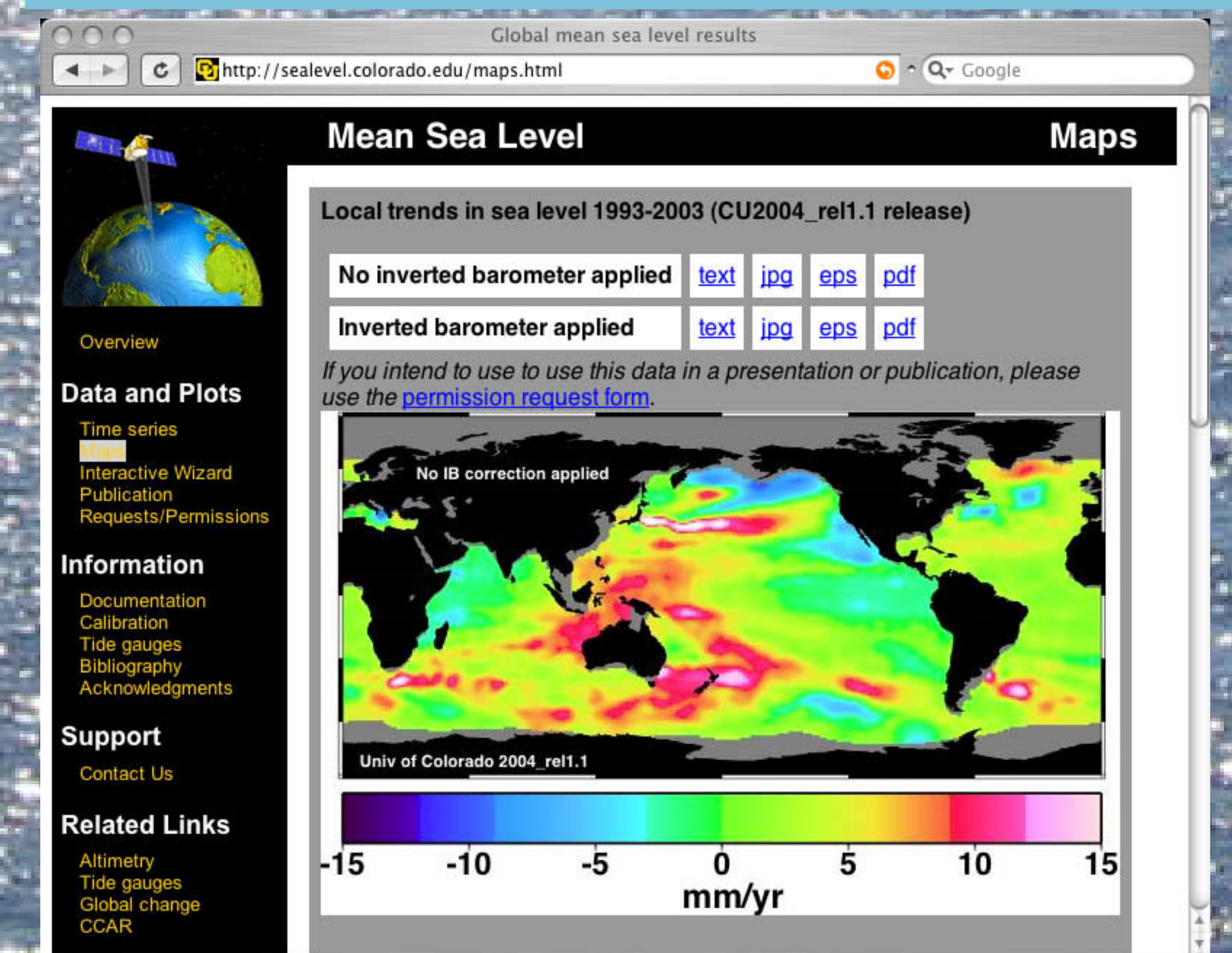

Figure 3. Maps of local trends in sea level supplied as data or images.

Publication/presentation permission requests

The web site provides a variety of mean sea level plots intended for use in presentations and publications. The images are provided as high-resolution files and in formats commonly requested for publications. In order to encourage the dissemination of these images, the web site provides a publication/presentation permission request form. Users who submit this form are automatically provided with a letter authorizing the use of the images and a statement of how the images or data should be cited. These requests, including contact information and the nature of the presentation are logged.

Interactive sea surface height wizard

The Interactive Sea Surface Height Wizard (Figure 4) supplies local sea level time series from a one-degree latitude/longitude database of TOPEX/POSEIDON and Jason sea level measurements. Users can enter their desired locations either with a form or from a global map. The Wizard provides users a variety of filtering options for each time series, which can be returned as either a graph or table of text. Users also have the option of removing the seasonal signal from the time series.

The web site tracks the grid locations and filtering options selected by users (Figure 5). The requested locations tend to be near coasts, and show that users are often interested in obtaining time series from several nearby grid points.
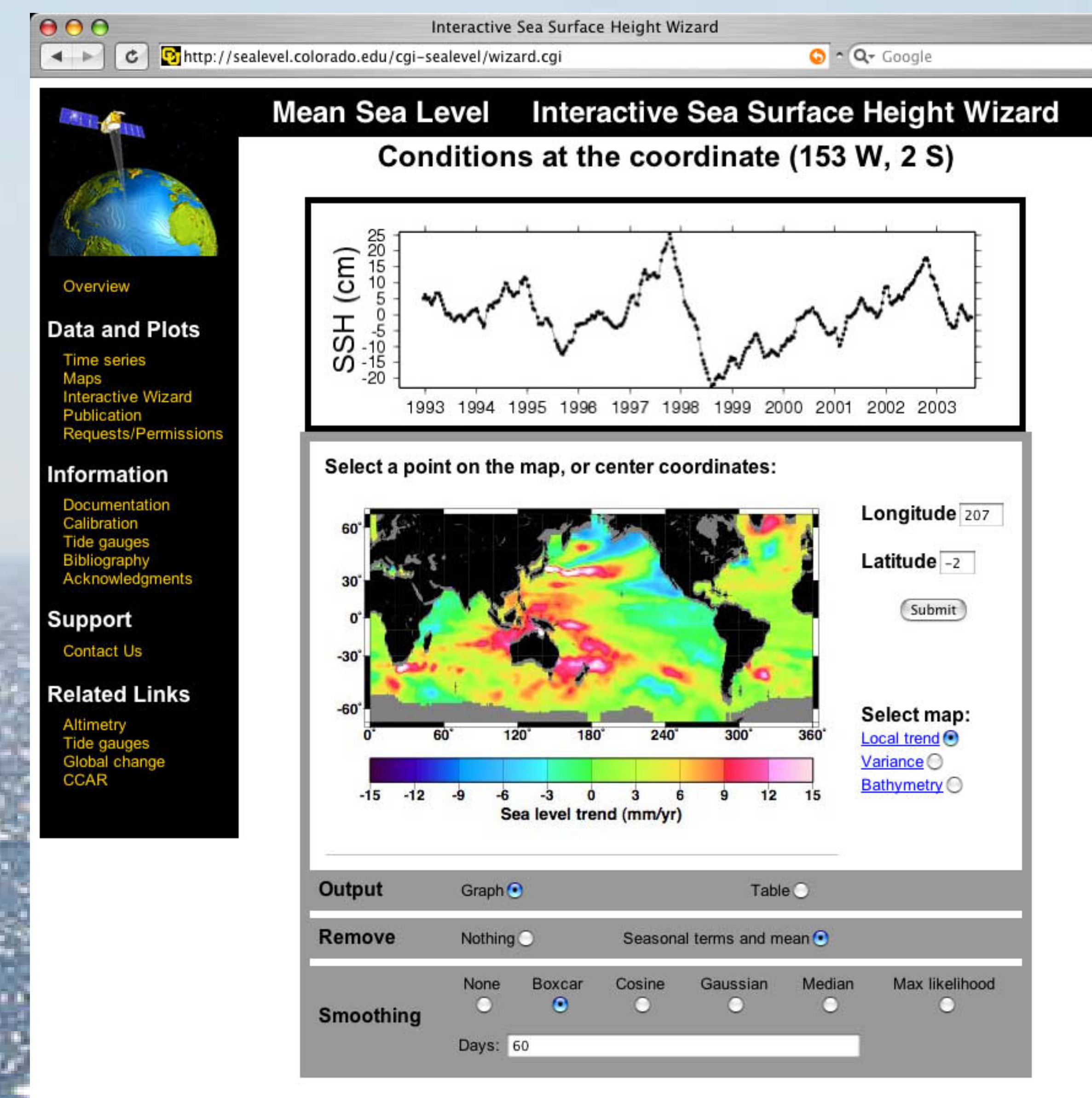

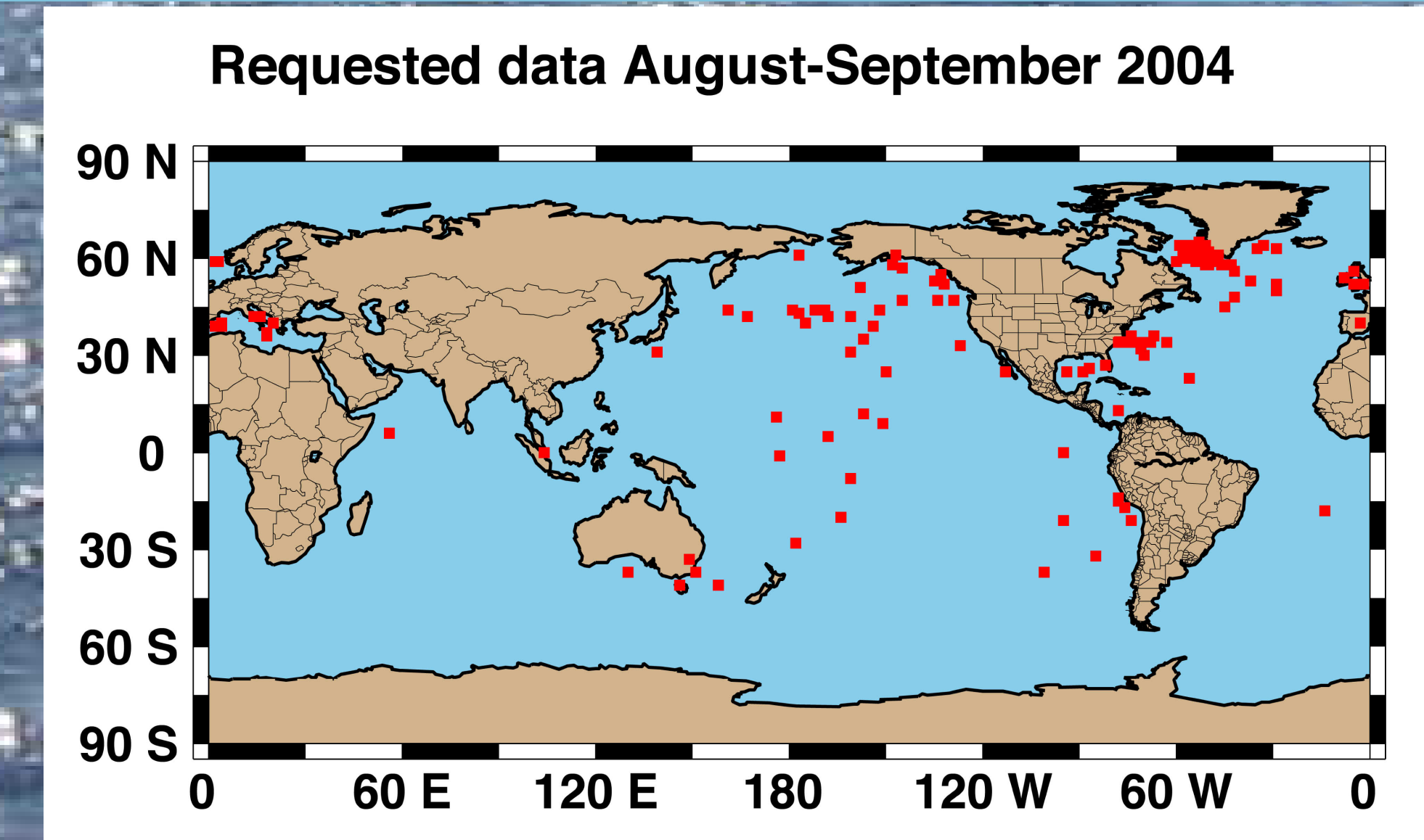**Figure 4.** Interactive Sea Level Height Wizard.

Figure 5. Locations selected over a recent two-month period.

Public information

The web site provides a handful of tutorials and background material geared toward the general public. For example, a page describing historical tide gauge measurements (Figure 6) is included. The site also includes additional pages with web links to related sites involving altimetry, tide gauges, and global climate change.
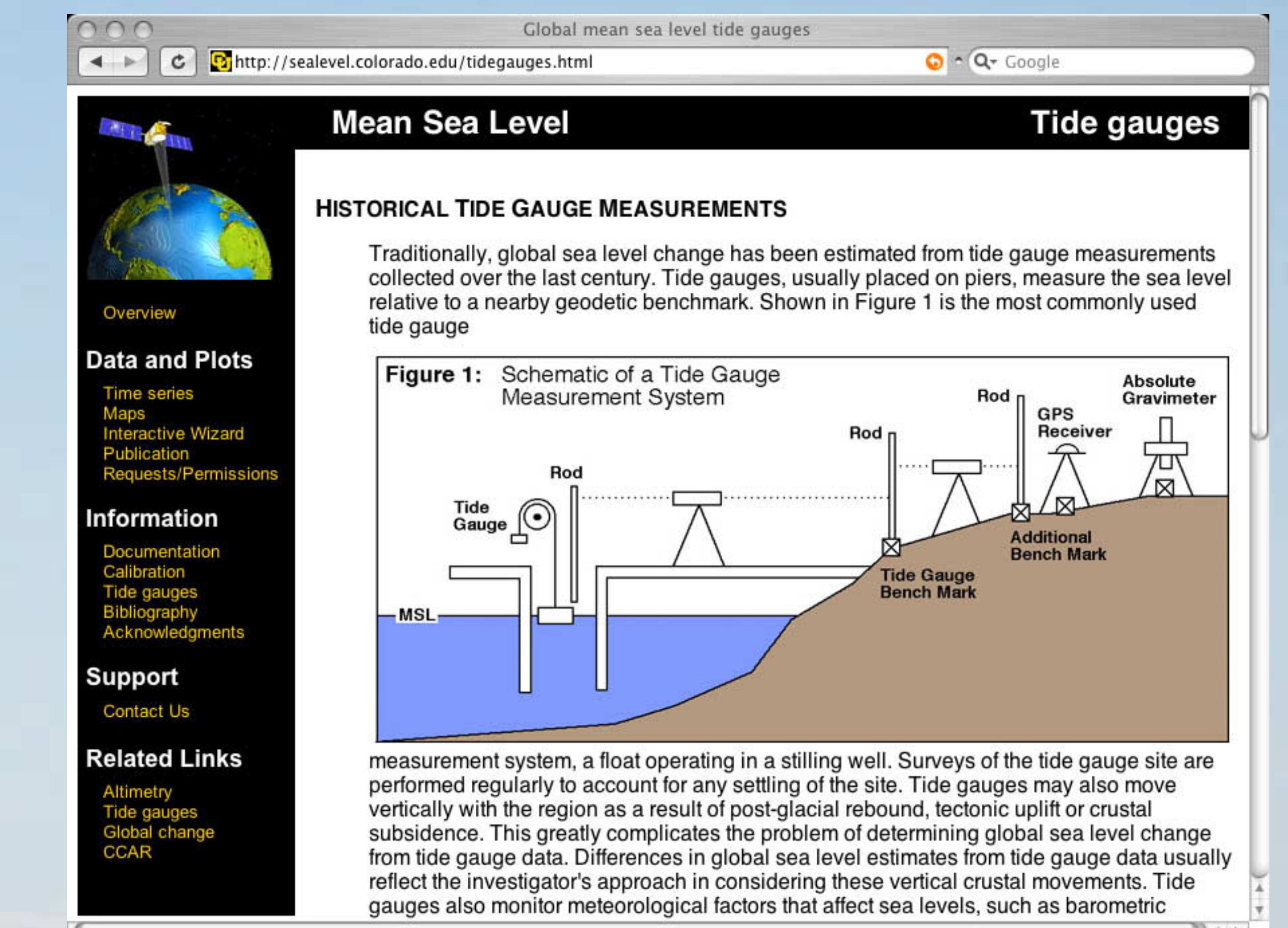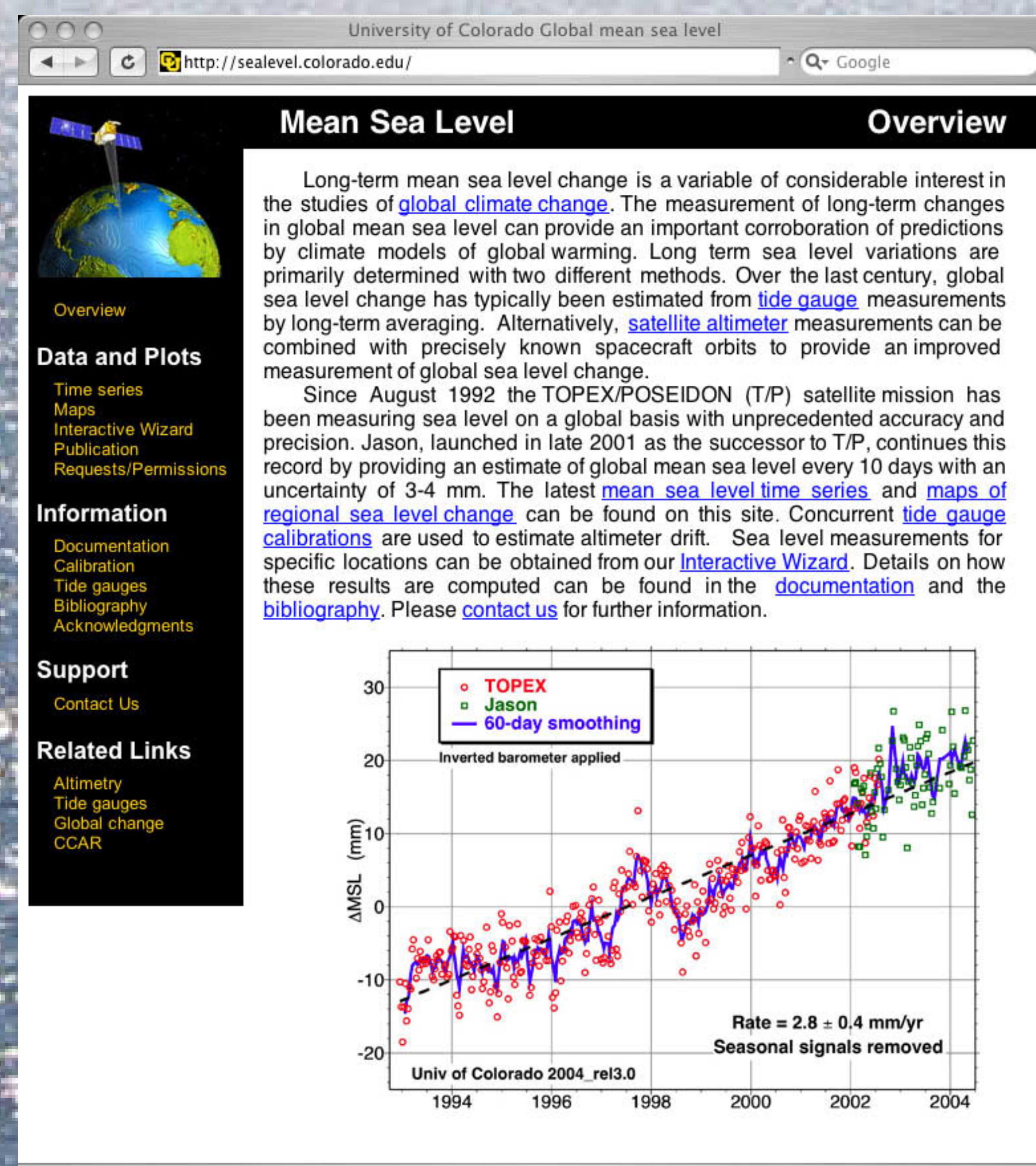

Figure 6. Tide gauge measurement tutorial.

Future plans: customization

We would like to include additional interactive services, in particular the ability to create custom subsets of regions to return averaged sea level time series. In addition to providing a more relevant data set, the ability to generate averaged sea level time series has additional benefit of decreasing the bandwidth required for download. For users who choose to create accounts, we will provide the ability to save preferred custom regions. These custom regions could be accessed at later times, or users could choose to receive regular updates as more data becomes available.

Future plans: advisory board

We are considering convening an advisory board for the web site. The board would be composed of representatives from institutions with similar data interests, known users of the data, and experts knowledgeable in communicating about data. The advisory board will provide feedback on the site as it exists now, and will be an integral part of future development. We intend to expand or rotate membership in the future to include stakeholders.

Anyone who is interested in serving on the advisory board or has suggestions for the web site, please contact Eric.Leuliette@colorado.edu or nerem@colorado.edu.

Acknowledgments