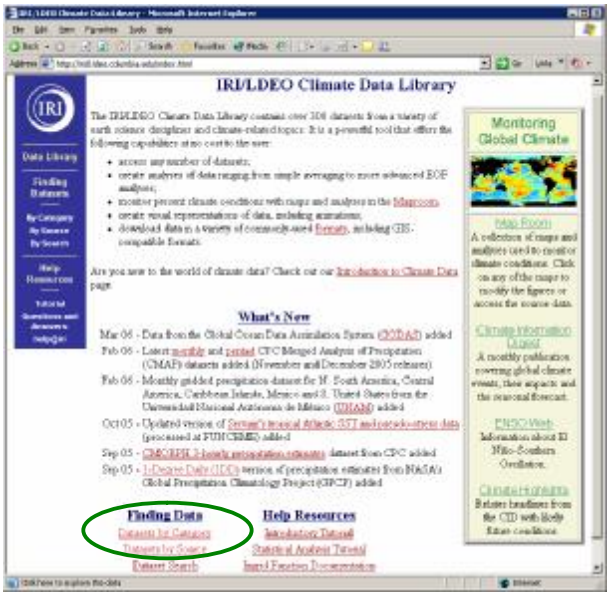
Accessing Data for the Climate Prediction Tool

- Data for use with the CPT is available via the IRI Data Library.
- The following slides demonstrate how to:
  - Access data
  - Create seasonal and ensemble averages
  - Download data in the CPT gridded data format

To start the example go to the IRI Data Library:
http://iridl.ldeo.columbia.edu

PLEASE NOTE: Instructions for the example are given in the slides and additional information is often included here in the notes box. Keep the slide show in this format (Normal View) in order to view all of these notes.

Accessing Sea Surface Temperature Data



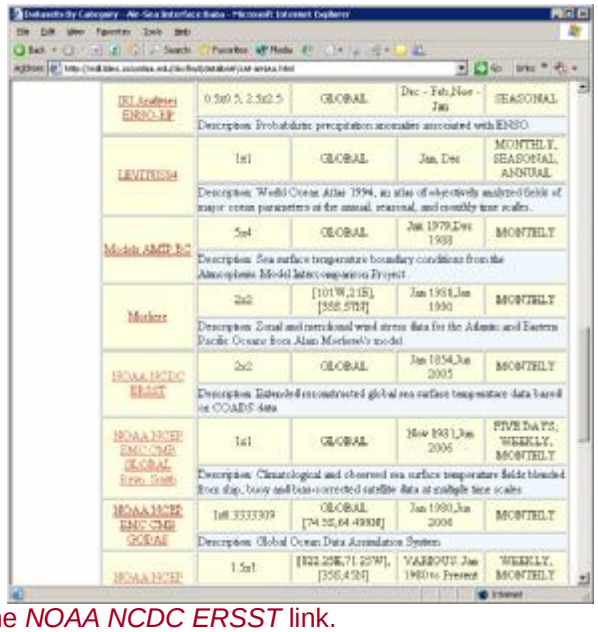
Select the *Datasets by Category* link.

This example focuses on downloading sea surface temperature data from the most recent version of the Extended Reconstructed Sea Surface Temperature dataset (NOAA NCDC ERSSTv2).

Accessing Sea Surface Temperature Data

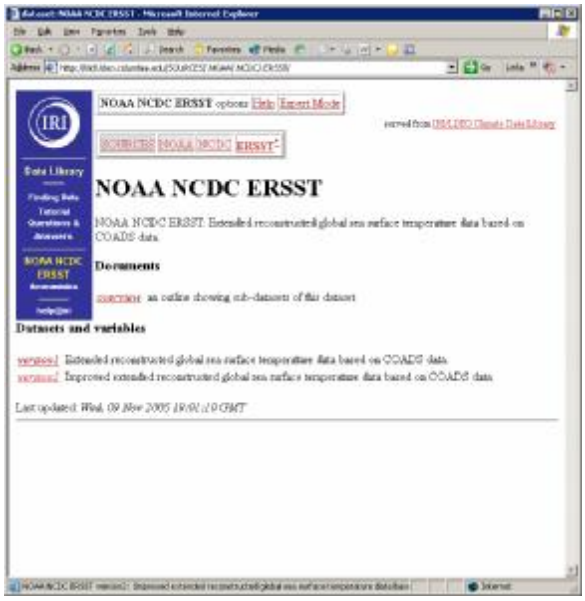
Select the *Air-Sea Interface* link.

Accessing Sea Surface Temperature Data



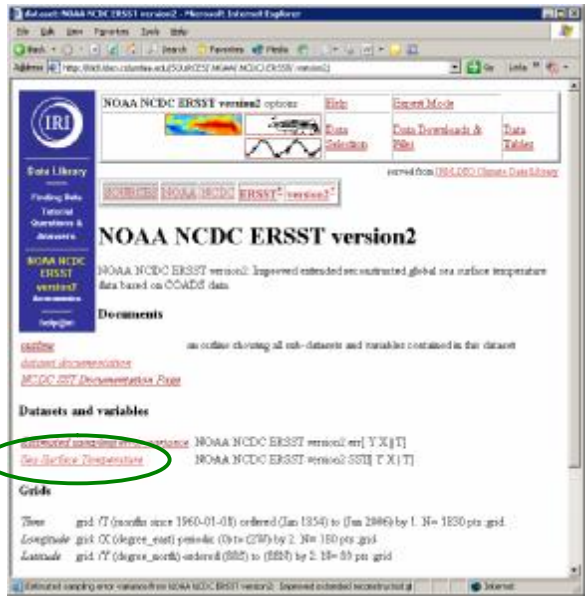
Select the *NOAA NCDC ERSST* link.

Accessing Sea Surface Temperature Data



Select the *version2* link.

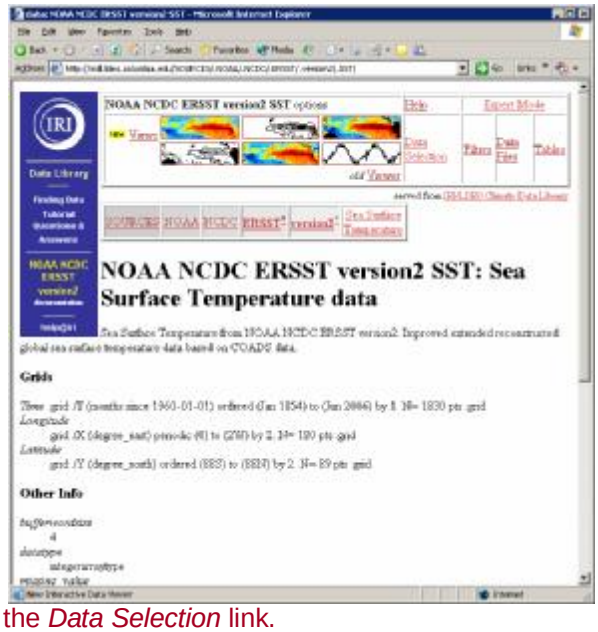
Accessing Sea Surface Temperature Data



Select the *Sea Surface Temperature* link.

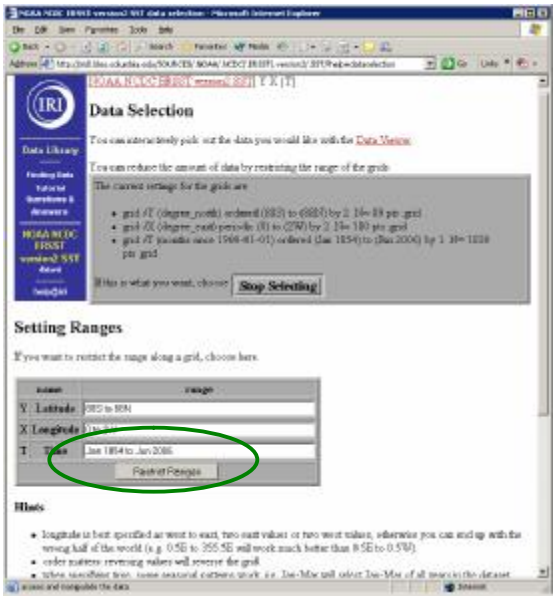
Note that documentation about the ERSSTv2 dataset is available from the documentation link in the blue banner on the left side of the page. The time period for which data is available is shown under the Grids heading.

Selecting a Time Period



Select the *Data Selection* link.

Selecting a Time Period



Enter *Jan 1950-2006* in the Time text box. Click *Restrict Ranges*.

This example illustrates how to select data from all January months during 1950-2006. To select a different month or range of years, put the appropriate information in the Time text box using the same format (Mmm YYYY-YYYY). You may also download data for a single month the same way (Mmm YYYY). For example, if you already have data for Jan 1950-2005 and want to update the time series with the 2006 data, you would just put "Jan 2006" in the Time text box.

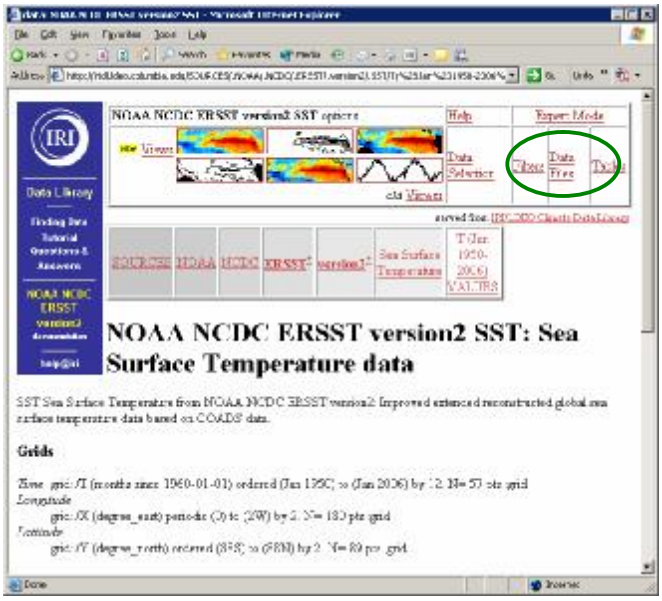
By not changing the other ranges (i.e., latitude and longitude), you automatically select all the data available (i.e., global domain). Sub-domains of the data can be selected within CPT, so it is generally best to download data for as large an area as possible. This will, however, affect the size of the file downloaded in later steps. Additional guidelines about making other data domain selections can be found under the Hints heading.

Selecting a Time Period

Click the *Stop Selecting* button.

Note that your time period selection is now indicated in the gray box at the top of the page.

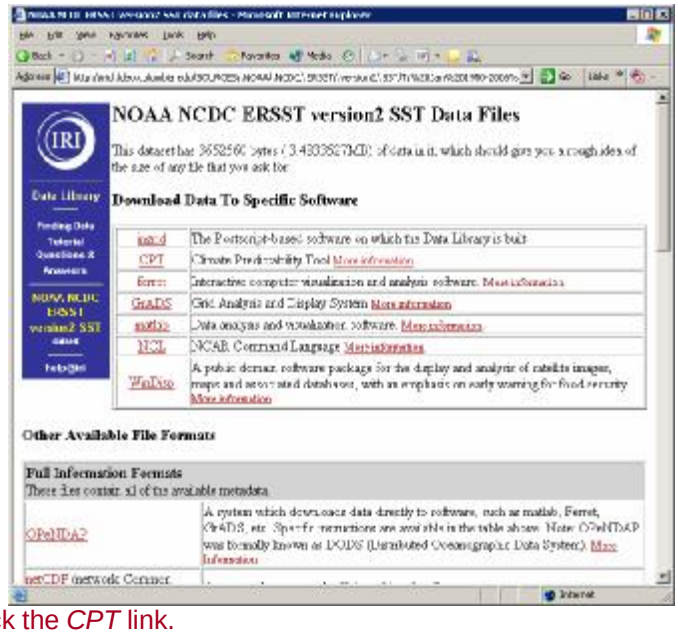
Downloading a Data File



Click the *Data Files* link.

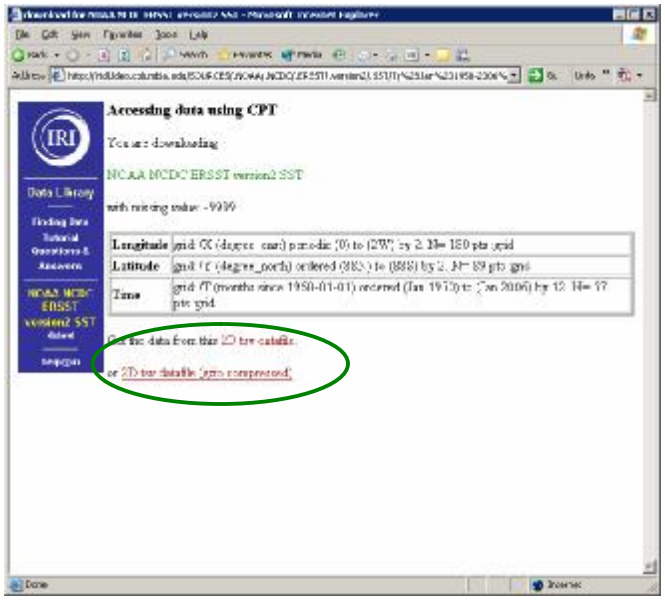
Note that your time period selection is also indicated under the Grids heading and in the gray source bar near the top of the page.

Downloading a Data File



Click the *CPT* link.

Downloading a Data File

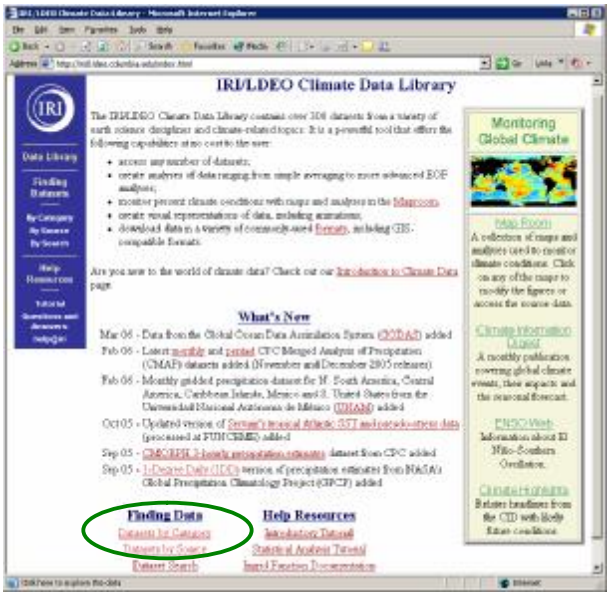


Click one of the *tsv* links to download the data.

If you have a slow or unstable internet connection, you are encouraged to download the compressed file. When downloading these data from the ERSST dataset, the compressed file can be up to 10 times smaller than the uncompressed file.

When downloading data from other datasets, you may notice an additional step on this page. Some datasets use NaN to indicate missing data, which is not compatible with CPT. If your selected dataset does use NaN, you will be given an opportunity at this point to select another missing data indicator (e.g., -9999) to be used in your data file.

Accessing ECHAM4.5 Forecast Data



Select the *Datasets by Category* link.

This example focuses on downloading forecast data from the retrospective runs of the ECHAM4.5 model.

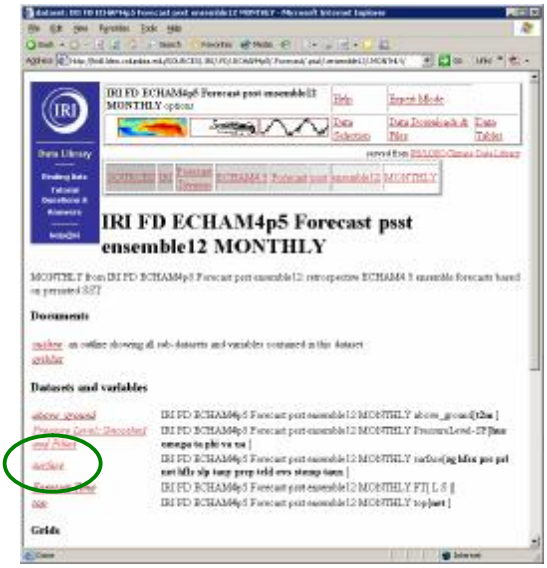
Accessing ECHAM4.5 Forecast Data

Select the *Forecasts* link.

Accessing ECHAM4.5 Forecast Data

Select the *IRI FD ECHAM4.5 Forecast psst ensemble12 MONTHLY* link.

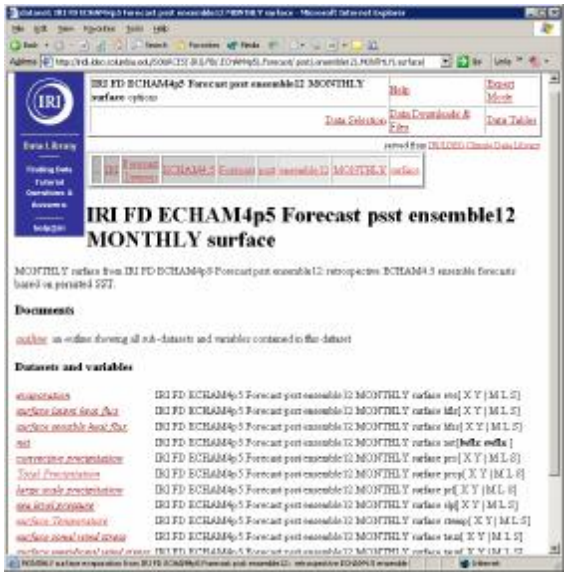
Accessing ECHAM4.5 Forecast Data



Select the *surface* link.

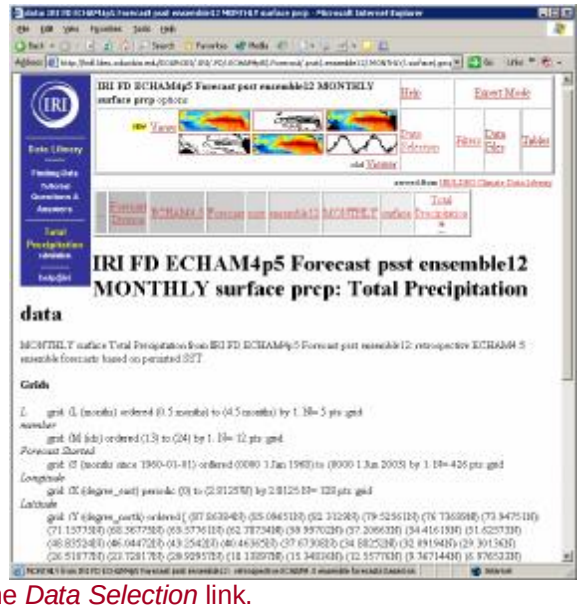
This example will select precipitation data, but many other variables are available. To select geopotential height, for example, you would select the ***Pressure Level*** link and then the ***geopotential height*** link. Selecting the ***outline*** link on this page will show you all of the variables that are available in this dataset.

Accessing ECHAM4.5 Forecast Data



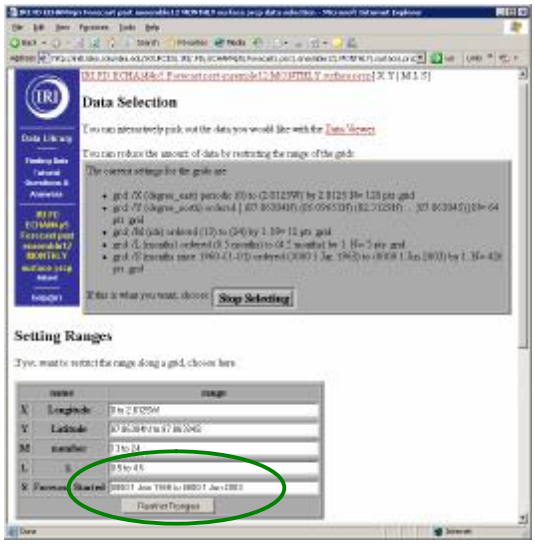
Select the *Total Precipitation* link.

Selecting a Data Domain



Select the *Data Selection* link.

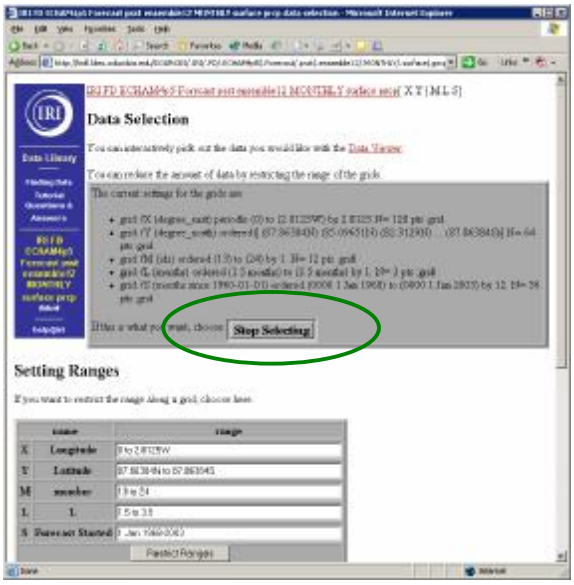
Selecting a Data Domain



Enter *1 Jan 1968-2003* in the S text box and *1.5 to 3.5* in the L text box. Click *Restrict Ranges*.

NOTE: These steps select data from forecasts made in January and valid for February, March and April during 1968-2003. By not changing the other ranges (i.e., member, latitude and longitude), you automatically select all the data available (i.e., global domain) for all 12 ensemble members. Sub-domains of the data can be selected within CPT, so it is generally best to download data for as large an area as possible. This will, however, affect the size of the file downloaded in later steps. Additional guidelines about making other data domain selections can be found under the Hints heading.

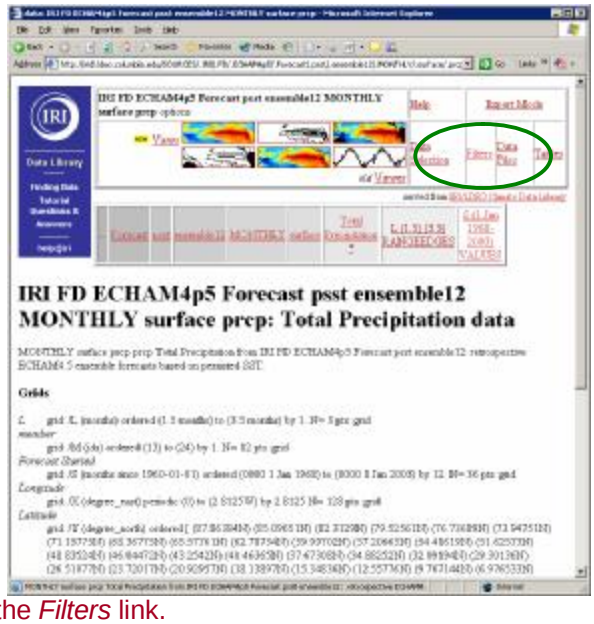
Selecting a Data Domain



Click the *Stop Selecting* button.

Note that your data selections are now indicated in the gray box at the top of the page.

Creating an Ensemble Average



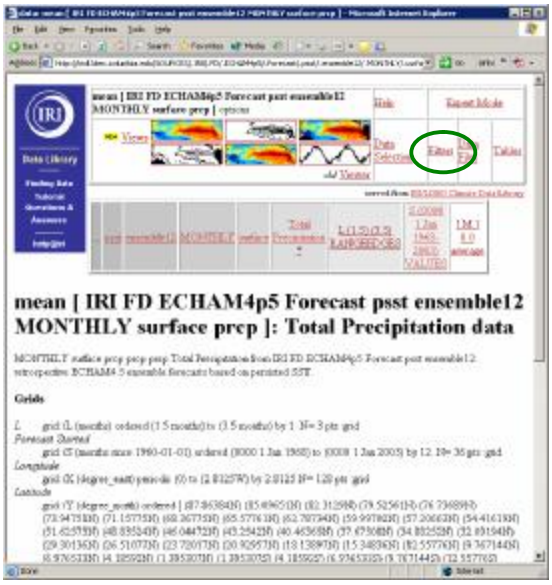
Select the *Filters* link.

Note that this step is only used for model ensembles and is not necessary for many other datasets (e.g., ERSST). This step averages over the selected portion of the member grid (i.e., 13-24). Many other options are available on the Filters page and we will use it again in the next step to create a seasonal average.

Creating an Ensemble Average

Select the Average over *M* link.

Creating an Seasonal Average



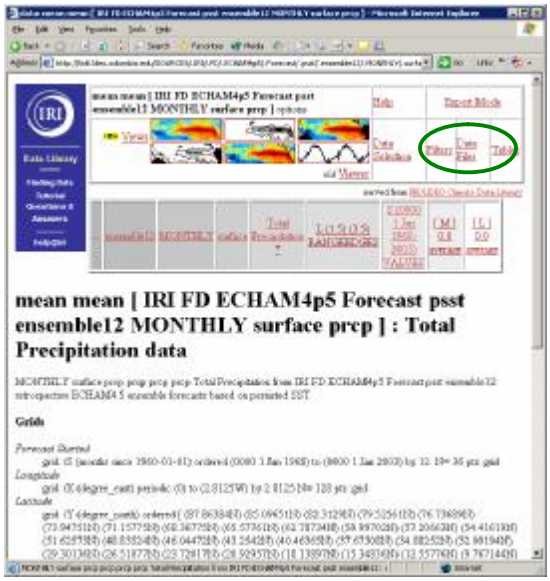
Select the *Filters* link.

Creating an Seasonal Average

Select the Average over *L* link.

Here we have calculated the ensemble and seasonal averages separately for the purpose of demonstration. We could have calculated them in a single step by selecting the *ML* link when we came to the Filters page the first time.

Downloading a Data File



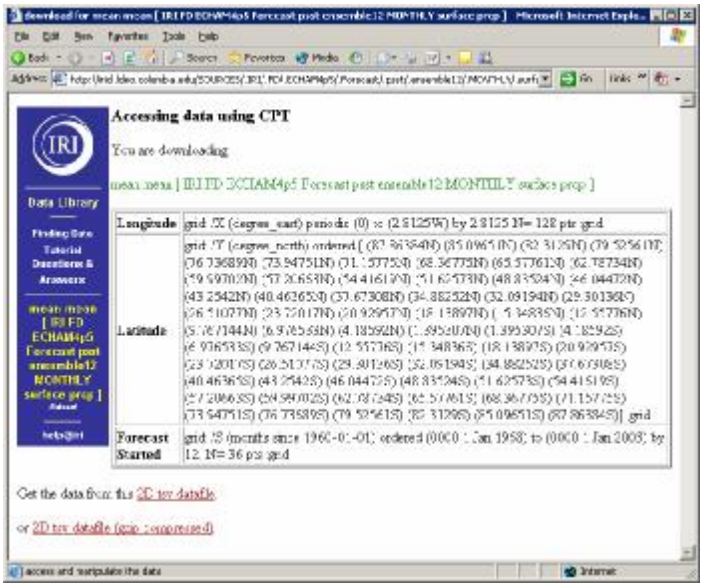
Select the *Data Files* link.

Note that the data are no longer dependent on the lead time or ensemble member, so information about the L and M grids is no longer shown under the Grids heading.

Downloading a Data File

Select the *CPT* link.

Downloading a Data File



Click one of the *tsv* links to download the data.

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Additional Information

IRI Data Library

- Introductory Tutorial
  - http://iridl.ldeo.columbia.edu/dochelp/Tutorial/
- Statistical Analysis Tutorial
  - http://iridl.ldeo.columbia.edu/dochelp/StatTutorial/
- Email Questions
  - help@iri.columbia.edu

Climate Predictability Tool

- Information and Software Download
  - http://iri.columbia.edu/outreach/software/