



# ESRL/PSD's Climate Datasets

***Cathy Smith(PSD) and the PSD web/data group***

- Types: Gridded Observations, Analysis, Model Output ~20T
- Format: NetCDF 3.2 (COARDS/CF metadata standard)
- Publicly Accessible from ~1993 (ftp and web)
- Access: FTP, HTTP, openDAP, Custom Webtools
- Storage: Duplicate Copies, Inside/Outside Firewall
- Database: Store metadata harvested from netCDF Files
- THREDDS catalog, FGDC metadata, GCMD



# Sample Web Form

## Monthly/Seasonal Climate Composites

Plot seasonal composites (averages) of the mean or anomalies (mean - total mean) of variables from the NCEP reanalysis and other datasets. NCEP data is available from **Jan 1948** to **Oct 2008**.

**Which variable?** Sea Level Pressure **Level?** 1000mb

**Beginning month of season:** Jan **Ending month:** Mar

**Enter years for composites (from 1 to 16):** e.g. 1972. For seasons that span a year (e.g. DJF), please enter year of the **LAST** month.

To subtract one set of years from another, use a minus sign (-) before the years that are to be subtracted.


**OR Enter range of years:** to (optional minus to )

**OR List of years: Enter filename:**

**OR Years from values in Time Series:** Nino 3.4

**If CUSTOM Time Series:**

**Value to composite on:** 1.0

**Type of comparison:** Standardized Anomaly Greater or equal to value

**Lag:** Plot composites for 0 months before or after dates chosen

**Color?** Color **Shading:** Shaded

**Plot type?**  Mean  Anomaly  Long Term Mean

**Scale plot size (%)**  **Plot contour labels?**  No  Yes

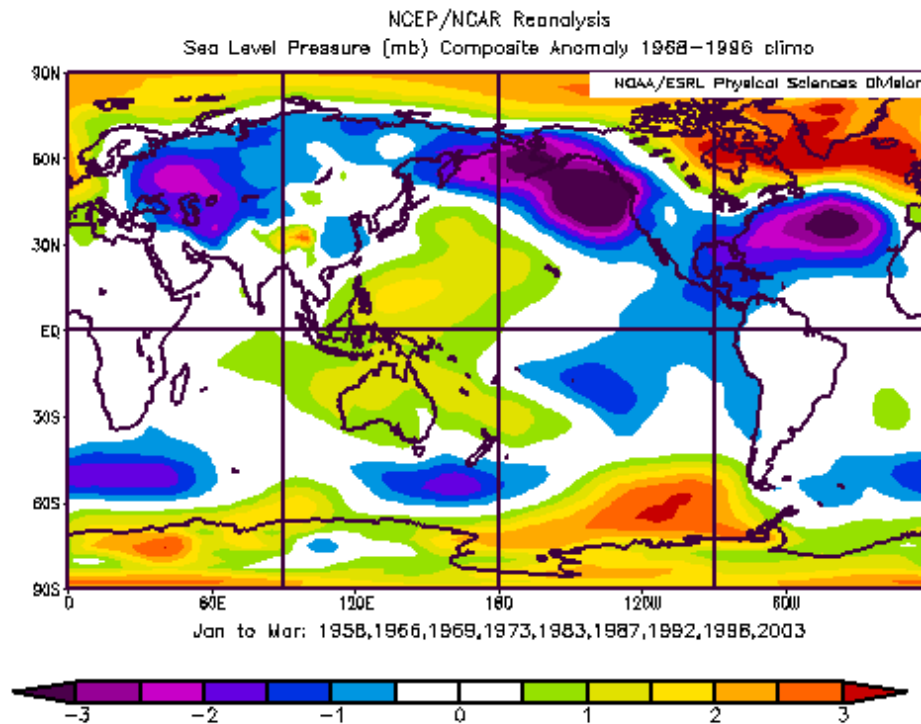
**Reverse colorbar?**  No  Yes

**Override default contour interval?** Interval: Range: low high

**Map projection** ALL



# Output Plot: El Niño Composite





# Sample: Extract timeseries

## Create a monthly/seasonal mean time series from the NCEP Reanalysis Dataset

Create a timeseries of monthly/seasonal mean values ([Directions](#)). Output is organized by year for the rows and by month (January to December) across columns for monthly values. Simply save the browser page containing the timeseries output in order to use it in the [correlations with NCEP Reanalysis monthly means](#) web page. The program will calculate closest latitudes and longitudes to those input. To use one grid, type in same begin/end latitude and longitude values.

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**Variable?**  **Analysis level?**

**Latitude?** (N to S, e.g. 4 to -4) **Longitude?** (W to E, e.g. 180 to 200 or -10 to 20)

to   to

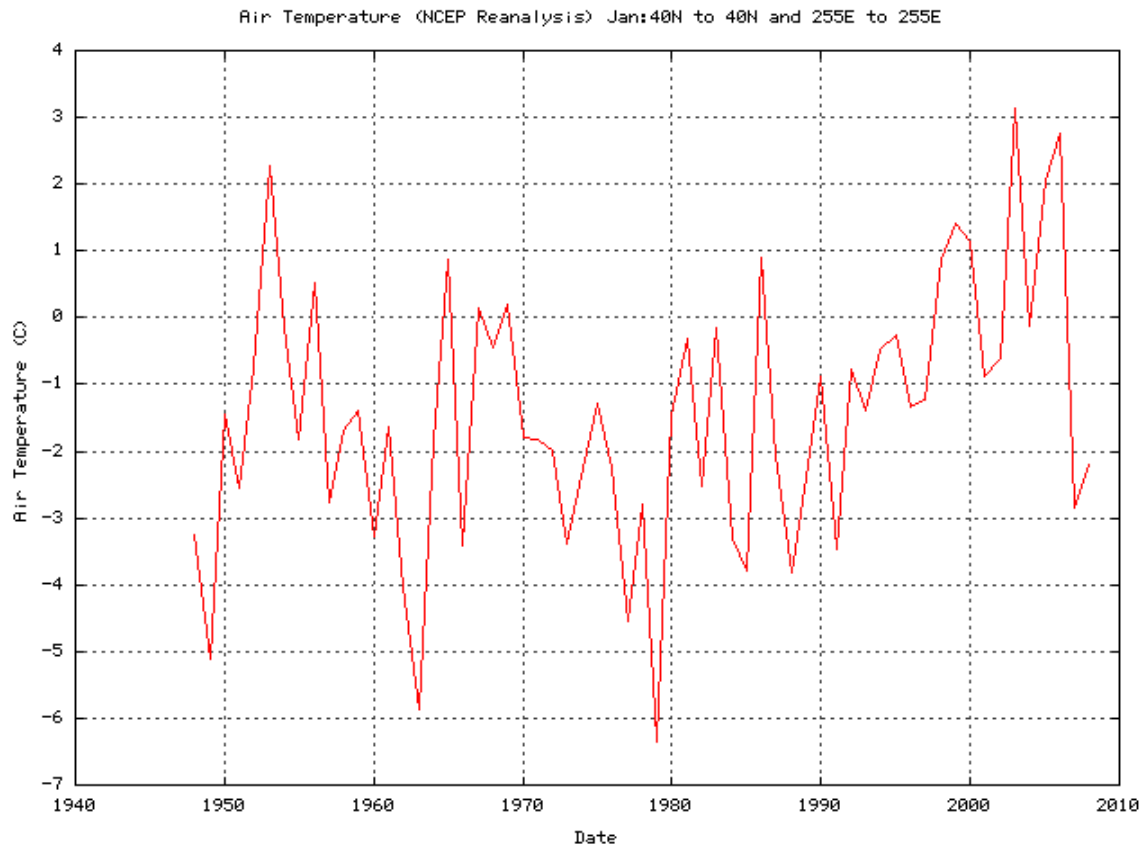
Monthly  Seasonal average --  
First month of season:  second month:

Area weight grids?  No  Yes

**Output format:**  Raw data values  Plot data



# Output: Boulder, CO January air temperature anomalies





# Other Types of Analysis

- Data Subsets, Correlations, Cross-sections, Hovmollers (lon-time), Lead/Lags
- User can analyze own files

## Computer/Security Considerations

- Potential size of new datasets (Petabytes!)
- openDAP: new TDS implementation
  - Local storage vs. remote access (shared storage)
  - Speed, convenience vs. lower costs, security
- ESRL Network: sharing data and apps across divisions?
- Security/ESRL changes require more resources(\$)



# The Plan:

## 6 short talks ...

- We Have to Get There from Here
- Giving Researchers What They Want
- **Saving Lives & Property**
- Times They Are A Changing
- Web 2.0 and an Interactive Government
- Resistance is Futile

*Cathy Burgdorf (CSD)*

*Ken Masarie (GMD)*

*& Cathy Smith (PSD)*

*Carl Bullock (GSD)*

*Leslie Hart (GSD)*

*Eric Hackathorn (GSD)*

*John Parker (DO)*

## and 1 panel discussion ...

- Questions from the floor
- What do we need to overcome the barriers?
- How will we get to a unified network?
- How can we make things happen?