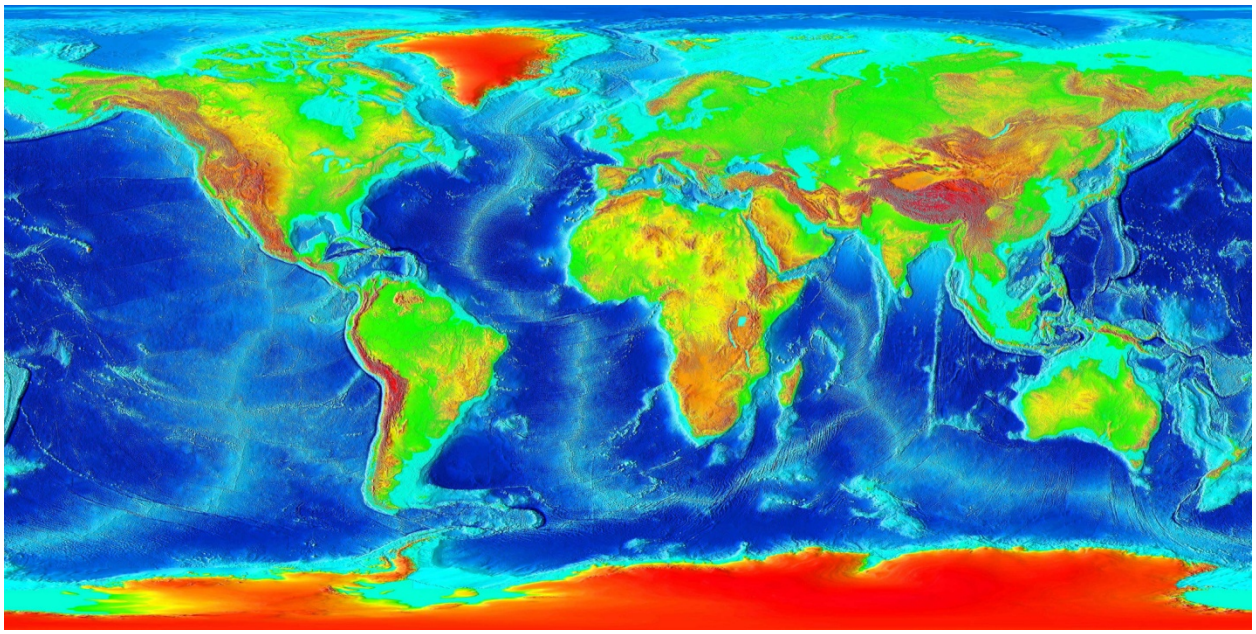
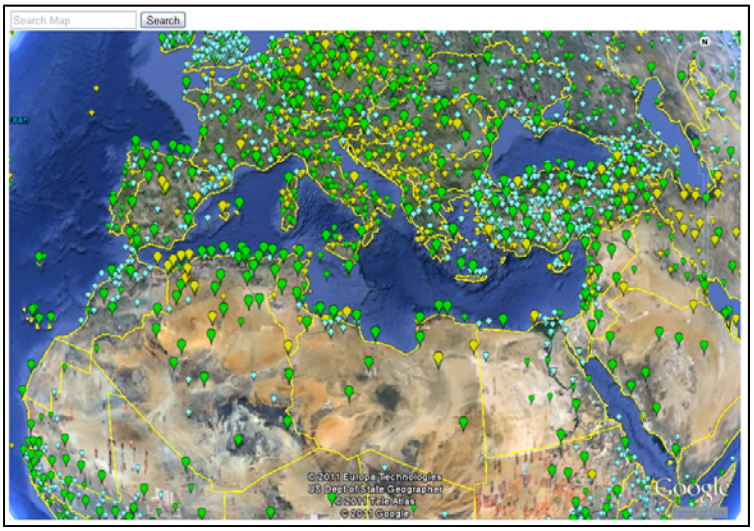
Viewing Air Temperature and Precipitation Data in Google Earth



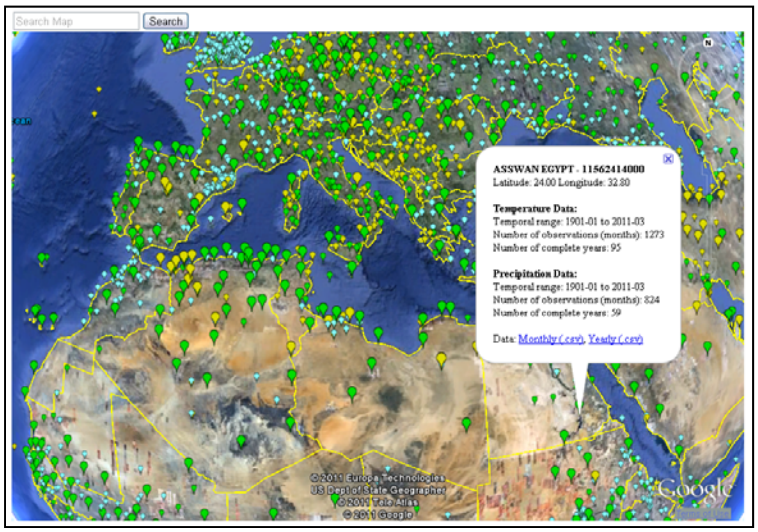
Viewing Long-Term Air Temperature and Precipitation Data using the Google Earth Plug-In

Getting Started: The Google Earth viewer displays reporting stations of long-term air temperature and precipitation data (Image 1) from the Global Historical Climatology Network (GHCN) version 3 data set (air temperature) and version 2 data set (precipitation) managed by the National Climatic Data Center (NCDC). More information about these data sets are available through NCDC at: http://www.ncdc.noaa.gov/ghcnm.

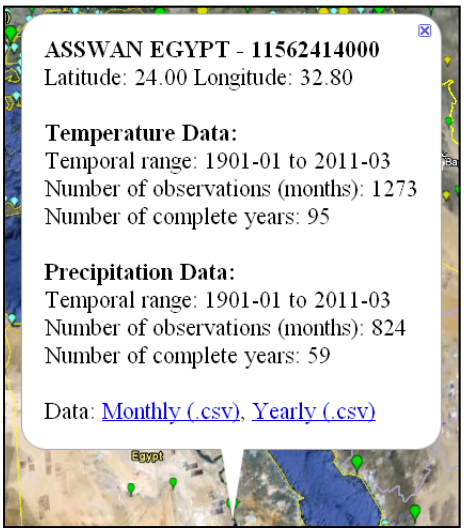


(Image 1)

Displaying Data: To display data, select the site by clicking on it on the map display (Image 2). To download data in monthly or yearly CSV (comma separated value) format, select monthly or yearly in the popup balloon (Image 3). Locations with current data are larger pin drops, while those without current data are smaller.



(Image 2)



(Image 3)

Google Earth Display Legend

- Temperature data only for that station

- Precipitation data only for that station

- Temperature and Precipitation data for that station

Large Pin drops – Station has long-term data up through sometime within the last 6 months.

Small Pin drops – Station has long-term data, however most recent data for the station is older than 6 months prior to now.

Data Formatting

Temperature

Monthly mean air temperature (for stations within the United States) is calculated by averaging the maximum daily air temperatures over a given month (MaxT_avg) and averaging the minimum daily air temperatures over the same month (MinT_avg). Then an average of those two values is calculated to determine the monthly mean temperature:

Monthly mean air temperature = (MaxT_Avg + MinT_avg)/2

[Note: this method may vary in other countries than the United States, however it is not well-documented how other countries calculate the monthly mean air temperature. Make sure in your own investigations to always cite methods for every calculation!]

The **yearly mean air temperature** is calculated by averaging the mean monthly air temperatures for each month of one year.

Yearly mean air temperature = (sum of 12 monthly mean air temperatures)/12

*Mean air temperature data are reported in degrees Celsius. Missing data is reported by an 'M'.

Precipitation

Monthly precipitation is the sum of the daily precipitation totals for a given month.

The **yearly total precipitation** is calculated by summing all of the monthly total precipitation values for the 12 months of the year.

*Total precipitation data are reported in millimeters. Missing data is reported by an 'M'.