# Unit 1: General Review and Global Circulation Concepts

## Tools

1. Weather Observations and Analysis Tools

* *Introduction to Tropical Meteorology, Sections 9.2-9.3*

<http://www.meted.ucar.edu/tropical/textbook_2nd_edition/navmenu.php?tab=10&page=2.0.0>

<http://www.meted.ucar.edu/tropical/textbook_2nd_edition/navmenu.php?tab=10&page=3.1.0>

1. Satellite imagery (VIS, IR, and WV; satellite-derived products such as precipitable water)

* US Navy NRL Real-time and archive images, <http://www.nrlmry.navy.mil/sat_products.html>
* US Navy NRL Archive Directories, <http://www.nrlmry.navy.mil/archdat/> (three weeks)
* RAMSDIS Tropical Images, <http://rammb.cira.colostate.edu/ramsdis/online/tropical.asp>
* CIMSS, <http://www.ssec.wisc.edu/data/>
* EUMETSAT Real-time and archive, topical images, case studies, <http://www.eumetsat.int/Home/Main/Image_Gallery/index.htm?l=en> (one week)
* NASA Global Hydrology and Climate Center satellite weather image links, <http://wwwghcc.msfc.nasa.gov/GOES/satlinks.html>

1. Synoptic analyses at the standard levels (surface, 850, 700, 500, 300, 250, …)

* SRRS Analysis and Forecast Charts for the globe and the tropical belt, <http://nomads.ncdc.noaa.gov/ncep/NCEP>

Archives from US National Weather Service (NWS) National Centers for Environmental Prediction (NCEP) available at the National Climatic Data Center (from 1994 to present)

1. Maps of global mean circulation patterns and other meteorological variables

* NCEP/NCAR Reanalysis (00, 06, 12, 18 UTC, daily, monthly, seasonal, ...) <http://www.esrl.noaa.gov/psd/data/gridded/data.ncep.reanalysis.html>
* Operational NCEP analyis, <http://www.esrl.noaa.gov/psd/data/histdata/>

Interactive creation of maps, cross sections, etc ... (1948 - present)

1. Soundings

* University of Wyoming, <http://weather.uwyo.edu/upperair/sounding.html> (from 1998 to present)
* NOAA ESRL, <http://esrl.noaa.gov/raobs/> (from 1994 to present)

1. Interactive online map services

* NOAA nowCOAST, <http://nowcoast.noaa.gov/>
* NOAA Observing Systems Architecture (NOSA) hosted by NGDC, <http://maps.ngdc.noaa.gov/viewers/nosa/>
* Google Earth, <http://www.google.com/earth/index.html>
* ArcGIS Online, <http://resources.arcgis.com/content/arcgis-online-maps-tasks/about>