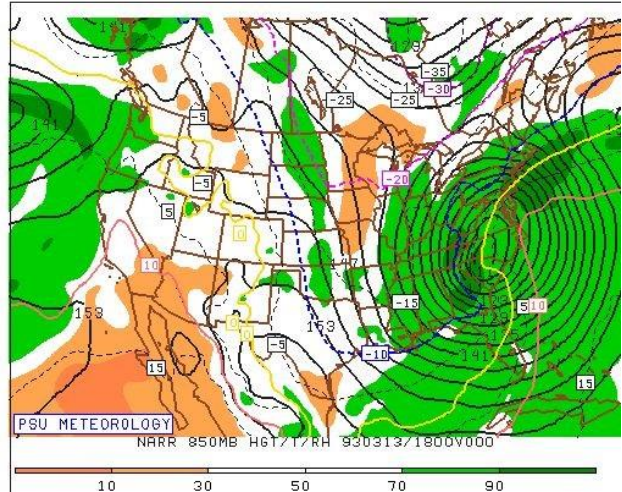
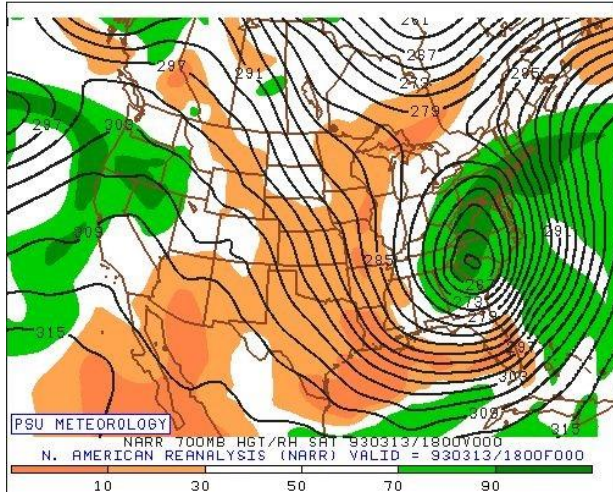
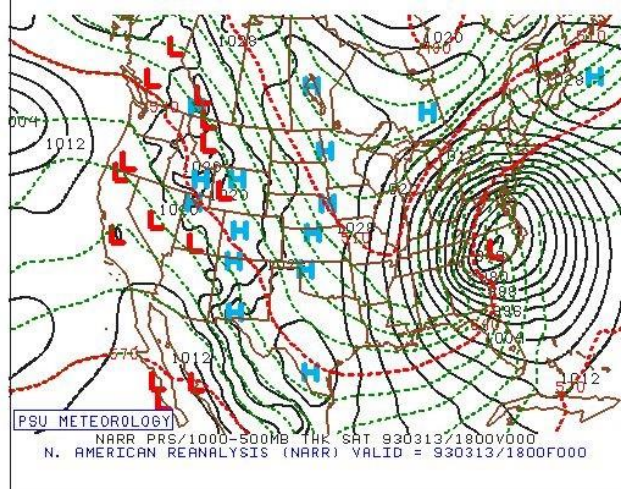
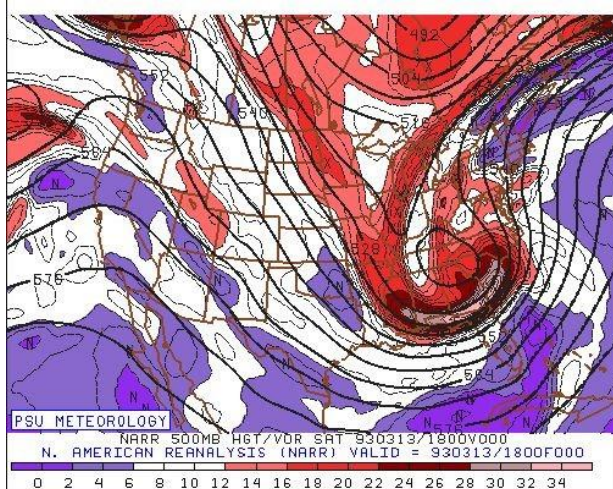


# A Comprehensive List of Weather Forecasting Websites



*Created by Zach Hiris (Oswego '18/ISU '20), Jimmy Barham (KU '17/NWS EAX), and Jim Sullivan (Ohio University '16) - September 2015*

*Last Updated: 9/1/2020*

1. [Current Observations, Radar & Satellite](#)
2. [Forecast Model Websites \(General/United States\)](#)
3. [Ensemble Guidance](#)
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6. [El Nino Southern Oscillation \(ENSO\) & ENSO Related Links](#)
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8. [Quasi-Biennial Oscillation \(QBO\) + Stratosphere Links](#)
9. [Link to Lake-effect BUFKIT sites](#)
10. [Link to IA State's BUFKIT Warehouse](#)

### **Current Observations, Radar & Satellite:**

- [College of Dupage Analysis](#)
  - High resolution surface maps
- [UCAR Real Time Weather Data](#)
  - Provides links to Satellite and Radar data, surface observations (plotted and raw METARs), upper air observations
- [SPC Mesoanalysis](#)
  - Primarily used for severe weather, but can be used year round. Most data comes from the RAP, but is the standard for severe weather parameters.
- [College of Dupage Satellite/Radar](#)
  - High resolution satellite imagery, basic radar data. Includes GOES-16 and localized satellite sectors
- [University of Wyoming Sounding Data](#)
- [SPC Sounding Analysis](#)
- [SPC Objective Upper Air Maps](#)
  - “Objective analysis” (computer generated) of mandatory levels based upon 0z and 12z soundings and previous NAM run. Available twice daily.
- [ADDS METARs](#)
- [NOAA EDD](#)
  - NOAA Data including DOT observation sites, real time updating. Can run slow on some computers.
- [Blitzortung Live Lightning Maps](#)
  - Shows almost live (~7 second delay) lightning across the entire globe. Good for tracking thunderstorms, can also use lightning trends to see if storms are weakening/strengthening or developing.

## Forecast Model Websites (General/United States)

- [NCEP Model Analyses and Guidance](#)
  - NOAA's Model page- includes GFS/NAM, WRF-NMM/ARW, 4km NAM, etc. Only American produced forecast models. A classic site, but not on the cutting edge of UI and page design
- [WeatherBell.com](#)
  - Premium account requires Username/Password
- [College of Dupage Forecast Page](#)
  - Interactive maps produce Skew-t/Hodographs for each model. Easy to navigate
- [PivotalWeather](#)
  - A newer site that continues to expand. Free hi-res Euro. One of the best free sites out there
- [Tropical Tidbits](#)
  - Mostly tropical use, but includes useful CONUS forecast info. Also has Euro/GFS ensemble means
- [Earl Barker's Forecast Page](#)
  - Incredible amount of resources... if you can navigate the site. Difficult to work through, but the data available is massive
- [InstantWeatherMaps](#)
  - Rapidly updating model data. Premium accounts provide more data, but a good basic site including graphics similar to NCEP MAG page
- [SPC HREF](#)
  - "Ensemble" of CAMs.
- [NSSL CAMS:](#)
  - Recently developed by the NSSL/SPC, includes HRRRv3 and NSSL-WRF
- [SPC SREF](#)
  - Short range ensemble with a variety of probability graphics. Used all year round, with an added emphasis for severe weather
- [Meteocentre Cyclone Tracking](#)
  - Useful to compare where forecast models track low pressure systems including synoptic and tropical storms
- [Meteocentre Models](#)
  - Be sure to translate from French. One of the only places to access *UKMET* data
- [Plymouth State Model Maps](#)
  - Can create custom layered maps. Main page for Plymouth State is available [here](#)
- [University of Wyoming Forecast Page](#)
  - Slightly outdated, but still can produce custom graphics for the NAM/GFS
- [Penn State E-Wall:](#)
  - GFS: [0z](#), [6z](#), [12z](#), [18z](#). NAM: [0z](#), [6z](#), [12z](#), [18z](#). [Hi-res models \(including HRRR\)](#)

- [TwisterData](#)
  - An old site, used to be widely used but has declined in recent years
- [HRRR- New York State grid](#)
  - HRRR grid focused on Albany, NY. Also has a floating grid over the current WxChallenge city.

## Ensemble Guidance:

- Several of these links will be to sites already listed above in other sections, however, this is to specific ensemble guidance on those sites.
- GFS Ensembles: [Tropical Tidbits](#), [E-Wall](#), [COD \(click on “GEFS”\)](#), NCEP ([here](#) & [here](#)), [MeteoCentre](#). Note: Tropical Tidbits will not update to the current run, double check the run time!
- Euro Ensembles: [Tropical Tidbits](#), [ECMWF](#) (be sure to change region).
- Canadian (GEM/CMC) Ensembles: [MeteoCentre](#), [E-Wall](#)
- SREF: [SPC Viewer](#), [Plumes \(via SPC\)](#) (be sure to change station), [E-Wall](#), [NCEP](#), [WPC Winter Weather SREF Derived Products](#), [COD](#) (Click “SREF”)

## Tropical Weather

- [National Hurricane Center](#)
- [Tropical Tidbits](#)
- [CIMSS Tropical Cyclones](#)
  - Comprehensive site
- [RAMMB - CIRA Tropical Cyclone Page](#)
  - Good one stop for satellite/environment info, w/ some model data
- [UCAR Tropical Cyclone Page](#)
  - Summary page for models/recon/satellite/etc.
- [Recon Data](#) (via Tropical Tidbits)
- [Tropical Cyclone Genesis](#)
  - From Florida State, predicts the chances of Tropical Cyclone genesis
- [UWM](#)
  - Track and intensity model guidance. Includes GoogleMaps displays.
- [GOES Floater Imagery](#)
  - Storm specific conventional (visible, IR, water vapor) satellite images
- [Navy/NRL Tropical Cyclone Page](#)
  - Storm specific satellite images (including microwave imagery)
- [Joint Typhoon Warning Center](#)
  - Issues tropical cyclone forecasts for systems outside of the Atlantic or East Pacific



- [Central Pacific Hurricane Center](#)
  - Issues tropical cyclone forecasts for systems between 140W and the Dateline in the North Pacific
- [Penn State Tropical E-Wall](#)
  - Includes shear, steering currents, satellite data, and many other helpful tools
- [Tropical Cyclone Phase](#)
  - Useful for tracking subtropical vs. tropical storms, also shows tracks of the storms. Shows how deep of a warm core a system has
- [Probabilities of Landfall](#)
  - Uses historical data to determine the probability of a Tropical Cyclone making landfall over particular areas
- [GEFS Tropical Weather Forecasts](#)
  - From Florida State University
- [Model TC Genesis](#)
  - From Florida State University. Even more links from FSU available through Hart's page [here](#)

## *Past Weather/Climate Indices/Seasonal Information*

- Daily US Surface/Upper Air Observations
  - [SPC Mesonalysis Archive \(2005-Present\)](#)
    - Hourly Mesoanalysis from SPC
  - [NARR \(Penn State Reanalysis\)](#)
    - Daily, 4x6hr charts. Includes 500mb vorticity, 850/700mb temps/humidity/heights, and sfc maps. Goes back to the late 70s/80s.
  - [WPC Daily Forecast Maps](#)
    - Daily WPC produced graphics from 2002-Present
  - [UCAR Case Study Site](#)
    - Great source of archived data, can be used for case study/research projects
- National Datasets
  - [ESRL- US Temp/Precip Analysis](#)
  - [ESRL- NH 20th Century Reanalysis](#)
    - Includes extensive upper air data, including 500mb height anomalies, upper level temperature data, etc. Able to specify regions
  - [ESRL- Daily Composite Reanalysis](#)
    - Similar to the 20th Century Reanalysis, but for specific days. Time range covers Jan. 1948-Present ○ [ESRL Daily Composites \(Old\)](#)

- Same as above link, but for data starting in the mid 1800s-2012
    - [NARR - 3 Hourly Composites](#)
    - [NARR - 6 Hourly Composites](#)
  - United States Climate Data
    - Each NWS office has their own climate records. For example, NWS Buffalo has their archive online [here](#).
    - [XMACIS2](#)
      - Thredded climate data. This is my current go to.
    - [Midwest Regional Climate Center](#)
      - Data available for entire US, not just Midwest
    - [Northeast Regional Climate Center](#)
      - Daily/Weekly/Monthly temperature and precipitation data for the Northeast US
    - [Utah State Climate Center- Archived Data](#)
      - Includes Co-op, official NWS observations, and other stations for various years across the U.S. Most data is available on a daily basis, rather than summarized monthly statistics.
  - Climate Indices
    - Daily NAO/PNA/EPO, etc.
      - [Daily Forecasts](#)
      - [CPC Daily Forecast](#)
    - Monthly AO/NAO/PNA/Etc.
      - [Master List](#)
      - [Arctic Oscillation](#), [NAO](#), [PNA](#), [EPO](#), [PDO](#) + [PDO \(alternate\)](#) [QBO](#)
    - Seasonal Forecasting
      - [Linear Correlations in Atmospheric Seasonal/Monthly Averages](#)

## *El Nino Southern Oscillation (ENSO) & ENSO Related Links*

- Current ENSO Conditions
  - [Monthly MEI Values](#)
    - Monthly values from 1950-Present
  - [CPC ENSO Home](#)
    - Home for CPC, includes several other current conditions
  - [ESRL SST Page](#)
    - Current SSTs, SSTa, etc.
- SSTanom Model Forecasts
  - [CFS Seasonal Forecasts](#)
  - [Korean Met. Agency ENSO Forecasts](#)

- [ECMWF ENSO Plumes](#)
- [IRI Enso Plumes](#)
  - Seasonal ENSO forecasts from both statistical and dynamic models
- Historical ENSO Conditions
  - [KNMI Climate Explorer](#)
    - Monthly time series, percentiles for each individual ENSO region. Also includes additional information on other climate indices
  - [CPC Historical Information](#)

## *Madden Julian Oscillation*

- General Information
  - [CPC Factsheet](#)
  - [MJO Wiki Link](#)
- Forecast Information
  - [CPC Homepage](#)
  - [MJO - Temperature Correlations](#)
    - Every MJO Phase Temp Correlation in the United States, on 3-month cycles (DJF, JFM, etc.)
  - [MJO - Precip Correlation](#)
    - Same as above, but precip. Note that both Temperature and precip aren't always strongly correlated to MJO phases

## *Quasi-Biennial Oscillation (QBO) + Stratosphere Links*

- General Information + Forecasts
  - [Monthly QBO Values](#)
    - 1950 - Present
  - [CPC Stratosphere Monitoring](#)
    - Temperature, U-wind times series. Both raw and anomalies available for use in QBO diagnostics, SSWEs.
  - [Stratospheric Diagnostics](#)
    - ECMWF Forecasts D1-D10 from 150mb-1mb. Isentropic maps also available. Useful for SSWE events