



## Online Pilot Weather Guide

The following FREE weather tools were used in the "*IFR Proficiency*" workshops.

If a link is not working, please report it to [service@PilotWorkshops.com](mailto:service@PilotWorkshops.com).

**500 MB Constant Pressure Chart** - shows weather features that are roughly 18,000 feet above sea level. Everywhere on this chart the pressure is 500 mb. What is changing is the mean sea level "height" of the 500 mb surface.

<http://www.nco.ncep.noaa.gov/pmb/nwprod/analysis/>

**Convective Outlooks** are prepared by the Aviation Weather Center (AWC) in Kansas City and are valid for a six hour period. These areas outlined in orange are regions that are likely to see an issuance of one or more convective SIGMETs (shown in red) within the six hour valid period. Convective SIGMETs are not a forecast for thunderstorms. Instead, they represent a nowcast of thunderstorm activity. That is, active convection meeting specific criteria must exist before a convective SIGMET can be issued. Therefore, scattered or isolated activity may not be protected by a convective SIGMET. Convective SIGMETs are issued hourly for a well organized line or area of thunderstorms, severe thunderstorm or embedded thunderstorms.

[http://adds.aviationweather.gov/data/airmets/airmets\\_CB.gif](http://adds.aviationweather.gov/data/airmets/airmets_CB.gif)

**Current Icing Product (CIP)** which offers an hourly analysis of cloud top heights in thousands of feet. If the cloud tops are low, generally clouds are not vertically-developed and will not likely contain convective turbulence.

[http://www.rap.ucar.edu/icing/cip/loop\\_cip\\_ctz.html](http://www.rap.ucar.edu/icing/cip/loop_cip_ctz.html)

**Enhanced Infrared Satellite Image** - uses cloud top temperatures to estimate cloud heights. The grey regions show fairly low clouds and any clouds with a significant height will be color enhanced.

<http://www.ghcc.msfc.nasa.gov/GOES/goeseastconusir.html>

**Enhanced T-Storm Outlook** - The Storm Prediction Center in Norman, OK issues an enhanced thunderstorm outlook and is often a good way to identify where convective activity is likely.

<http://www.spc.noaa.gov/products/exper/enhtstm/>

**High Resolution Infrared Satellite Image** - shows the cloud top temperatures. Colder cloud top temperatures imply higher cloud tops. When the cloud top temperatures are colder than -35 degrees, vertically-developed clouds and convective turbulence are much more likely assuming the higher clouds are not just thin, wispy cirrus clouds.

<http://www.rap.ucar.edu/weather/satellite/displaySat.php?region=US&itype=ir&size=large&endDate=20070301&endTime=-1&duration=0>

**IFR and Mountain Obscuration AIRMETS**

[http://adds.aviationweather.gov/data/airmets/airmets\\_IF.gif](http://adds.aviationweather.gov/data/airmets/airmets_IF.gif)

**Lifted Index** - A positive lifted index shows regions of stability and a negative lifted index shows regions of instability.

<http://www.emc.ncep.noaa.gov/mmb/namsvrfcst/lift.animate.html>

### **Lowest Level Freezing Analysis**

[http://adds.aviationweather.gov/icing/frzg\\_nav.php](http://adds.aviationweather.gov/icing/frzg_nav.php)

### **Nexrad Image**

[http://radar.weather.gov/Conus/full\\_lite.php](http://radar.weather.gov/Conus/full_lite.php)

**Short Range Surface Forecast** - The Hydrometeorological Prediction Center (HPC) issues short range surface forecasts that includes an isobaric forecast along with surface high and low pressure centers, frontal systems and troughs. Also included on this forecast is a prediction for areas of precipitation that is expected at the valid time of the forecast.

Chart - [http://www.hpc.ncep.noaa.gov/cgi-bin/get\\_basicwx.cgi](http://www.hpc.ncep.noaa.gov/cgi-bin/get_basicwx.cgi)

Symbols - <http://www.hpc.ncep.noaa.gov/html/pcpnsymb2.shtml>

**Simulated reflectivity** - a model-based precipitation product that shows what the Nexrad image might look like at a specific time.

[http://www.emc.ncep.noaa.gov/mmb/mmbpll/cent4km/v2/nmmwrf.refd\\_animate\\_1h.html](http://www.emc.ncep.noaa.gov/mmb/mmbpll/cent4km/v2/nmmwrf.refd_animate_1h.html)

**Skew-T Diagram** - provides a wealth of information to pilots based on data collected from balloon launches at regular locations and intervals.

<http://rucsoundings.noaa.gov/>

For more information on how to interpret the Skew-T Diagram:

<http://aviationweather.gov/general/pubs/front/docs/feb-04.pdf>

**Surface Analysis** - produced by the Hydrometeorological Prediction Center or HPC. This product provides an isobaric analysis (lines of constant pressure) and the locations of areas of high and low pressure as well as fronts, dry lines, squall lines, surface pressure troughs and outflow boundaries. This is all superimposed on surface observations showing the present weather at the various reporting stations or airports.

<http://www.hpc.ncep.noaa.gov/html/sfc2.shtml>

**Surface Analysis Loop** - shows surface analysis loop in 3 hour increments. Helps uncover weather trends.

[http://www.hpc.ncep.noaa.gov/html/sfcloop/namus\\_wbg.html](http://www.hpc.ncep.noaa.gov/html/sfcloop/namus_wbg.html)

### **Terminal Area Forecasts or TAFs**

<http://adds.aviationweather.noaa.gov/tafs/>