

**Bill McGlynn's WX** class 3/20/12 – Update to Weather Forecasting Web sites.

First of all, University of Wisconsin - Oshkosh (seems appropriate), has a very good online wx class on iTunes University - it's titled "Geography 121 - Weather". I highly recommend it for those who are curious about the basics of weather.

When I'm planning a flight, I always start out by looking at the longer term wx prediction models, especially if I'm planning a fairly long trip, then as the trip gets closer, I start looking at the MOS tools and finally, the ADDS site, prog chars and TAFs.

The new website for the longer term weather models (GFS, NAM, RUC, etc) is the following:

<http://mag.ncep.noaa.gov/NCOMAGWEB/appcontroller?prevPage=Param&MainPage=index&image=&page=Param&cycle=11%2F04%2F2011+12UTC&rname=&pname=&pdesc=&model=GFS&area=NAMER&cat=MODEL+GUIDANCE&fcst=&areaDesc=North+America+-+US+Canada+and+northern+Mexico&prevArea=NAMER&currKey=model&returnToModel=yes&imageSize=M> Choose the GFS from the first screen, and then choose the latest Cycle time, and "850mb – temp – mSLP – precip" parameter and then click "loop all". This will loop the graphical wx models for the next 16 days - 3 hour segments for the next 8 days, and then 12 hour segments for the rest. Remember, the 850mb model shows precip for the **previous 6** hours, (from the UTC time stamp at the top of the page), at ~ 5000 ft, and don't forget to pay attention to the blue contour lines showing where freezing temps begin. While you are in the GFS module, also check the other parameters to get a complete perspective on the wx story. Look at 500 vort-ht, which shows upper (~18k000 ft) level High and Lows and jet streams, (which steer the weather). Also look at 850-rh-ht which will show you relative humidity of the atmosphere at ~5000 ft. I would like your feedback on this last depiction - does RH predict clouds at 5000 feet? I haven't tested this well enough to know first hand, but it does make sense that high RH would translate to clouds, (depending upon temp).

A very useful addition to our toolset is a program called LAMP, (Localized Aviation MOS Program). LAMP basically takes the GFS data and localizes it to a predetermined number of locations in each state, and provides much needed information in enough time, (3 days ahead), that we can make go-no go decisions. LAMP actually outputs a table of data, but another website takes that data and turns it into a graphical representation. You can find that website at this location: <http://www.usairnet.com/cgi-bin/launch/code.cgi?Submit=Go&state=ID> Just remember to pick the state first, hit "go" and then pick one of the forecasted locations. There is another website that uses this same MOS data and develops a graphical map of wx detail. <http://www.nws.noaa.gov/mdl/forecast/graphics/MAV/>. If you're interested in cloud cover, choose the Ceiling Height/Sky Cover drop down box, and choose Ceiling Height. Also note on the top of this page that you can choose different model output. I encourage you to consider the NAM and GFS models and note the differences. Neither model works all the time - welcome to the "probability" of weather - not certainty.

**NWS Area Forecast Discussion** map page to validate your assessment of the GFS model, and gain new insight from the meteorologist's interpretations. These discussions are divided amongst CWA's (County Warning Areas). By clicking on the map, you can read local NWS views on upcoming weather events.

<http://www.wrh.noaa.gov/zoa/cwa.php>

### **Short-range tools**

Another good source for interpretation of upcoming weather for the continental US. NCEP Short Range Forecast

<http://www.hpc.ncep.noaa.gov/discussions/pmdspd.html>

## Lifted Index

Lifted Index maps will predict areas of unstable air. The higher negative value, the more instability in the atmosphere. Remember, instability translates to two important factors for us as pilots - areas that are prone to convective activity, (thunderstorms), and turbulence. As you would expect, instability tends to be worse in the afternoons. <http://www.emc.ncep.noaa.gov/mmb/namsvrfcst/> Scroll down the boxes on the left until you get to the lifted index box and select the time frame.

Beside these websites I encourage everyone to also study the ADDS website to see TAFs, METARs, and especially AIRMETS. <http://www.aviationweather.gov/adds/>

ADDS has a new website they are experimenting with - <http://weather.aero/tools/desktopapps/hemstool> - this site is designed for Helicopter Emergency Medical Services and includes many elements we worry about. Try it out - you download it to your computer and run it as a Java app, which speeds up the data download.

In addition, the MVFR website can be helpful in sorting out where there may be fog – but not that useful in predicting it. You can find that satellite image here: [http://aviationweather.gov/data/obs/sat/goes/vis\\_goesW.jpg](http://aviationweather.gov/data/obs/sat/goes/vis_goesW.jpg)

**Bill McGlynn's Weather Links from previous classes.**

[Skyvector.com](http://skyvector.com/) combines sectional maps with METARs and TAFs <http://skyvector.com/>

Visible and IR Satellite <http://www.wrh.noaa.gov/satellite/?wfo=boi>

Fog Satellite <http://adds.aviationweather.gov/satellite/> Choose "Western US" under second bullet

NASA Sat for close inspection (set at 480 and 140 for

Idaho) <http://weather.msfc.nasa.gov/GOES/goeswestpacus.html>

Charlie's Wx Site – Several WX Maps weather and pilot related links

<http://www.avweather.com/>

Idaho Forecast Tables

<http://www.wrh.noaa.gov/boi/forecast.php>

NOAA Graphical Forecast

<http://www.weather.gov/mdl/synop/gridded/sectors/conusWeek.php?expandweek=ON#tabs>

Fog Sat for Western US (also shows cloud cover at METAR reporting stations)

<http://adds.aviationweather.gov/satellite/> Choose "Western US" under second bullet

Estimating cloud bases quick rule of thumb, (this might not work all the time and I certainly wouldn't bet my life on it – like everything else about weather, there are lots of exceptions, this one may only work for cumulous clouds).

Temp (Celsius) – DP (Celsius) / 2.5 x 1000 = estimated cloud bases AGL

(If you use Fahrenheit, divide by 4.5 instead of 2.5).

So if you're estimating MYL, and the METAR looks like this...

M01/M06

The formula would be (5)/2.5 x 1000 = 2000 ft AGL, but when I checked on this particular day, the ASOS was reporting clear, but of course there could have been scattered clouds in the area with bases of about 2000ft. Also check out this web-based calculator - <http://www.csgnetwork.com/estcloudbasecalc.html>

**Pilot Resources via the Web**  
**Flight Training Magazine Motto: A Good Pilot Is Always Learning**  
**Updated 11/21/2011**

There are so many aviation related web sites, a person could spend full time on the computer and/or smart phone and never fly. However, as you all probably know, the web offers great resources for pilots, from weather, flight planning, training, education, entertainment, and much more. I've listed some that I use or have come across. I'm sure there are many more, and if you have some good ones, please let me know.

**On Line WX** – Several on line sources can give you the same information you can obtain from a standard weather briefing that can help visualize and interpret weather systems, however you should still call for an official weather briefing at 1-800-WX-BRIEF (1-800-992-7433) to get the most update information (Notams & TFR's) and interpretation of weather systems.

NavMonster: <http://www.navmonster.com/> - Very friendly and easy to use. Presents WX along the route you designate, in plain English. Graphical Airmets/Sigmets/Prog Charts, NOTAM's, TFR's also airport directory's/ Goggle Earth maps, fuel, lodging.

**Good visual tools, especially radar and satellite looping**

NOAA ADDS Aviation Digital Data Service: <http://www.aviationweather.gov/adds/>

NOAA Std Briefing: [http://aviationweather.gov/std\\_brief/](http://aviationweather.gov/std_brief/) (a subset of ADDS)

<http://www.eldoradocountyweather.com/current/hamrad2/12/usradar.html> (US Radar - Vivid Graphics)

<http://weather.msfc.nasa.gov/GOES/goeswestpacusir.html> (Infared/Visible/Water Vapor)

<http://www.wrh.noaa.gov/zoa/mwmap3.php?map=usa> (Entire US Metar/TAF status)

DUAT(s) is the FAA's Direct User Access Terminal Service for pilots. There are two providers of this service; DTC Duat [www.duat.com](http://www.duat.com) or CSC Duats [www.duats.com](http://www.duats.com) . These are the only sources that are FAA certified for obtaining a flight briefing. This service provides access to weather briefing, flight planning, and flight plan filing.

AOPA: <http://www.aopa.org/members/wx/> Requires membership, links to DUAT(S) for filing flight plan.

Aviation WX links by Lester: <http://metsun1.met.sjsu.edu/~lester/faq.html> - Good FAQ's on weather

Scott Dennstaedt's Aviation Weather Workshop: <http://avwxworkshops.com/> - Scott presented a training class in May 2009.

**TFR-s** Many flight planning tools overlay TFR's on their chart or map view. Use caution, new TFR's pop up and Flight Service is the only place to verify if a particular TFR is active or if new ones have appeared.

NIFC – TFR's: <http://airspace.nifc.gov/mapping/nifc/index.cfm> (Can print section of Sectional with TFR)

FAA – TFR: [http://tfr.faa.gov/tfr\\_map\\_ims/html/index.html](http://tfr.faa.gov/tfr_map_ims/html/index.html)

NavMonster [www.navmonster.com](http://www.navmonster.com) Shows TFR's overlay on "Map" tab.

**Web Cam's:** Web cams give us a eye in the sky when were not there, or help determine if we want to be there or not.

ID State: Map with highway web cam links: <http://511.idaho.gov/default.asp?display=cams&area=&textOnly=>

Johnson Cr: <http://www.ruralnetwork.net/%7Eyellowpinem/>

Flying B / Root Ranch: <http://www.flyingresorttranches.com/>

Stanley: <http://www.sawtoothcamera.com/>

McCall: <http://www.mccall.id.us/government/departments/airport/airport.html>

Idaho Web Cams: <http://www.northwestwebcams.com/idaho-web-cams.shtm> - Also Oregon/Wash/Mont

Smiley Cr.: [http://birice.vaisala.com/photos/03778B5F\\_06013F28\\_cam1.jpg](http://birice.vaisala.com/photos/03778B5F_06013F28_cam1.jpg)

Bogus Basin: <http://www.bogusbasin.org/web-cameras/index.aspx> (good view of Mtn's North of BOI)

Brundage Mtn: <http://www.brundage.com/the-mountain/live-web-cams/>

Teton Mtn-Driggs: <http://www.tetoncam.com/>

Sulphur Cr. <http://idahoaviationfoundation.org/airstrips.php?webcam=12>

Sulphur Cr. Weather: <http://sulphurcreekbranch.com/pilots/> Caution – the winds are shielded by trees and terrain and most likely are stronger than reported.

### **Training and Interesting Sites**

FAA: <http://www.faa.gov/> - A new friendly format.

FAA Learning Center: [http://www.faa.gov/training\\_testing/training/](http://www.faa.gov/training_testing/training/) - Free publications and training materials.

FAA News Magazine: [http://www.faa.gov/news/safety\\_briefing/](http://www.faa.gov/news/safety_briefing/)

NTSB Accident database: <http://www.ntsb.gov/aviationquery/index.aspx>

N-Number Look Up: [http://registry.faa.gov/aircraftinquiry/NNum\\_Inquiry.aspx](http://registry.faa.gov/aircraftinquiry/NNum_Inquiry.aspx)

AOPA Air Safety – On-line training courses: [http://www.aopa.org/asf/online\\_courses/](http://www.aopa.org/asf/online_courses/)

AOPA Air Safety – On-line Short Quizzes: <http://www.aopa.org/asf/asfquiz/prevquizzes.cfm>

AOPA Air Safety – Webinars: <http://www.aopa.org/asf/webinars/>

AOPA Aircraft Owners and Pilots Association: - Everything else: [www.aopa.org](http://www.aopa.org)

AOPA – Real Stories: <http://www.aopa.org/asf/pilotstories/index.html>

FAA Boise FSDO Flight Standards District Office: [http://www.faa.gov/about/office\\_org/field\\_offices/fsdo/boi/](http://www.faa.gov/about/office_org/field_offices/fsdo/boi/)

Idaho Division of Aeronautics: <http://www.itd.idaho.gov/aero/>

Oregon Dept of Aviation: <http://www.oregon.gov/Aviation/index.shtml>

Idaho Aviation Association: <http://www.flyidaho.org>

Written Exam Practice: [www.mywrittenexam.com](http://www.mywrittenexam.com)

Flight Tracker: <http://flightaware.com/> Track your own flight if a Flt Plan is filed – tracks airspeed/altitude (also for smart phones/iPad)

iPilot.com: <http://www.ipilot.com/> - An assortment of Aviation Info & products

Nampa Airport: <http://www.nampaairport.org/airport/index.html> (also has webcam)

Google Earth - Plan and Fly a virtual flight: <http://earth.google.com/>

Angel Flight: [www.angelflightwest.org](http://www.angelflightwest.org) – Charity Flight Organization

A huge list of Aviation Resources including lots of free publications:

[http://www.bruceair.com/aviation\\_resources/aviation\\_resources.htm](http://www.bruceair.com/aviation_resources/aviation_resources.htm)

### **YouTube Video & Podcasts – MP3 format for ipod or MP3 players.**

Free Pilot tip of the week: <http://www.pilotworkshops.com/>

Student Pilots Journal: <http://www.studentpilotjournal.com/>

The finer points of flying: <http://www.thefinerpoints.net/> - video's and podcasts

YouTube – How to Fly an Airplane: Quality varies

[http://www.youtube.com/results?search\\_type=&search\\_query=how+to+fly+an+airplane&aq=f](http://www.youtube.com/results?search_type=&search_query=how+to+fly+an+airplane&aq=f)

University of N. Dakota Aviation Private/Commercial/Instrument training podcasts: - Excellent

Download itunes here if you don't have it. <http://www.apple.com/itunes/download/>

Then go to this link: <http://itunes.apple.com/WebObjects/MZStore.woa/wa/viewPodcast?id=120980516>

You should be able to click on any of these links from this document to pull up the web page.

Enjoy, Fly Safe and Have Fun,

Jim Hudson

Membership & Training Director