



WeatherXplore

Augmented Reality Application

PEGASAS Who we are:

The Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) is a Federal Aviation Administration (FAA) Center of Excellence for General Aviation. The mission of PEGASAS is to enhance general aviation safety, accessibility, and sustainability by partnering the FAA with a national network of world-class researchers, educators and industry leaders. <https://www.pegasas.aero>

The WeatherXplore demo app is sponsored by the FAA Weather Technology in the Cockpit (WTIC) program, which is part of the PEGASAS Center of Excellence. Designed by Western Michigan University and developed in partnership with Tietronix Software and Fly8MA.com.

Connect digital content with aviation educational material to compliment FAA Aviation Weather Services Advisory Circular [AC 0045-H chg. 1](#) and the FAA Aviation Weather Advisory Circular [AC-06B](#) to aid in the correlation of weather subjects.

For more information or feedback please contact

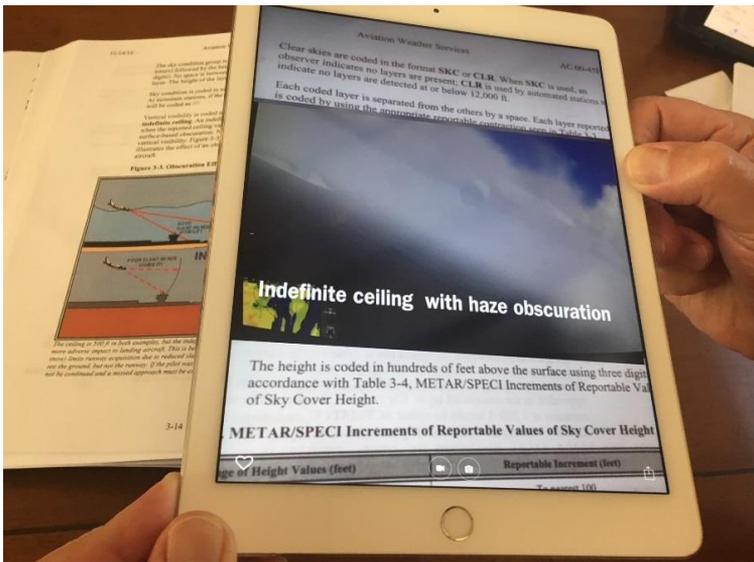
Email: lori.brown@wmich.edu



Look for the WeatherXplore



logo. Scan images with the demo app with your phone or tablet to see augmented reality made easy.



1. Download WeatherXplore APP
2. Allow camera access to scan demo images in this booklet or the same images published in AC 0045h chg 1. AC 00-6B or make your own customized instructional material with the images.

Scan images from AC 00-45H chg. 1

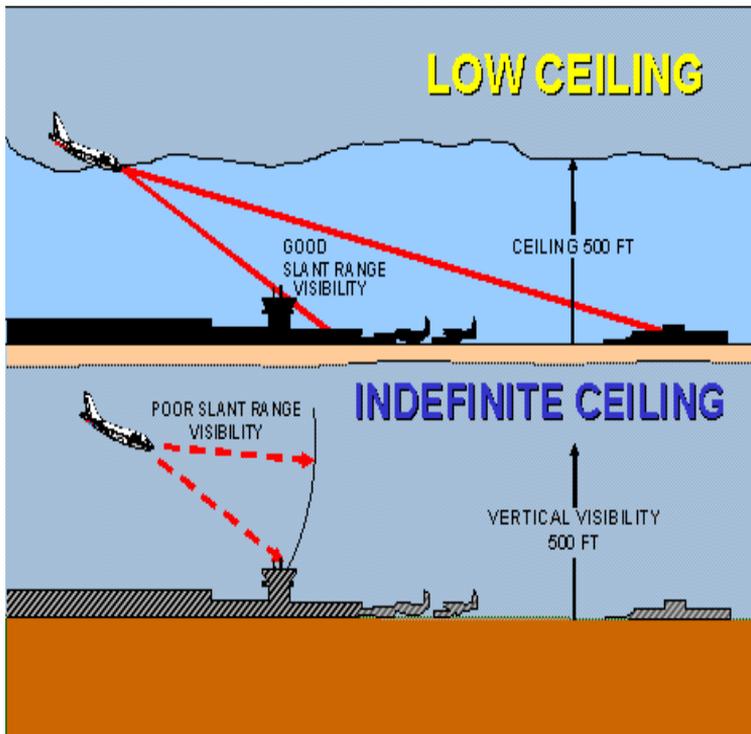


Figure 3-12. Obscuration effects on Slant Range Visibility. (pg. 3-3) This figure links to a video showing a pilots' vision in slant range visibility inflight. The ceiling is 500 ft. in both examples, but the indefinite ceiling example (bottom) produces a more adverse impact to landing aircraft.

Ceiling and Visibility Display at 1325 UTC 19 Jun 2015

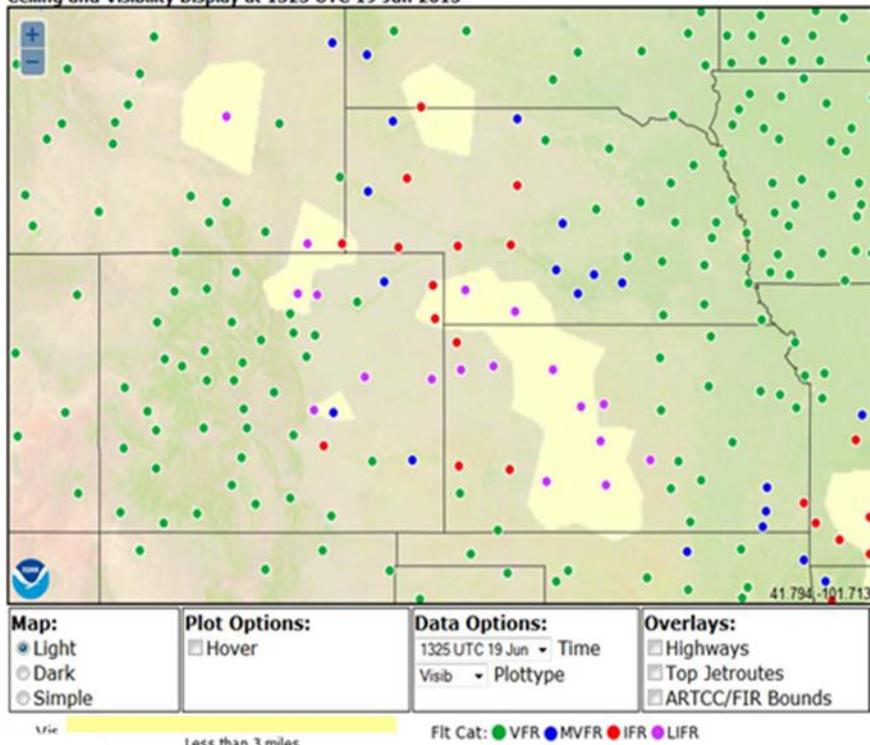


Figure 4-15. (pg. 4-15) image links to the respective live URL

Ceiling and Visibility Display at 1340 UTC 19 Jun 2015

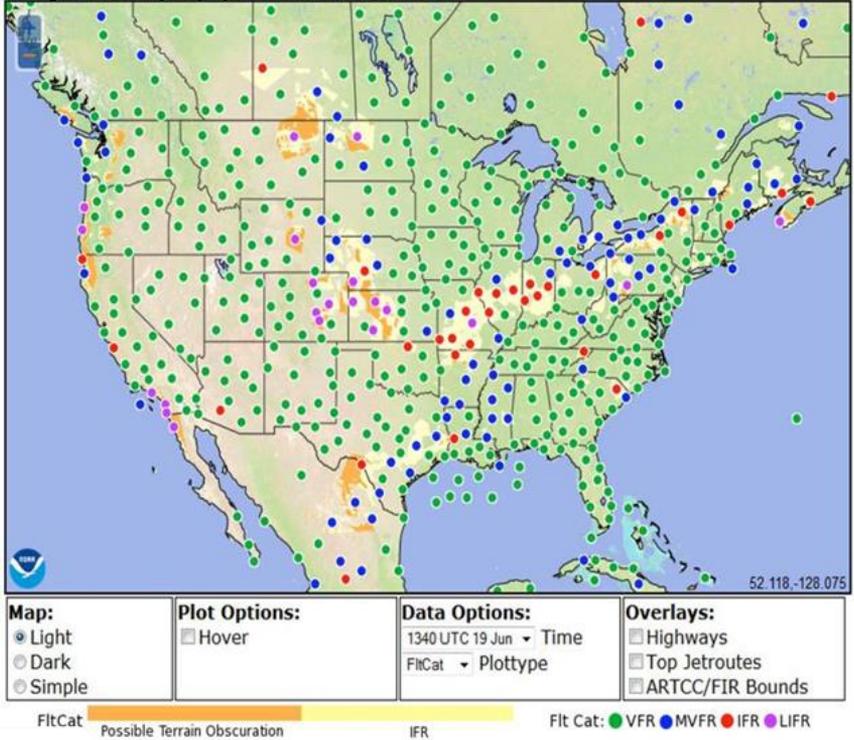


Figure 4-14 (pg. 4-15) image links to an interactive experiential educational module. Video courtesy of Fly8Ma.com.

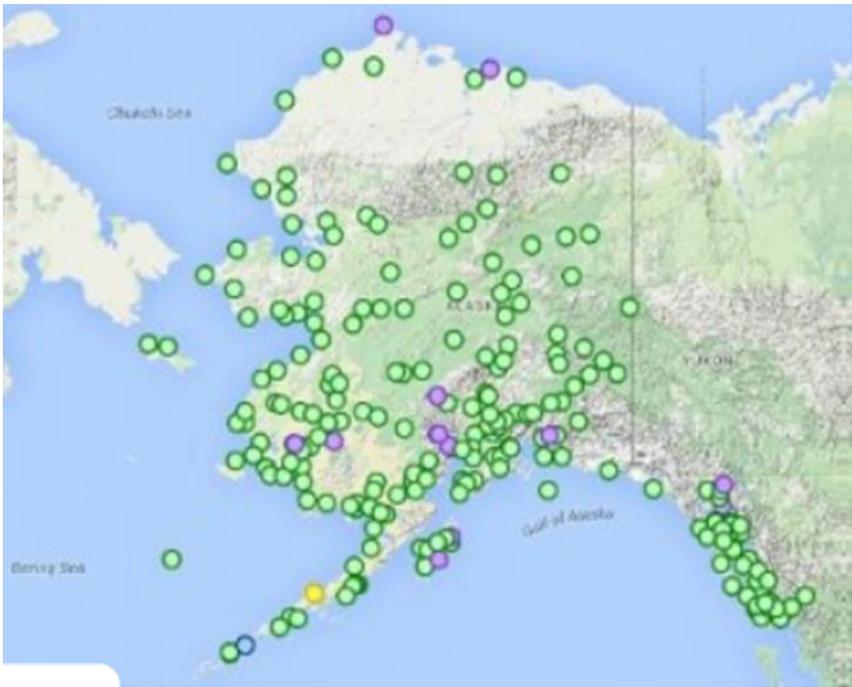


Figure 3-46. Map of FAA's Aviation Weather Camera Network in Alaska. (pg. 3-83) Images are generally updated every 10 minutes. The time of the last update is indicated on each image. Actual site conditions may differ from displayed images due to a variety of reasons (e.g., rapidly changing weather conditions, image update frequency, optical distortion). This image links to the interactive URL so the user can see the cameras in real time at <https://avcams.faa.gov/index.php>.

Center Weather Service Unit Products



Figure 5-20. Center Weather Service Unit (CWSU) Areas of Responsibility. This figure links to an instructional video (with permissions) from Fly8MA.com about CWA weather products. A CWA is an aviation weather warning for conditions meeting or approaching national in-flight advisory (AIRMET, SIGMET, or Convective SIGMET) criteria. The CWA is primarily used for aircrews to anticipate and avoid adverse weather conditions in the enroute and terminal environments.

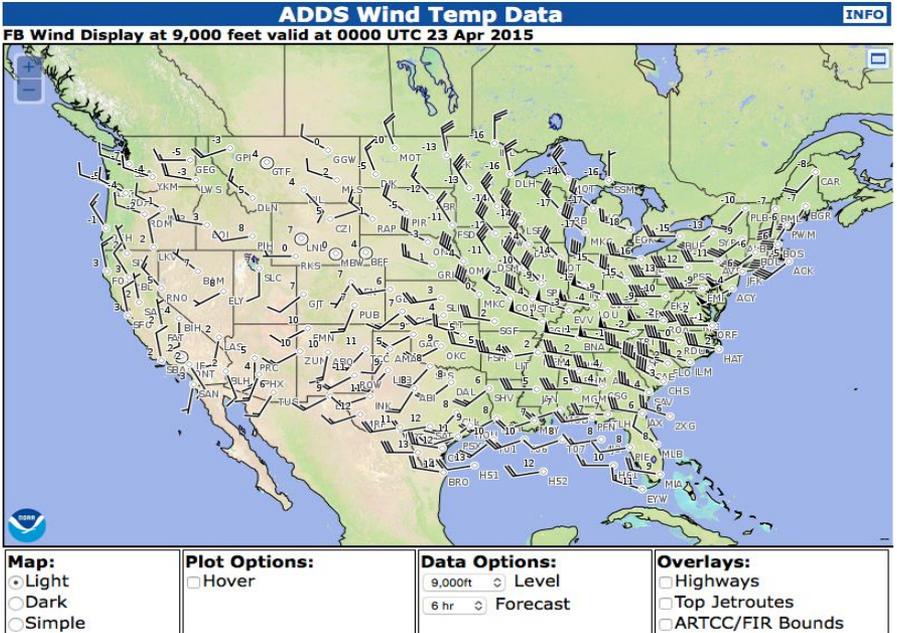


Figure 5-51. FB Wind and Temperature Aloft Interactive Display Example. (pg. 5-109) Links to the respective URL.

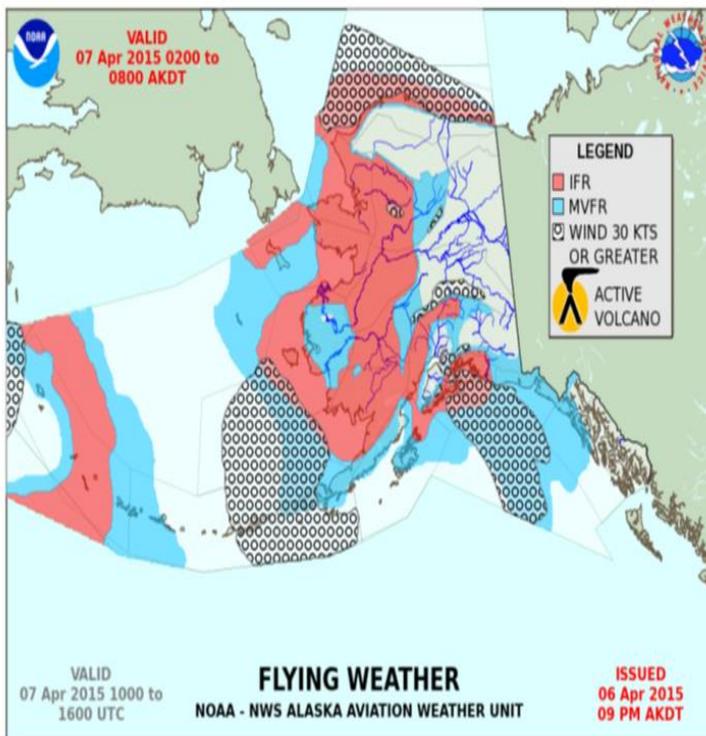


Figure 5-4., Alaskan Graphical Area Forecast (FA) (pg. 5-79)—Flying Weather Example) illustrates areas of prevailing Marginal VFR (MVFR) or IFR conditions, strong winds (30 kts sustained or greater), and any active volcano in Alaska. This figure links to an educational video produced by FLY8MA.com about Graphical Area Forecast products.

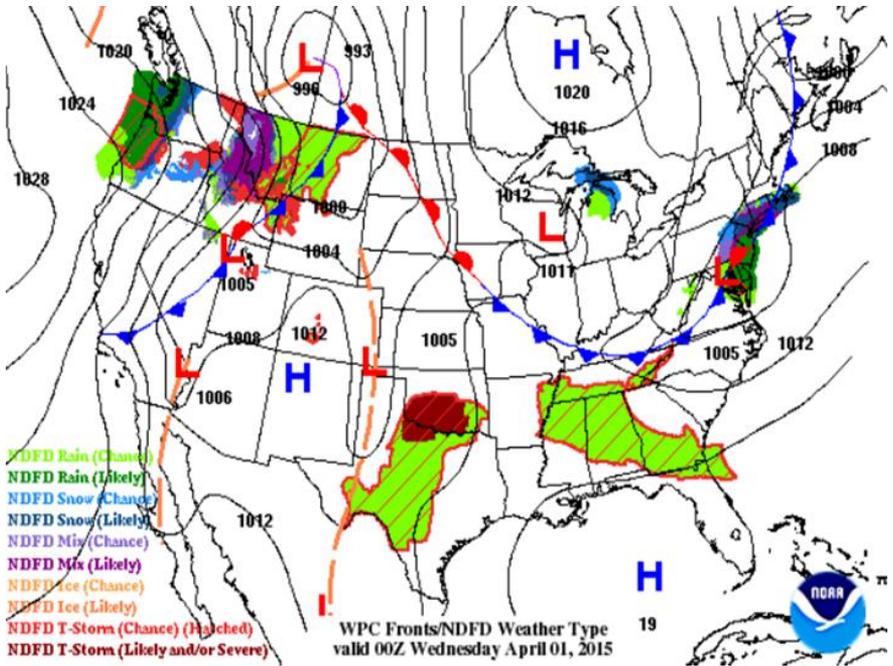


Figure 5-55. NDFD Surface Prog Forecast. (pg 5-118)
 Example of surface pressure systems, fronts, and precipitation for a 2½-day period. Each chart depicts a “snapshot” of weather elements expected at the specified valid time. This figure links to an educational video provided by FLY8MA.com to help the student understand this type of chart.

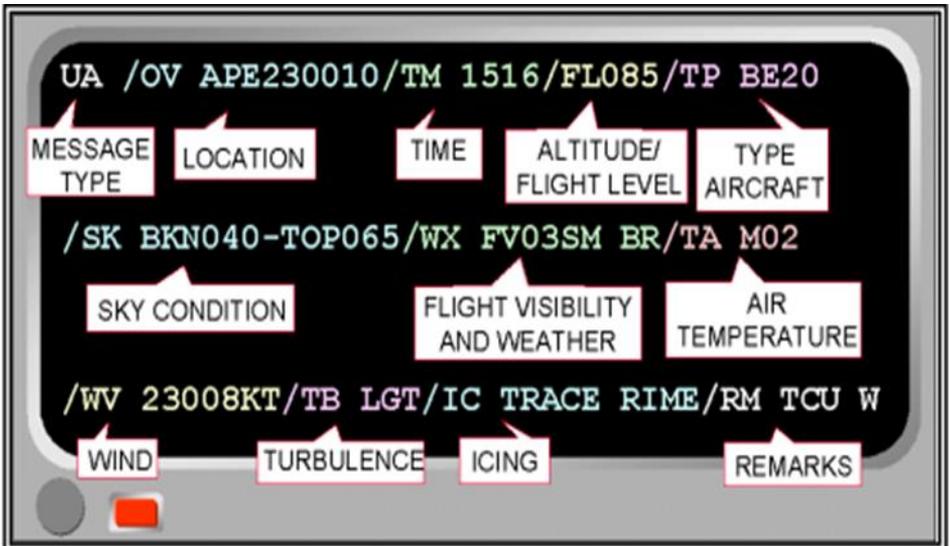


Figure 3-5. Pilot Weather Report (pg. 3-27). Links to interactive PIREPS.

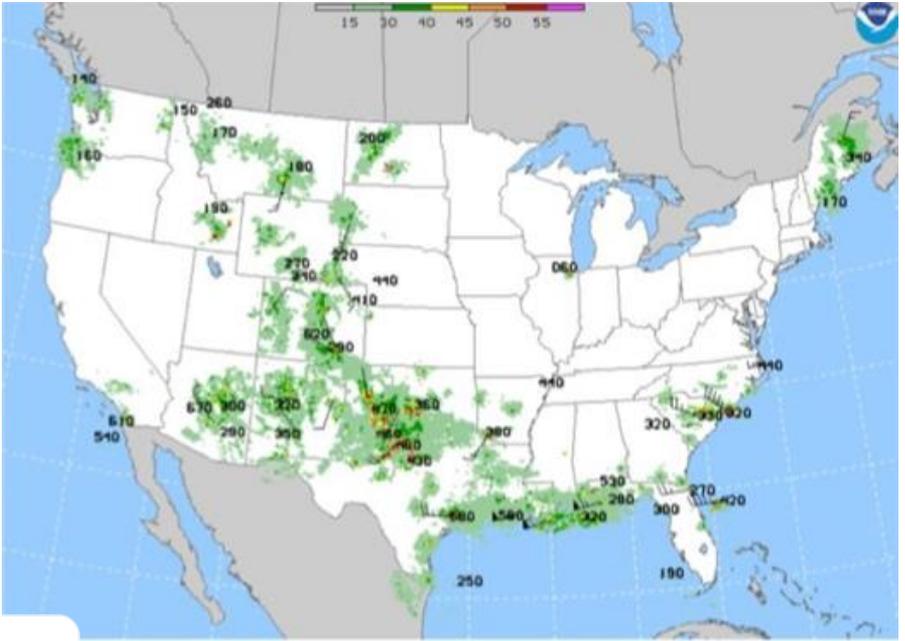
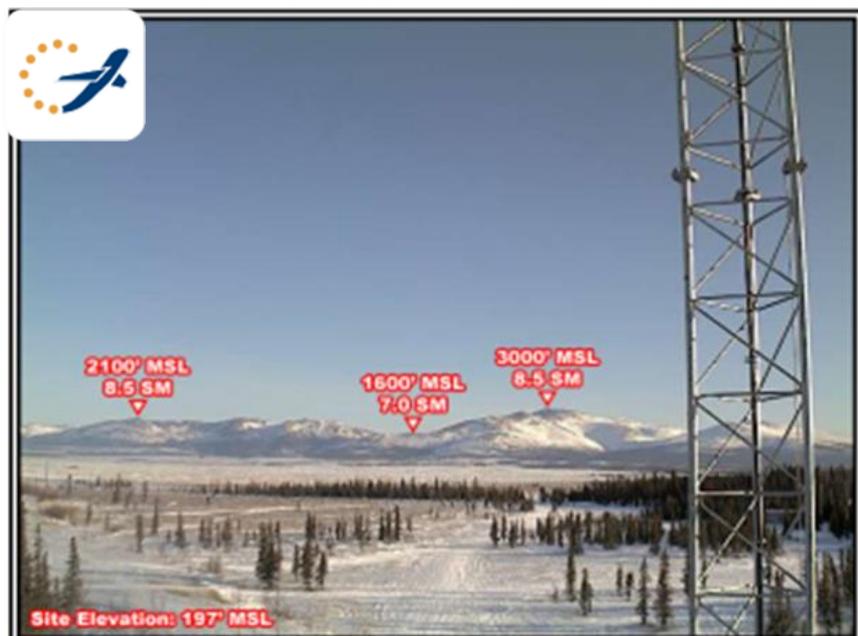


Figure 3-17. Radar coded Message (RCM) Display



Alaska Figures 46-49

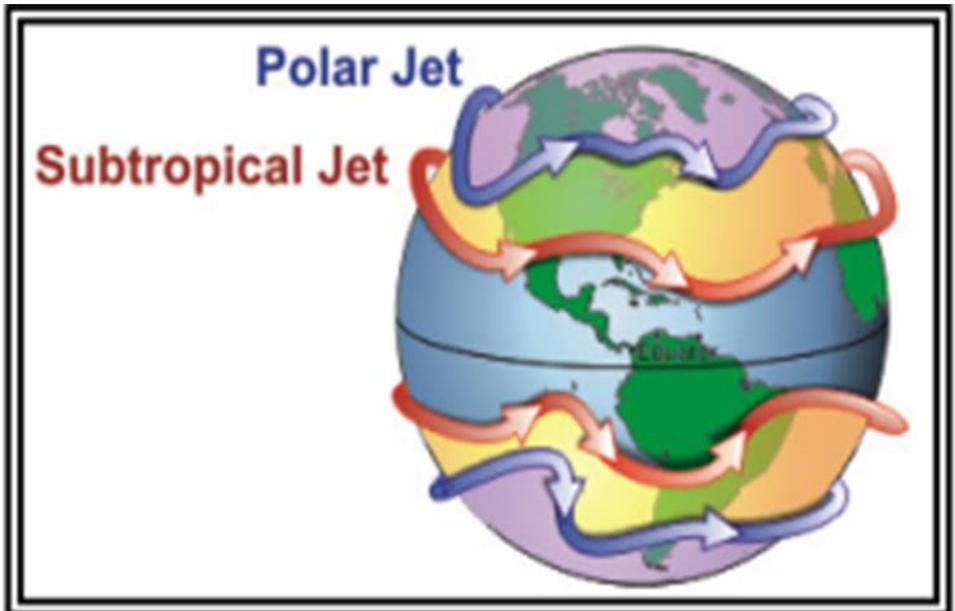


Figure 8-5. Polar and Subtropical Jet Stream. AC 006B (pg. 8-4.) The actual appearance of jet streams results from the complex interaction between many variables, such as the location of high and low pressure systems, warm and cold air, and seasonal changes. They meander around the globe, dipping and rising in altitude/latitude, splitting at times and forming eddies, and even disappearing altogether to appear somewhere else. This figure links to the respective NASA video.

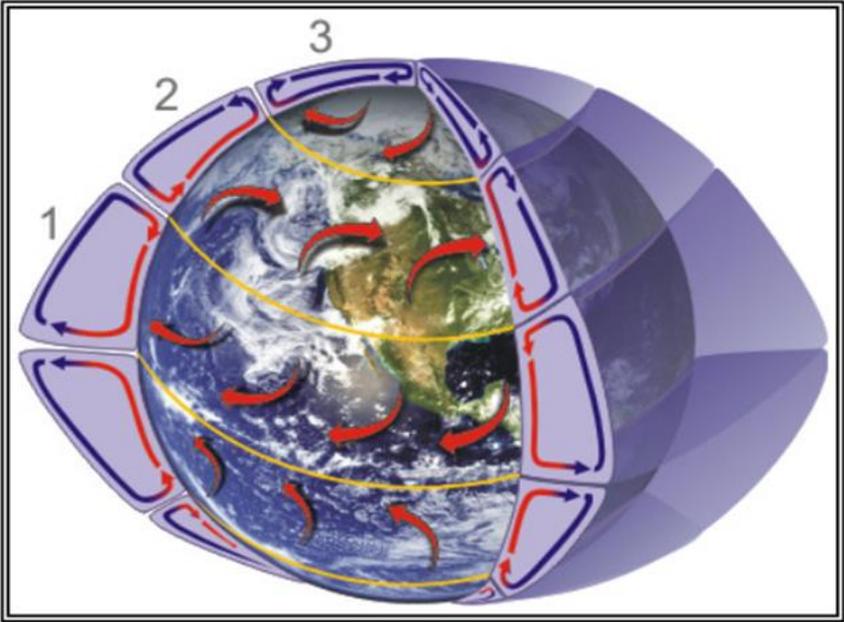


Figure 8-2. Earth Circulation System. (pg. 8-2). Jet streams are relatively narrow bands of strong wind in the upper levels of the atmosphere. The winds blow from west to east in jet streams, but the flow often meanders southward and northward in waves. Jet streams follow the boundaries between hot and cold air. Since these hot and cold air boundaries are most pronounced in winter, jet streams are the strongest for both the Northern and Southern Hemisphere winters. This figure links to the respective NASA video.

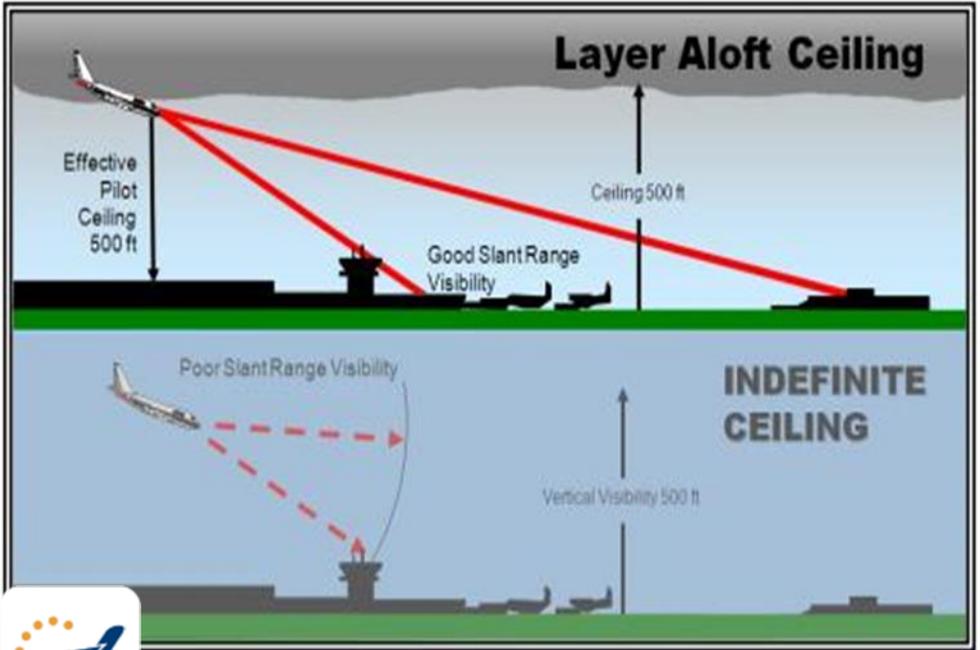
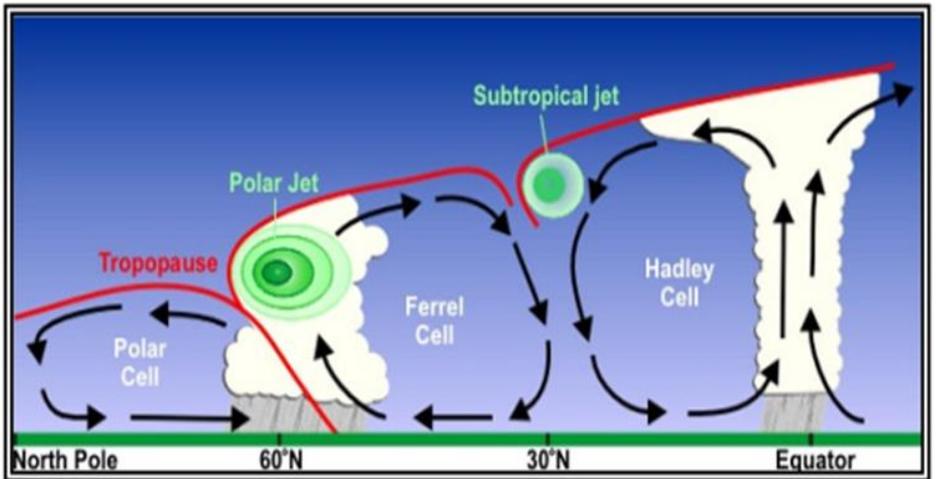


Figure 16-6 Layer Aloft Ceiling vs. Indefinite Ceiling. AC00-6B (pg. 16-9) and Figure 8-4 below.

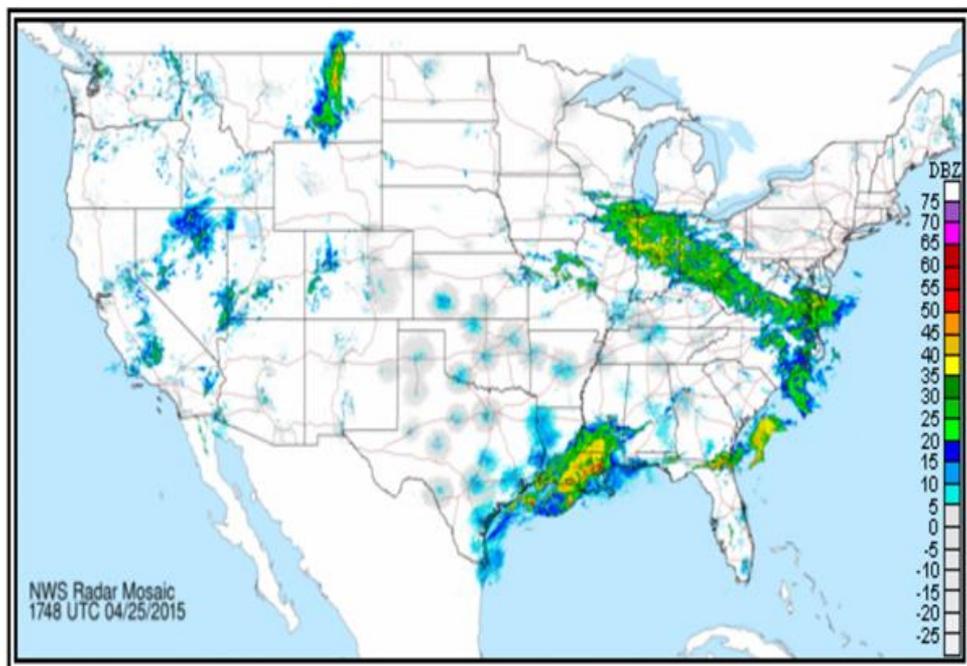


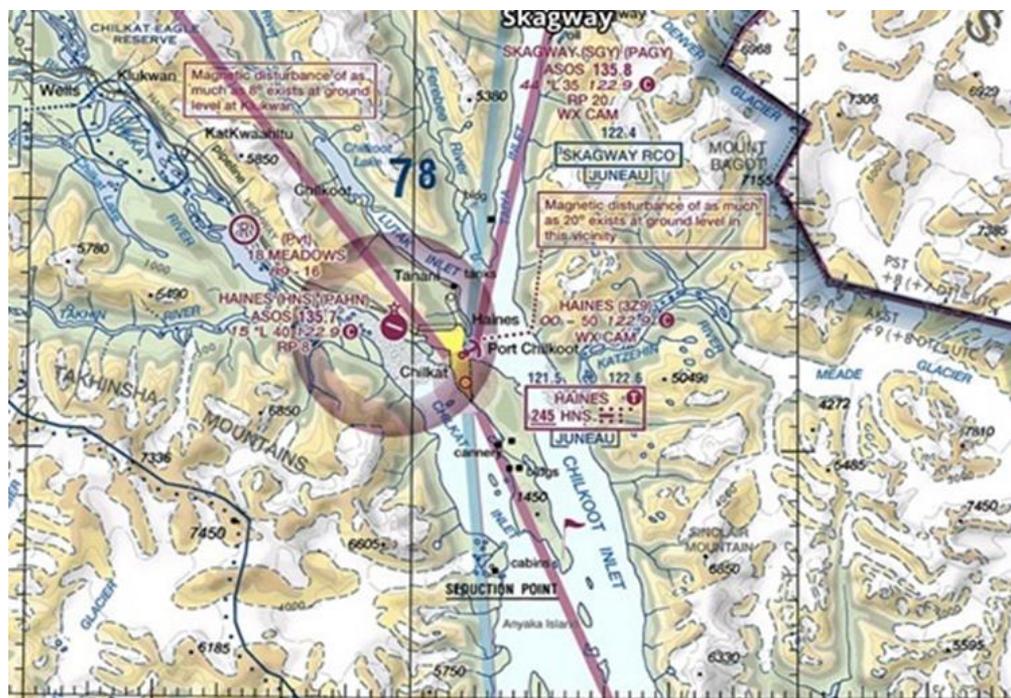
Ceiling and Visibility Display at 1340 UTC 19 Jun 2015



Map: <input checked="" type="radio"/> Light <input type="radio"/> Dark <input type="radio"/> Simple	Plot Options: <input type="checkbox"/> Hover	Data Options: 1340 UTC 19 Jun ▾ Time FltCat ▾ Plottype	Overlays: <input type="checkbox"/> Highways <input type="checkbox"/> Top Jetroutes <input type="checkbox"/> ARTCC/FIR Bounds
FltCat Possible Terrain Obscuration IFR		Flt Cat: ● VFR ● MVFR ● IFR ● LIFR	







Create custom videos or tutorials for difficult terrain or special qualification areas. This is just a sample of the capability.

Estimating Visibility



Link existing training content to Custom images.



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