

U.S. COAST GUARD AUXILIARY



Obtaining and Interpreting Aviation Weather

District 11N Observers

3/26/2005

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AIR CREW'S Role

Access Aviation & Marine Weather, Suggested Site
<http://www.aviationweather.gov/adds>



Aviation Weather Topics

- Obtaining Weather Information
- Printed Weather Reports and Forecasts
- Graphic Weather Charts
- Graphic Forecast Charts
- Severe Weather Reports and Forecasts
- Other Aviation Weather Information Sources



Obtaining Weather Information



Aviation Weather Center
National Weather Service



aviationweather.gov

Welcome to CSC DUATS on the Web
www.duats.com

- Flight Service Station (FSS) 1 800 WX BRIEF



www.lattery.com/pilotwx



weather.unisys.com/aviation



Printed Weather Reports and Forecasts

- Aviation Routine Weather Report (METAR's)
- Terminal Aerodrome Forecast (TAF's)
- Aviation Area Forecast (FA's)
- Radar Weather Reports (SD's)
- Winds and Temp Aloft Forecast



Weather Phenomena Codes

Weather Descriptor

Weather Phenomena

MI - shallow

DZ - drizzle

RA - rain

BC - patches

SN - snow

GR - hail

DR - drifting

BR - mist

FG - fog

BL - blowing

FU - smoke

DU - dust

SH - showers

SA - sand

HZ - haze

TS - thunderstorm

PO - dust devil

SQ - squall

FZ - freezing

FC - funnel cloud

SS - sandstorm

DS - duststorm

GS - small hail pellets

PL - ice pellets

IC - ice diamonds

VA - volcanic ash



Weather Phenomena Codes

Sky Condition

% Obscured

SKC (sky clear)

= No cloud

FEW (few)

= 1 to 2
(eights)

SCT (scattered)

= 3 to 4
(eights)

BKN (broken)

= 5 to 7
(eights)

OVC (overcast)

= 8
(eights)



Aviation Routine Weather Report (METAR's)

An observation of the surface weather reported in a standard format

Information Sequence:

Station Identifier, Time, Wind, Visibility, Weather, sky condition, Temp/Dewpoint,
Altimeter, Remarks

KSFO 152043Z 07007KT 3SM -RA BR FEW007 BKN014 OVC036 13/13
A2997 RMK AO2 RAB1958

KOAK 151953Z 11006KT 10SM SCT027 OVC037 14/13 A3000 RMK AO2
RAE25

KLVK 152044Z 04010KT 2 1/2SM -RA BR SCT029 OVC039 12/11 A2996
RMK AO2 RAB26



Terminal Aerodrome Forecast (TAF's)

One of your best information sources for an estimate of what the weather will be

Information Sequence:

Station Identifier, Date/Time, Valid period, Forecast, Temporary Conditions, Probable Forecast

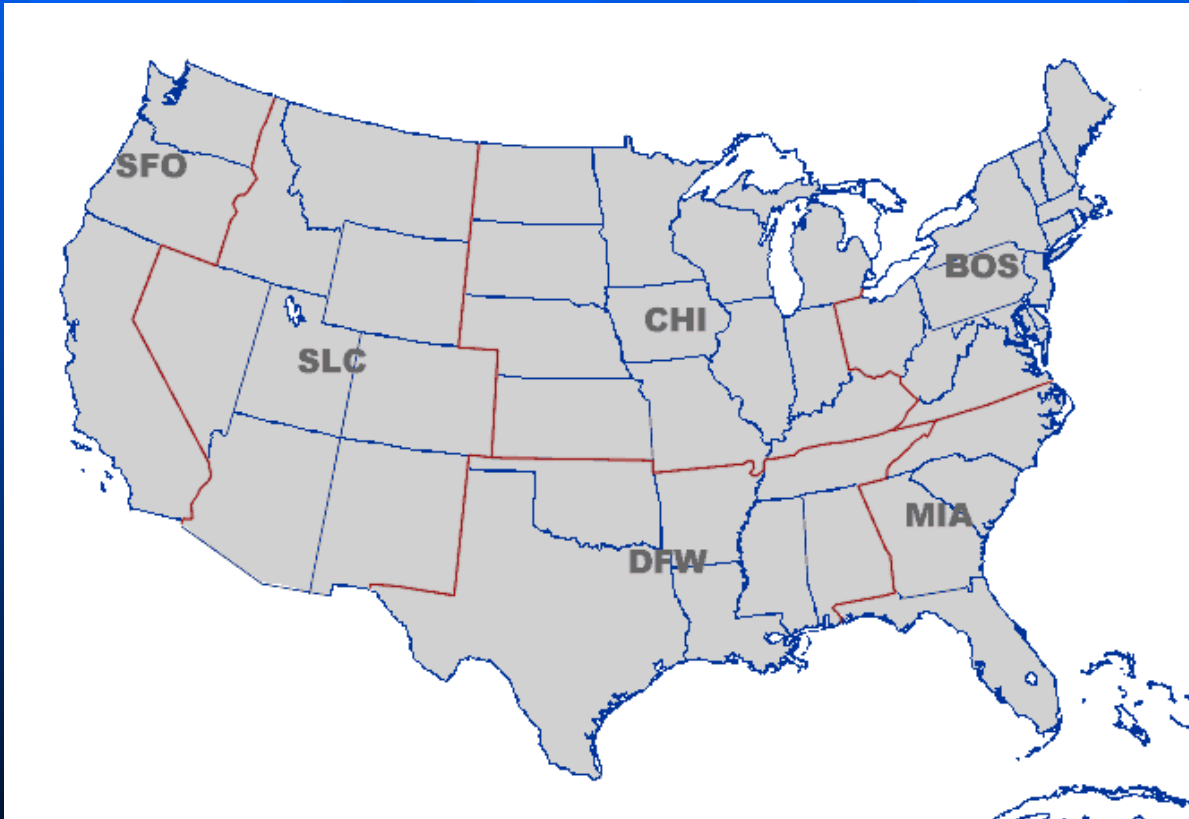
KSFO 151727Z 151818 10007KT 6SM -RA BR BKN035 OVC050
TEMPO 1822 1 1/2SM RA BR BKN015 OVC025 FM2300
12008KT P6SM - SHRA BKN050

KOAK 151727Z 151818 16007KT 6SM -RA BR BKN035 OVC050
TEMPO 1822 2SM RA BR BKN025 OVC035 FM2300 12008KT
P6SM - SHRA BKN050



Aviation Area Forecast's (FA's)

Covers general weather conditions over a wide region and helps determine conditions at airports which do not have TAF's





FA's Cont'd

Heading:

SFOC FA 151145

SYNOPSIS AND VFR CLDS/WX

SYNOPSIS VALID UNTIL 160600

CLDS/WX VALID UNTIL 160000...OTLK VALID 160000-160600

WA OR CA AND CSTL WTRS

Precautionary Statement:

SEE AIRMET SIERRA FOR IFR CONDS AND MTN OBSCN.

TS IMPLY SEV OR GTR TURB SEV ICE LLWS AND IFR CONDS.

NON MSL HGTS DENOTED BY AGL OR CIG.

Synopsis:

SYNOPSIS...ALF..UPR LVL TROF ACRS CNTRL MT/SRN ID/NRN NV WILL MOV
OVR NRN PLAINS 18-21Z. CLOSED LOW W OF CNTRL CA CSTL WTRS WILL
MOV LTL DURG PD AND CONT TO EJECT IMPULSES EWD ACRS CNTRL/SRN
PTNS CA/NV/UT/CO AND NRN AZ THRUT OTLK. SFC..STNR FNT WILL RMN
VCNTY CNTRL PTNS CA/NV/UT..NRN CO PD. OTRW HI PRES WILL CONT TO
BLD OVR NWRN PTN. BTR



FA's Cont'd

VFR Clouds and Weather:

NRN CA...STS-SAC-TVL LN NWD

CSTL SXNS...SCT015 BKN030-050 LYRD FL280. ISOL -SHRA. OCNL VIS 3-5SM BR. BECMG 1618 SCT-BKN040-060 BKN120. ISOL -SHRA.

OTLK...MVFR CIG SHRA.

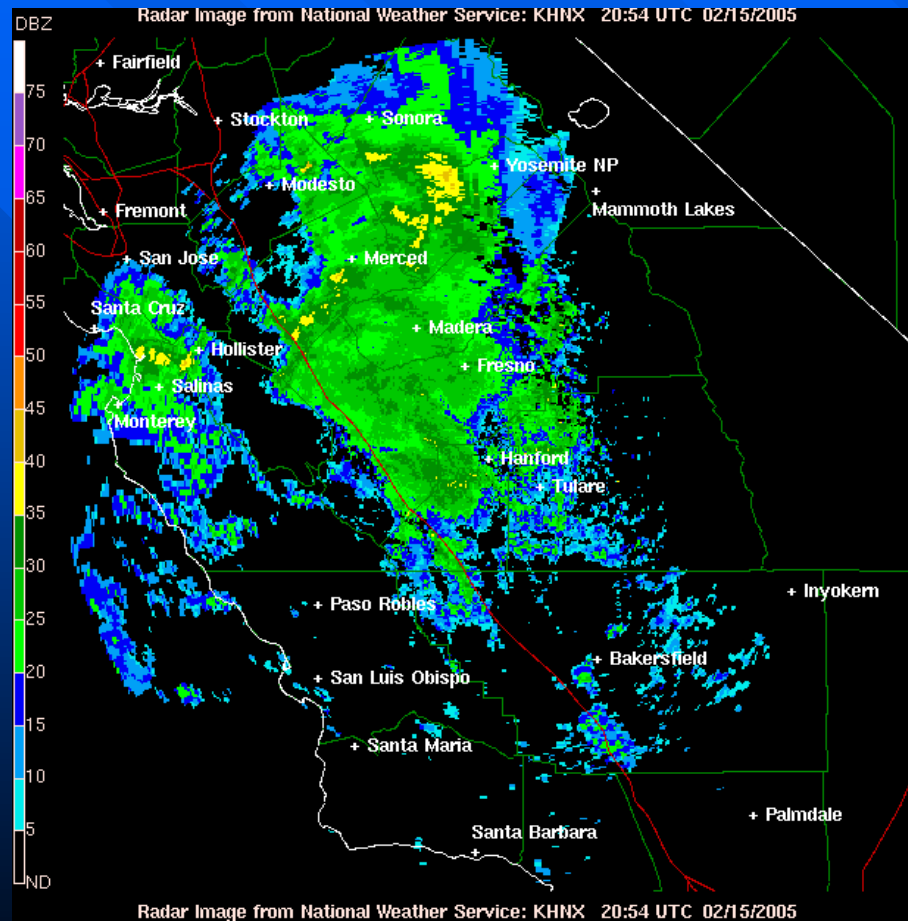
SAC VLY...SCT020 BKN030-050 LYRD FL280. OCNL VIS 3-5SM ISOL -RA BR. BECMG 1618 SCT025 BKN040-060. ISOL -SHRA. OCNL VIS 3-5SM BR. OTLK...MVFR CIG SHRA BR.

MTNS...BKN-OVC070-090 LYRD FL280. OCNL VIS 3-5SM ISOL -SN BR. BECMG 1618 BKN-OVC060-080. ISOL -SHSNRA. OTLK...MVFR CIG PCPN BR.



Radar Weather Reports (SD's)

General area's of precipitation, especially thunderstorms, are observed by radar





Winds and Temperature Aloft Forecast

Provides an estimate of the wind direction in relation to true north, wind speeds in knots and temperatures in °C at selected altitudes





Winds and Temperature Aloft Forecast

FD1US1DATA

BASED ON 151800Z

VALID 160000Z FOR USE 0000-0600Z. TEMPS NEG ABV 2400

FT	3000	6000	9000	12000	18000	24000	30000	34000	39000
FAT	1511	2006+03	2212-01	2216-06	2126-19	2129-32	204549	226353	23
SAC	1415	1711+03	2113-03	2118-08	2119-21	2038-33	185950	205554	23
SFO	1811	1817+03	1918-03	1921-08	2027-21	1834-34	184050	204750	23

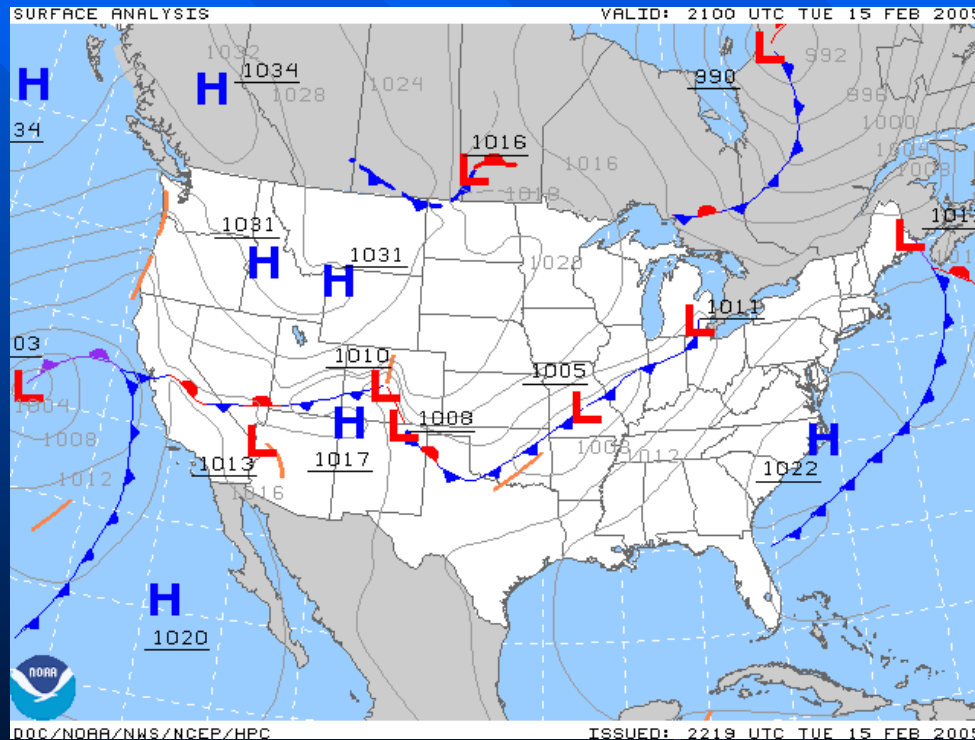


Graphic Weather Charts



Surface Analysis Chart

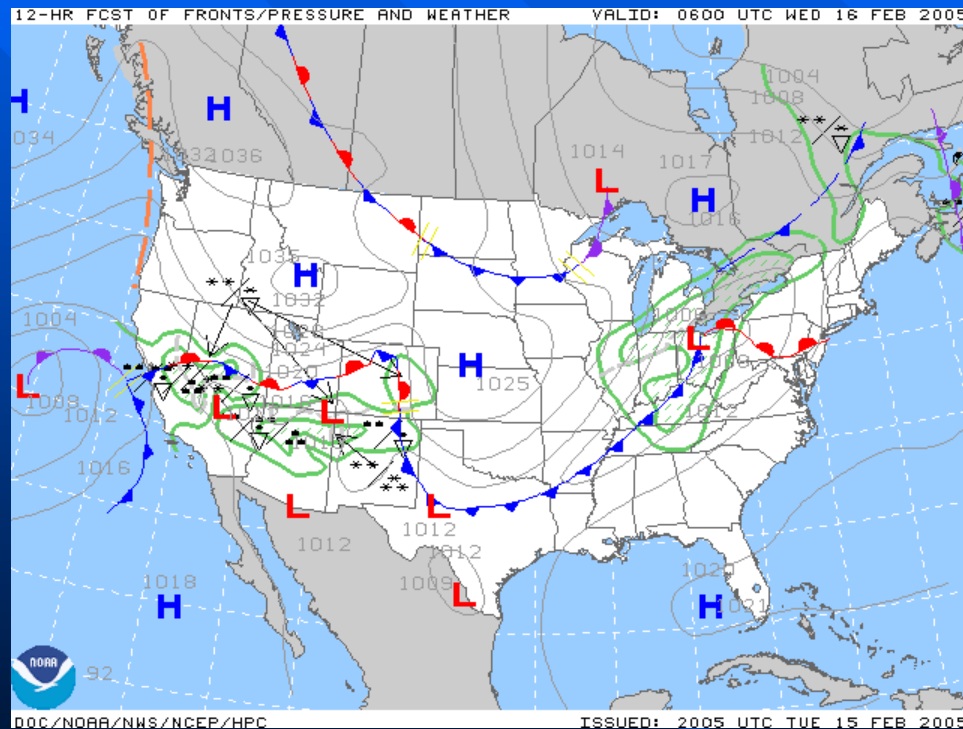
Depicts atmospheric pressure patterns at the earth's surface





Weather Depiction Chart

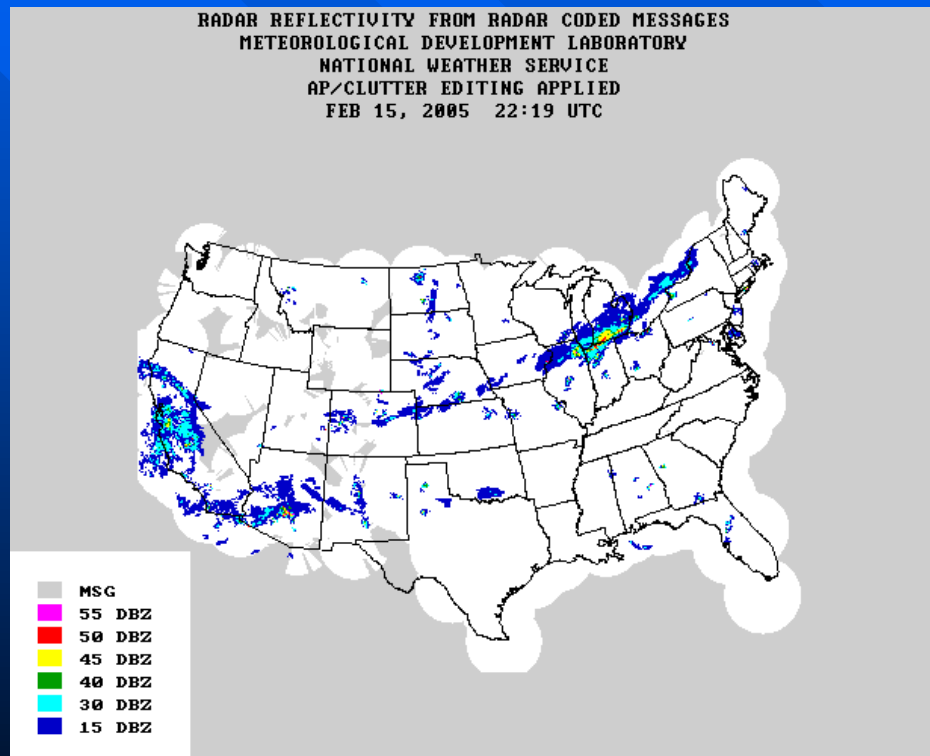
Provides an overview of favorable and adverse weather conditions





Radar Summary Chart

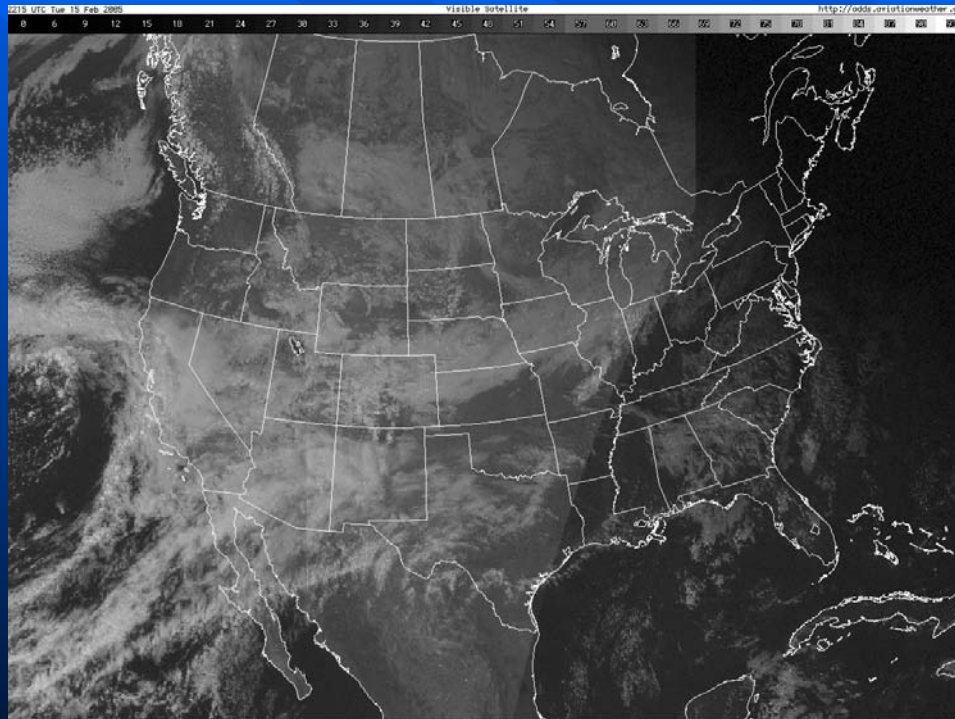
Depicts the location, size, shape, intensity of returns, intensity trends and movement





Satellite Summary Chart

Used primarily to determine the presence of clouds, cloud shape and texture



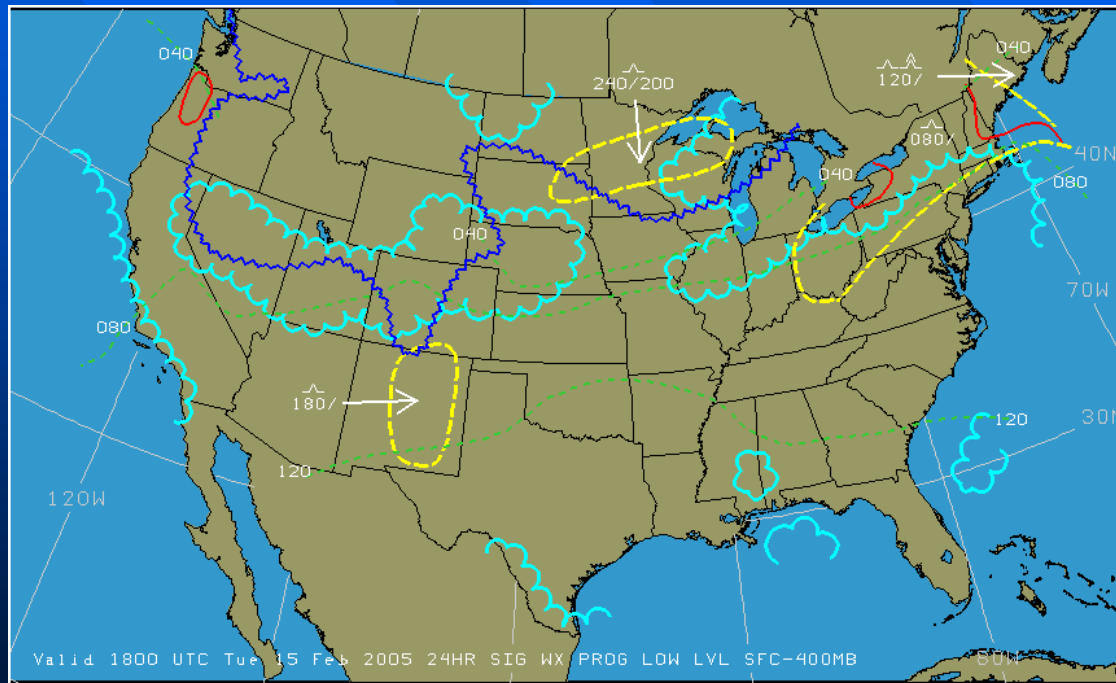


Graphic Forecast Charts



U.S. Low-Level Significant Weather Prog Chart

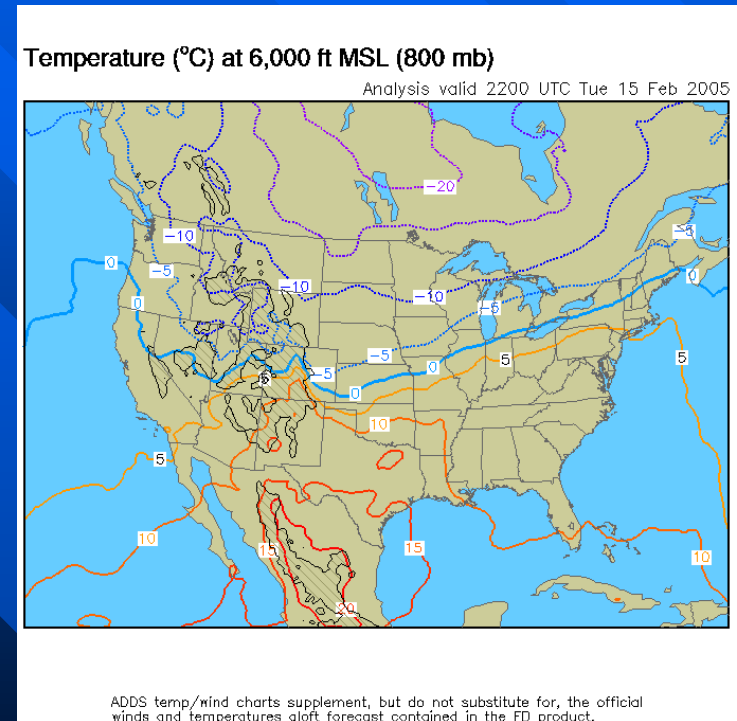
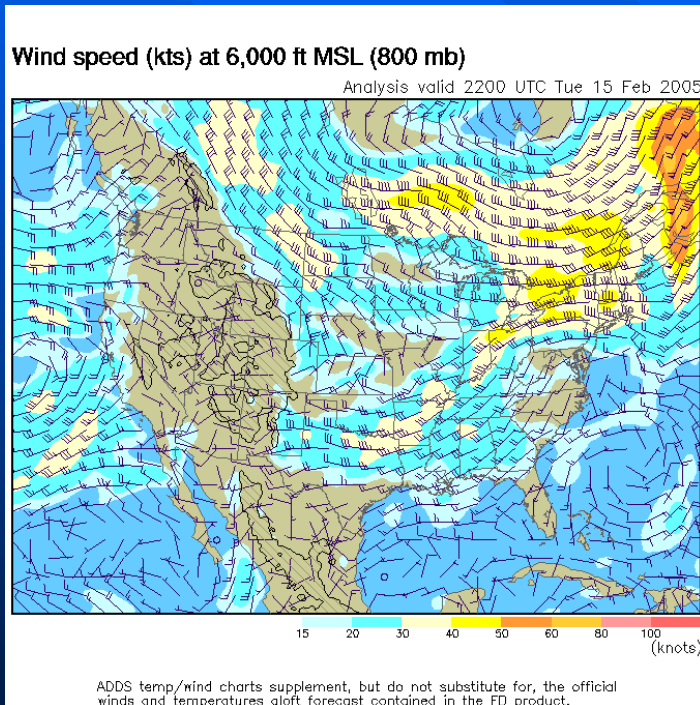
Designed to avoid areas of low visibilities and ceilings and regions where turbulence and icing may exist





Forecast Winds and Temp Chart

Depicts predicted wind velocity and direction





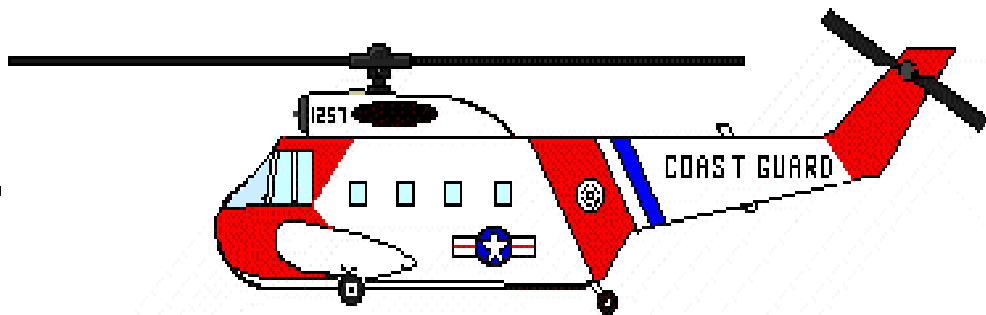
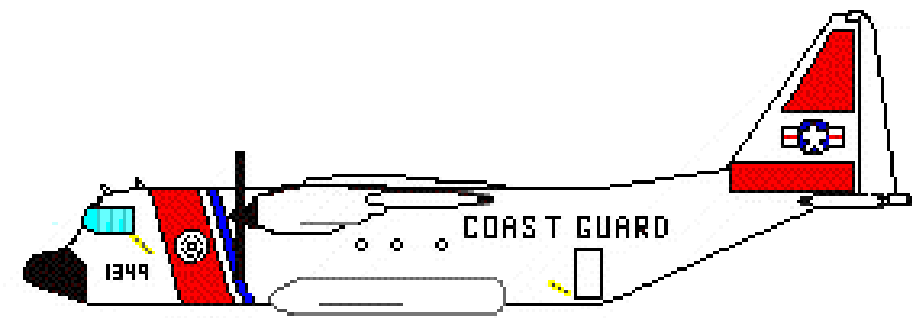
Severe Weather Reports and Forecasts

- Hurricane Advisory (WH)
 - Issued when a Hurricane is at least 300 NM offshore, but threatens a coast line
- Convective Outlook (AC)
 - Forecasts general thunderstorm activity for the next 24 hours and the risk of severe thunderstorms
- Severe Weather Watch Bulletin (WW)
 - Defines areas of possible severe thunderstorms or tornadoes
- Airman's Meteorological Information (AIRMET/WA's)
 - Informs pilots of weather phenomena which are of operational interest to all aircraft
- Significant Meteorological Information (SIGMET/WS's)
 - Issued for hazardous weather (other than convective)
- Convective SIGMET's (WST's)
 - Issued for hazardous convective weather significant to the safety of all aircraft. Implies severe or greater turbulence, icing and low level wind shear



Other Aviation Weather Information Sources

- Automatic Terminal Information System (ATIS)
- Telephone Information Briefing Service (TIBS)
- Direct User Access Terminal System (DUATS)
- Enroute Flight Advisory Service or Flight Service (EFAS)
- Transcribed Weather Broadcast (TWEB)
- Hazardous in-flight Weather Advisory Service (HIWAS)
- Center Weather Advisory (CWA)
- Automated Weather Observing System (AWOS)
- Automated Surface Observation System (ASOS)



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