1 AVIATION WEATHER SERVICE PROGRAM

The aviation weather service program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), the Department of Defense (DOD), and other aviation-oriented groups and individuals. This section discusses the civilian agencies of the U.S. Government and their observation, communication and forecast services to the aviation community.

1.1 National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration (NOAA) is an agency of the Department of Commerce (DOC). NOAA conducts research and gathers data about the global oceans, atmosphere, space, and sun, and applies this knowledge to science and service which touches the lives of all Americans. Among its six major divisions are the National Environmental Satellite Data and Information Service (NESDIS) and the NWS.

1.1.1 National Environmental Satellite Data and Information Service (NESDIS)

The National Environmental Satellite Data and Information Service (NESDIS) manages the U.S. civil operational remote-sensing satellite systems, as well as other global information for meteorology, oceanography, solid-earth geophysics, and solar-terrestrial sciences. NESDIS provides this data to NWS meteorologists and a wide range of other users for operational weather forecasting.

1.1.1.1 Satellite Analysis Branch (SAB)

NESDIS' Satellite Analysis Branch (SAB) serves as the operational focal point for real-time imagery products and multi-disciplinary environmental analyses. The SAB's primary mission is to support disaster mitigation and warning services for U.S. Federal agencies and the international community. Routine environmental analyses are provided to forecasters and other environmental users and used in the numerical models of the NWS. The SAB schedules and distributes real-time satellite imagery products from global geostationary and polar-orbiting satellites to environmental users. The SAB coordinates the satellite and other information for the NOAA Volcanic Hazards Alert program under an agreement with the FAA and works with the NWS as part of the Washington, D.C. Volcanic Ash Advisory Center (VAAC).

1.1.2 National Weather Service (NWS)

The National Weather Service (NWS) provides weather data, forecasts and warnings for the United States, its territories, adjacent waters and ocean areas for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure that can be used by other government agencies, the private sector, the public and the global community. The following is a description of NWS offices associated with aviation weather.

1.1.2.1 National Centers for Environmental Prediction (NCEP)

The National Centers for Environmental Prediction (NCEP) is where virtually all global meteorological data is collected and analyzed. NCEP then provides a wide variety of national and international weather guidance products to NWS field offices, government agencies, emergency managers, private sector meteorologists, and meteorological organizations and

societies throughout the world. NCEP is a critical resource in national and global weather prediction and is the starting point for nearly all weather forecasts in the U. S.

NCEP is comprised of nine distinct centers and the Office of the Director. Each center has its own specific mission. The following NCEP centers provide aviation weather products and services:

1.1.2.1.1 NCEP Central Operations (NCO)

NCEP's Central Operations (NCO) in Camp Springs, Maryland, sustains and executes the operational suite of the numerical analysis and forecast models and prepares NCEP products for dissemination. It also links all nine of the national centers together via computer and communications-related services.

1.1.2.1.2 Aviation Weather Center (AWC)

The Aviation Weather Center (AWC), a Meteorological Watch Office (MWO) for the International Civil Aviation Organization (ICAO), is located in Kansas City, Missouri. The AWC issues the following products in support of FAA air traffic controllers and the National Airspace System (NAS): Airman's Meteorological Information (AIRMETs), Significant Meteorological Information (SIGMETs), Convective SIGMETs, Area Forecasts (FAs), Significant Weather Prognostic Charts (low, middle, and high), Collaborative Convective Forecast Product (CCFP), National Convective Weather Forecast (NCWF), Current Icing Product (CIP), and Forecast Icing Potential (FIP).

1.1.2.1.3 Hydrometeorological Prediction Center (HPC)

The Hydrometeorological Prediction Center (HPC) in Camp Springs, Maryland, provides analysis and forecast products specializing in quantitative precipitation forecasts to five days, weather forecast guidance to seven days, real-time weather model diagnostics discussions and surface pressure and frontal analyses.

1.1.2.1.4 Storm Prediction Center (SPC)

The Storm Prediction Center (SPC) in Norman, Oklahoma, provides tornado and severe weather watches for the contiguous U. S. along with a suite of hazardous weather forecasts including the Alert Severe Weather Watch Bulletins and mesoscale guidance products

1.1.2.1.5 Tropical Prediction Center (TPC)

The Tropical Prediction Center (TPC) in Miami, Florida, provides official NWS forecasts of the movement and strength of tropical weather systems and issues the appropriate watches and warnings for the contiguous U.S. and surrounding areas. It also issues a suite of marine products covering the tropical Atlantic, Caribbean, Gulf of Mexico, and tropical eastern Pacific.

1.1.2.2 Alaskan Aviation Weather Unit (AAWU)

The Alaskan Aviation Weather Unit (AAWU), located in Anchorage, Alaska, is a MWO for the ICAO. The AAWU is responsible for the entire Anchorage Flight Information Region (FIR). They issue the following products for the airspace over Alaska and adjacent coastal waters: AIRMETs, SIGMETs, FAs, Graphic Area Forecasts, and Significant Weather Prognostic Charts (Low- and Mid-level – below flight level (FL) 250).

The AAWU is also designated as the Anchorage Volcanic Ash Advisory Center (VAAC). The VAAC area of responsibility includes the Anchorage FIR and Far Eastern Russia and is responsible for the issuance of Volcanic Ash Advisories (FVs).

1.1.2.3 Center Weather Service Unit (CWSU)

Center Weather Service Units (CWSUs) are units of NWS meteorologists under contract with the FAA that are stationed at and support the FAA's Air Route Traffic Control Centers (ARTCC).

CWSUs provide timely weather consultation, forecasts, and advice to managers within ARTCCs and to other supported FAA facilities. This information is based on monitoring, analysis, and interpretation of real-time weather data at the ARTCC through the use of all available data sources including radar, satellite, Pilot Weather Reports (PIREPs), and various NWS products such as Terminal Aerodrome Forecasts (TAFs), FAs, and inflight advisories.

Special emphasis is given to those weather conditions hazardous to aviation or which would impede the flow of air traffic within the NAS. Rerouting of aircraft around hazardous weather is based largely on forecasts provided by the CWSU meteorologist. They issue the following products in support of their respective ARTCC: Center Weather Advisories (CWA) and Meteorological Impact Statements (MIS).

1.1.2.4 Weather Forecast Office (WFO)

A NWS Weather Forecast Office (WFO) is a multi-purpose, local weather forecast center that produces, among its suite of services, aviation-related products. In support of aviation, WFOs issue Terminal Aerodrome Forecasts (TAFs) with some offices issuing Airport Weather Warnings, and Soaring Forecasts.

WFO Honolulu is also designated as a Meteorological Watch Office (MWO) for ICAO. As a result of this unique designation, WFO Honolulu is the only WFO to issue the following text products: AIRMETs, SIGMETs, FAs, and Route Forecasts (ROFOR). WFO Honolulu serves as the Central Pacific Hurricane Center (CPHC). CPHC provides official NWS forecast of the movement and strength of tropical weather systems and issues the appropriate watches and warnings for the central Pacific including the State of Hawaii. WFO Honolulu also issues a suite of marine products covering a large portion of the Pacific Ocean.

1.1.2.5 NWS Office at the FAA Academy

The mission of the National Weather Service (NWS) Office at the FAA Academy is to provide weather training for Federal Aviation Administration (FAA) Air Traffic Controllers, write reference materials, and certify non-military pilot weather briefers and tower visibility observers.

1.2 Federal Aviation Administration (FAA)

The FAA, a part of the Department of Transportation (DOT), provides a safe, secure, and efficient aerospace system that contributes to national security and the promotion of U.S. aerospace safety. As the leading authority in the international aerospace community, the FAA is responsive to the dynamic nature of user needs, economic conditions, and environmental concerns.

The FAA provides a wide range of services to the aviation community. The following is a description of those FAA facilities which are involved with aviation weather and pilot services.

1.2.1 Air Traffic Control System Command Center (ATCSCC)

The Air Traffic Control System Command Center (ATCSCC) is located in Herndon, Virginia. ATCSCC has the mission of balancing air traffic demand with system capacity. This ensures maximum safety and efficiency for the NAS while minimizing delays. The ATCSCC utilizes the Traffic Management System, aircraft situation display, monitor alert, the follow-on functions, and direct contact with ARTCC and terminal radar approach control facility (TRACON) traffic management units to manage flow on a national level.

Because weather is the most common reason for air traffic delays and re-routings, the ATCSCC is supported by Air Traffic Control System Command Center Weather Unit Specialists (ATCSCCWUS). These flight service specialists are responsible for the dissemination of meteorological information as it pertains to national air traffic flow management.

1.2.2 Air Route Traffic Control Center (ARTCC)

An ARTCC is a facility established to provide air traffic control service to aircraft operating on Instrument Flight Rules (IFR) flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to Visual Flight Rules (VFR) aircraft.

En route controllers become familiar with pertinent weather information and stay aware of current weather information needed to perform air traffic control duties. En route controllers advise pilots of hazardous weather that may impact operations within 150 NM of the controller's assigned sector(s).

1.2.3 Air Traffic Control Tower (ATCT) and Terminal Radar Approach Control (TRACON)

An ATCT is a terminal facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area. It authorizes aircraft to land or take off at the airport controlled by the tower or to transit the Class D airspace area regardless of flight plan or weather conditions (IFR or VFR). A tower may also provide approach control services.

TRACONs manage the airspace from 10 to 40 miles outside of selected airports and below 13,000 feet. They also coordinate aircraft spacing as they approach and depart these airports.

Terminal controllers become familiar with pertinent weather information and stay aware of current weather information needed to perform air traffic control duties. Terminal controllers advise pilots of hazardous weather that may impact operations within 150 NM of the controller's

assigned sector or area of jurisdiction. ATCTs and TRACONs may opt to broadcast hazardous weather information alerts only when any part of the area described is within 50 NM of the airspace under the ATCT's jurisdiction.

The tower controllers are also properly certified and act as official weather observers as required.

An Automatic Terminal Information Service (ATIS) is a continuous broadcast of recorded information in selected terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of non-controlled airport/terminal area and meteorological information.

1.2.4 Flight Service Station (FSS) / Automated Flight Service Station (AFSS)

Flight Service Stations (FSSs) and Automated Flight Service Stations (AFSSs) provide pilot weather briefings, en route weather, receive and process IFR and VFR flight plans, relay ATC clearances, and issue Notices to Airmen (NOTAMs). They also provide assistance to lost aircraft and aircraft in emergency situations, and conduct VFR search and rescue services.

1.3 Dissemination of Aviation Weather Products

The ultimate users of aviation weather services are pilots and aircraft dispatchers. Maintenance personnel may use the service to keep informed of weather that could cause possible damage to unprotected aircraft.

Pilots contribute to aviation weather services as well as use them. PIREPs help other pilots, dispatchers, briefers and forecasters as an observation of current conditions.

In the interest of safety and in compliance with Title 14, Code of Federal Regulations, all pilots should get a complete weather briefing before each flight. The pilot is responsible for ensuring he/she has all the information needed to make a safe flight.

1.3.1 Weather Briefings

Prior to every flight, pilots should gather all information vital to the nature of the flight. This includes an appropriate weather briefing obtained from a NWS certified pilot weather briefer at a FSS/AFSS or Direct User Access Terminal Service (DUATS).

To provide an appropriate weather briefing, specialists need to know which of the three types of briefings is needed - a standard, abbreviated or outlook. Other helpful information is whether the flight will be conducted VFR or IFR, aircraft identification and type, departure point, estimated time of departure (ETD), flight altitude, route of flight, destination, and estimated time en route (ETE).

This information is recorded in the flight plan system and a note is made regarding the type of weather briefing provided. If necessary, it can be referenced later to file or amend a flight plan. It is also used when an aircraft is overdue or is reported missing.

1.3.1.1 Standard Briefing

A standard briefing provides a complete weather picture and is the most detailed of all briefings. This type of briefing should be obtained prior to the departure of any flight and should be used during flight planning. A standard briefing provides the following information in sequential order if it is applicable to the route of flight.

1. Adverse Conditions - This includes information about adverse conditions that may influence a decision to cancel or alter the route of flight. Adverse conditions include significant weather such as thunderstorms, aircraft icing, turbulence, wind shear, reduced visibilities and other important items such as airport closings.

2. VFR Flight NOT RECOMMENDED (VNR) - If the weather for the route of flight is below VFR minimums, or if it is doubtful the flight could be made under VFR conditions due to the forecast weather, the briefer may state that VFR is not recommended. The pilot can then decide whether or not to continue the flight under VFR, but this advisory should be weighed carefully.

3. Synopsis - The synopsis is an overview of the larger weather picture. Fronts and major weather systems along or near the route of flight and weather which may affect the flight are provided.

4. Current Conditions - This portion of the briefing contains the current surface weather observations, pilot weather reports (PIREPs), satellite and radar data along the route of flight. If the departure time is more than 2 hours away, current conditions will not be included in the briefing.

5. En Route Forecast - The en route forecast is a summary of the weather forecast for the proposed route of flight.

6. Destination Forecast - The destination forecast is a summary of the expected weather for the destination airport at the estimated time of arrival (ETA).

7. Winds and Temperatures Aloft - Winds and temperatures aloft is a forecast of the winds at specific altitudes along the route of flight. However, the temperature information is provided only on request.

8. NOTAMs - This portion supplies Notice to Airmen (NOTAM) information pertinent to the route of flight which has not been published in the Notice to Airmen publication. Published NOTAM information is provided during the briefing only when requested.

9. ATC Delays - This is an advisory of any known air traffic control (ATC) delays that may affect the flight.

10. Other Information - At the end of the standard briefing, the specialist will provide the radio frequencies needed to open a flight plan and to contact En Route Flight Advisory Service (EFAS). Any additional information requested is also provided at this time.

1.3.1.2 Abbreviated Briefing

An abbreviated briefing is a shortened version of the standard briefing. It should be requested when a departure has been delayed or when specific weather information is needed to update a previous standard briefing. When this is the case, the weather specialist needs to know the time and source of the previous briefing so the necessary weather information will not be omitted inadvertently.

1.3.1.3 Outlook Briefing

An outlook briefing should be requested when a planned departure is 6 or more hours away. It provides initial forecast information that is limited in scope due to the timeframe of the planned flight. This type of briefing is a good source of flight planning information that can influence decisions regarding route of flight, altitude, and ultimately the “go, no-go” decision. A follow-up standard briefing prior to departure is advisable since an outlook briefing generally only contains information based on weather trends and existing weather in geographical areas at or near the departure airport.

The FSS/AFSS’s purpose is to serve the aviation community. Pilots should not hesitate to ask questions and discuss factors they do not fully understand. The briefing should be considered complete only when the pilot has a clear picture of what weather to expect. Pilots should also make a final weather check immediately before departure if at all possible.

1.3.2 Direct Use Access Terminal Service (DUATS/DUAT)

The Direct User Access Terminal Service, which is funded by the FAA, allows any pilot with a current medical certificate to access weather information and file a flight plan via computer. Two methods of access are available to connect with DUATS. The first is on the Internet

through Computer Sciences Corporation (CSC) at http://www.duats.com or Data Transformation Corporation at http://www.duat.com. The second method requires a modem and a communications program supplied by a DUATS provider. To access the weather information and file a flight plan by this method, pilots use a toll free telephone number to connect the user's computer directly to the DUATS computer. The current vendors of DUATS service and the associated phone numbers are listed in Chapter 7 of the *Aeronautical Information Manual (AIM).*

1.3.3 Aviation Digital Data Service (ADDS)

The Aviation Digital Data Service (ADDS) provides the aviation community with text, digital and graphical forecasts, analyses, and observations of aviation-related weather variables. ADDS is a joint effort of NOAA Forecast Systems Laboratory (FSL), NCAR Research Applications Laboratory (RAL), and the AWC.

1.3.4 Telephone Information Briefing Service (TIBS)

The Telephone Information Briefing Service (TIBS) is a service prepared and disseminated by selected Automated Flight Service Stations. It provides continuous telephone recordings of meteorological and aeronautical information. Specifically, TIBS provides area and route briefings, as well as airspace procedures and special announcements, if applicable. It is designed to be a preliminary briefing tool and is not intended to replace a standard briefing from a flight service specialist. The TIBS service is available 24 hours a day and is updated when conditions change, but it can only be accessed by a TOUCH-TONE phone. The phone numbers for the TIBS service are listed in the Airport/Facility Directory (A/FD).

TIBS should also contain, but is not limited to: surface observations, TAFs, and winds/ temperatures aloft forecasts.

Each AFSS provides at least four route and/or area briefings. As a minimum, area briefings encompass a 50 NM radius. Pilots have access to NOTAM data through: Area or route briefings, on separate channels that are designated specifically for NOTAMs, or by access to a briefer.

Separate channels are designated for each route, area, local meteorological/aeronautical information, special event, airspace procedures, etc.

The order and content of the TIBS recording is as follows:

1. Introduction. Includes the preparation time and the route and/or the area of coverage. The service area may be configured to meet the individual facility's needs.

2. Adverse Conditions. A summary of Convective SIGMETs, SIGMETs, AIRMETs, Center Weather Advisories, Alert Severe Weather Watch Bulletins, and any other available information that may adversely affect flight in the route/area.

3. VNR Statement. Included when current or forecast conditions, surface or aloft, would make the flight under visual flight rules doubtful.

4. Synopsis. A brief statement describing the type, location, and movement of weather systems and/or air masses that might affect the route or the area. This element may be combined with adverse conditions and/or the VNR element, in any order, when it will help to more clearly describe conditions.

5. Current Conditions. A summary of current weather conditions over the route/area. PIREPs are included on conditions reported aloft and a summary of observed radar echoes. Specific departure/destination observation may also be included.

6. Density Altitude. The statement "check density altitude" will be included for any weather reporting point with a field elevation of 2,000 feet MSL or above that meets certain temperature criteria.

7. En Route Forecast. A summary of appropriate forecast data provided in logical order, i.e., climb out, en route, and descent.

8. Winds Aloft. A summary of winds aloft forecast for the route/area as interpolated from forecast data for the local and/or the adjacent reporting locations for levels through 12,000 feet. The broadcast should include the levels from 3,000 to 12,000 feet, but usually includes at least two forecast levels above the surface.

9. Request for PIREPs. When weather conditions within the area or along the route meet requirements for soliciting PIREPs, a request will be included in the recording.

10. NOTAM information that affects the route/area may be included as part of the briefing, on a separate channel, or obtained by direct contact with a pilot weather briefer.

11. Military Training Activity. A statement is included in the closing announcement to contact a briefer for information on military training activity.

12. Closing Announcement.

TIBS services may be reduced during the hours of 1800-0600 local time only. Resumption of full broadcast service is adjusted seasonally to coincide with daylight hours. During the period of reduced broadcast, a recorded statement may indicate when the broadcast will be resumed and to contact Flight Service for weather briefing and other services.

For those pilots already in flight and needing weather information and assistance, the following services are provided by flight service stations. They can be accessed over the proper radio frequencies printed in flight information publications.

1.3.5 Hazardous Inflight Weather Advisory Service (HIWAS)

HIWAS is a national program for broadcasting hazardous weather information continuously over selected navigational aids (NAVAIDs). The broadcasts include advisories such as AIRMETs, SIGMETS, convective SIGMETs, and urgent PIREPs. These broadcasts are only a summary of the information, and pilots should contact an FSS/AFSS or En Route Flight Advisory Service (EFAS) for detailed information.

The HIWAS broadcast area is defined as the area within 150 NM of HIWAS outlets.

HIWAS broadcasts are not interrupted or delayed except for emergency situations, when an aircraft requires immediate attention, or for reasonable use of the voice override capability on specific HIWAS outlets in order to use the limited Remote Communications Outlet (RCO) to maintain en route communications. The service is provided 24-hours a day. An announcement is made for no hazardous weather advisories.

Hazardous weather information is recorded if it is occurring within the HIWAS broadcast area. The broadcast includes the following elements:

1. A statement of introduction including the appropriate area(s) and a recording time.

2. A summary of Convective SIGMETs, SIGMETs, AIRMETs, Urgent PIREPs, Aviation Watch Notification Messages, Center Weather Advisories, and any other weather such as isolated thunderstorms that are rapidly developing and increasing in intensity, or low ceilings and visibilities that are becoming widespread which are considered significant and are not included in a current hazardous weather advisory.

3. A request for PIREPs, if applicable.

4. A recommendation to contact AFSS/FSS/FLIGHT WATCH for additional details concerning hazardous weather.

Once the HIWAS broadcast is updated, an announcement will be made once on all communications/NAVAID frequencies except emergency, EFAS, and navigational frequencies already dedicated to continuous broadcast services. In the event a HIWAS broadcast area is out of service, an announcement is made on all communications/NAVAID frequencies except on emergency, EFAS, and navigational frequencies already dedicated to continuous broadcast services.

1.3.6 En Route Flight Advisory Service (EFAS)

The purpose of EFAS, radio call "FLIGHT WATCH" (FW), is to provide en route aircraft with timely and pertinent weather data tailored to a specific altitude and route using the most current available sources of aviation meteorological information.

EFAS specialists tailor en route flight advisories to the phase of flight that begins after climb out and ends with descent to land. Current weather and terminal forecast at the airport of first intended landing and/or the alternate airport is provided on request. When conditions dictate, EFAS specialists provide information on weather for alternate routes and/or altitudes to assist the pilot in the avoidance of hazardous flight conditions. The pilot is advised to contact the adjacent flight watch facility when adverse weather conditions along the intended route extend beyond the Flight Watch Area (FWA).

EFAS is NOT used for routine in-flight services; e.g., flight plan filing, position reporting, or full route (pre-flight) briefings. If a request for information is received that is not within the scope of EFAS, the pilot is advised of the appropriate AFSS/FSS to contact.

EFAS specialists suggest route or destination changes to avoid areas of weather that in the judgment of the specialists constitutes a threat to safe flight.

EFAS is provided on 122.0 MHz to aircraft below FL180. An assigned discrete frequency is used to provide EFAS to aircraft at FL180 and above. This frequency can also be used for communications with aircraft below FL180 when communication coverage permits. Aircraft

operating at FL 180 or above that contact FW on frequency 122.0 MHz are advised to change to the discrete frequency for EFAS.

1.3.7 Automatic Dependent Surveillance – Broadcast (ADS-B)

Automatic Dependent Surveillance–Broadcast (ADS-B) is a surveillance system combining the advanced technologies of satellite positioning, aircraft avionics, and ground based transceivers. ADS-B equipped aircraft automatically broadcast their identification, current position, altitude, and velocity information approximately once per second. This continuous broadcast of flight data, improves aircraft position accuracy beyond the capabilities of current NAS radar/transponder based surveillance systems.

In the United States, two different data links have been adopted for use with ADS−B: 1090 MHz Extended Squitter (1090ES) and the 978 MHz, Universal Access Transceiver (UAT). The 1090ES link is intended for aircraft that primarily operate at FL240 and above, whereas the UAT link is intended for use by aircraft that primarily operate at lower altitudes. From a pilot's standpoint, the two links operate similarly and support ADS−B and Traffic Information Services-Broadcast (TIS-B). The UAT link will provide additional weather and other aeronautical information through the Flight Information Service − Broadcast (FIS-B).

1.3.7.1 Flight Information Service – Broadcast (FIS-B)

FIS-B provides certain aviation weather and other aeronautical information to aircraft equipped with an appropriate cockpit display. Reception of FIS-B services can be expected within a ground station coverage volume when line-of-sight geometry is maintained between the aircraft and ground station. NAS-wide service availability is targeted for 2013 and is currently available within certain regions.

1.3.7.1.1 FIS-B Products

FIS-B provides the following textual and graphical aviation weather and aeronautical products free-of-charge. A detailed description of these products can be found within this Advisory Circular and the Aeronautical Information Manual (AIM).

Textual

- Aviation Routine Weather Reports (METARs) and Aviation Selected Special Weather Reports (SPECIs)
- Pilot Weather Reports (PIREPS)
- Terminal Aerodrome Forecasts (TAFs) and their amendments
- Winds and Temperatures Aloft

Graphical

- WSR-88D (NEXRAD) Weather Radar CONUS and regional-scale composite reflectivity mosaic products

Text/Graphical Overlay

- Notice to Airmen (NOTAM) Distant and Flight Data Center
- Airmen's Meteorological Information (AIRMET)
- Significant Meteorological Information (SIGMET)
- Convective SIGMET
- Status of Special Use Airspace (SUA);
- Temporary Flight Restriction (TFR) NOTAMS

Subject to FAA approval, additional products may be offered by the service provider in the future which may incur a usage fee.

1.3.7.1.2 Operational Use of FIS-B Products

FIS-B products are intended to enhance the user's situational awareness and enable more efficient use of ATC/FSS/AOCC services. The information provided by FIS-B is advisory in nature and should not be used in lieu of individual pre-flight, in-flight, weather, or flight planning briefings provided by ATC/FSS/AOCC services.

Specific guidance on the operational use of Flight Information Services can be found in Chapter 7, *Safety of Flight* of the AIM.

Guidance concerning the content, format, and symbology of individual FIS-B products should be obtained from the manufacturer of the avionics equipment used to receive and display them.