



The Area Forecast Discussion

Having introduced the subject of the Pilot Weather Briefing, its format and contents, I have made mention of various aviation weather products. While not a “designated” aviation weather product, nor a specific weather hazard product, every one of the U.S. National Weather Service’s (NWS) 123 field offices does issue an Area Forecast Discussion (AFD) [See “*Sample: Area Forecast Discussion; San Antonio, TX*”]. This text-only product has its roots back to the teletype-era of dissemination systems when the U.S. Weather Bureau (USWB) needed a product to help its states’ main forecast

offices provide technical weather guidance information to a myriad of smaller, local field offices, River Forecast Centers, and with their inception, Air Route Traffic Control Center Weather Service Units (CWSU). Having received meteorological guidance from the USWB state-level offices, local field offices then provided adaptive weather forecasts for their respective areas-of-responsibility.

The AFD with its guidance information was distributed under the international World Meteorological Organization (WMO) communications header of “FPUS3” and was often referred to sim-

ply as the “FP3” as a product. The FPUS3 also contained specific high/low temperature forecasts and measurable precipitation probabilities for a limited number of key forecast points within the main guidance office’s area-of-responsibility. The old FPUS3 product was written in technical terms by state-office meteorologists for local-office meteorologists in an encoded format to save “bandwidth” time for the 40- and 60-word per minute teletypes. The distribution of the product was keyed by its WMO Header and limited to USWB circuits for internal agency coordination use. It was not intended and therefore, not written for media or public forecast distribution circuits. However, the FPUS3 was a popular product by any media or private forecasters who could gain access to the product’s contents because of its insightful weather forecast information.

Despite the transition from the two-tier hierarchy of the NWS field office structure to the one-tier structure under the auspices of the NWS Modernization and Associated Restructuring (MAR) in the mid-1990s, inter-office NWS forecast coordination remained an ongoing challenge at area-of-responsibility boundaries amongst the now larger number of smaller, better-equipped (modernized), yet autonomous Weather Forecast Offices or WFOs (April 2013 ‘Soaring’; the NWS, Part 2). With the MAR and its whole-scale computerization in weather product distribution, the general public and media through internet distribution could access and read many previously inaccessible NWS products, including the FP3. The FP3 product previously issued by the NWS state-level offices that provided guidance information and often dictated the adaptive weather forecast boundaries to the smaller, local field offices no longer had the same function. Instead, the FP3 (morphing into the AFD) advanced into a product meeting several weather information functions, including but not limited to: weather synopses and so-called ‘problems-of-the-day’, timing of weather events, WFO forecast reasoning and confidence, numerical model performance in regard to the current weather, long-term watch, warning, and advisory status, equipment outages

National Weather Service Weather Forecast Office
Austin/San Antonio, TX

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Radar Imagery
Nationwide
Austin/San Antonio
Laughlin AFB
Central Texas
Climate

Today Shows & Storms Fri Night-Sat Weekend

Mostly Cloudy, Warm & Humid
-Partly sunny afternoon Rio Grande Plains
-Light rain showers possible

Lower 70s
Mid 70s
Upper 70s
Near 80
SSE 5-15 MPH

Web: weather.gov/evx
Twitter: @NWSSanAntonio
YouTube: NWSSanAntonio
Facebook: US National Weather Service Austin-San Antonio

33 All CST
Fri Dec 20 2013
National Weather Service
Austin/San Antonio, TX

Watches & Warnings Observations Forecast Graphics Rivers & Lakes Climate Submit Storm Report

NWS WFO Website Menu; Area Forecast Discussion



that could be of importance to aviation, e.g., Doppler Radar unavailability, and other background information in regard to area weather events. And with the functionality of the AFD expanded and available to non-technical media weathercasters and emergency managers, the AFD ceased to be encoded in favor of plain-English, except for well-known abbreviations and geographic descriptors.

Issuance time, format, and content of the AFD for delivery across dissemination circuits is specified for WFO Forecasters within NWS Instructions [See *References: "NWSI 10-503; Section 2, the AFD"*]. The importance of this product to aviators is stated nicely in the last line of the AFD "Mission Connectivity" within the referenced NWSI Chapter [See *Text Box: "AFD Mission Connection Statement"*]. The statement, "*The forecast insight provided in the AFD is beyond that which can be found in other NWS products,*" allows a forecaster to provide insight into the basis of WFO advisory statements, public forecasts, and even specialty program forecasts such as those for aviation, fire suppression support, and marine programs. Specifically for aviation interests the "meteorological problem-of-the-day" for a WFO Forecast Area ultimately will be reflected in the Terminal Aerodrome Forecasts (TAF) composed and encoded at the 'local' office level. The aviation forecaster reasoning and confidence applied to a TAF is made known through the insights within the AFD of WFO intra-office coordination, directly or indirectly, between the Aviation Forecaster and the shift Lead Forecaster. Local knowledge and insight provided within the AFD conveys information to NWS Aviation Weather Center Forecasters as they prepare national aviation weather products or CWSU Forecasters and their suite of aviation advisory products.

The AFD product is posted on every WFO Website around the nation. Typically, it is accessed through a menu on the left side of the page and under the general subject header of "Forecasts" [See "*NWS WFO Website Menu: Area Forecast Discussion*"]. However, some regional guidelines are configured to access the AFD through different menu configurations; but always under the general subject header of "Forecasts." Further study and specifics about the AFD can be seen at the referenced location.

While aviation hazard text and graphic products, e.g., *Airmets, Sigmet, Convective Sigmet*, and text products such as the *Area Forecasts* and *Terminal Aerodrome Forecasts* are specifically stated within the formal format in aviation weather products, the contents of the AFD can tell a pilot as an "educated" evaluator of the weather situation the "rest of the weather story" (with all respect given to Paul Harvey). In summary, as field office meteorologists compare numerical meteorological forecast information against real-time weather observations, the AFD allows a forecaster to provide his/her *rationale* and *confidence* in arriving at specifically worded forecast products, including those for aviation interests, within the free-wording format of the AFD. This format can provide significant information to a pilot on meteorological options due to any doubts in a forecaster's meteorological prognosis as formal aviation products are prepared. Thus, the AFD enables a pilot to do better risk assessment for the potential of in-flight weather hazards for safety-of-flight considerations, and planning for the feasibility of soaring flight.

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AFDEWX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE AUSTIN/SAN ANTONIO TX
547 AM CST FRI DEC 20 2013

AVIATION... /12Z TLE UPDATE/
WVF CIGS EXPECTED FOR MUCH OF TODAY AS STEADY SOUTH WINDS CONTINUE FUNNEL GULF MOISTURE INTO THE AREA. FOR THE NEXT FEW HOURS... SPOTTY IFR CIGS AND VSBYS ARE EXPECTED OVER SLIGHTLY HIGHER TERRAIN... AND THE CLOUD LAYER COULD INTERFACE WITH THE SURFACE OVER THE HIGHER ELEVATIONS OF THE HILL COUNTRY AND SOUTHERN EDWARDS PLATEAU. LIGHT PRECIPITATION IS POSSIBLE... BUT SHOULD NOT ALTER THE FLIGHT CATEGORY FOR MOST AREAS THROUGH TODAY. AFTER MOST AREAS LIFT INTO WVF LEVELS LATER TODAY... CIGS SHOULD FALL TO IFR ACROSS MANY AREAS THIS EVENING. LATE TONIGHT... THE SOUTHERN PART OF A THUNDERSTORM COMPLEX WILL POTENTIALLY IMPACT ALL TAF SITES... WITH AFS MOST LIKELY TO SEE BRIEF HEAVY DOWNPOURS AROUND AND SHORTLY AFTER DAYBREAK. A PACIFIC FRONT SHOULD IMPROVE CONDITIONS FROM WEST TO EARLY AFTER DAYBREAK SUNDAY.

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.PREV DISCUSSION... /ISSUED 359 AM CST FRI DEC 20 2013/

SHORT TERM (TODAY THROUGH SATURDAY)...
ACTIVE WEATHER PATTERN FOR THE SHORT TERM. UPPER LEVEL LOW OVER NORTHERN BAJA CALIFORNIA WILL MOVE ACROSS NORTHWESTERN MEXICO TODAY... OPEN INTO A TROUGH OVER SOUTHERN NEW MEXICO TONIGHT AND MOVE ACROSS TEXAS ON SATURDAY. MODELS CONTINUE TO SHOW A MORE PROGRESSIVE TEND. A CANADIAN COLD FRONT ACROSS TEXAS RANHANDLE INTO OKLAHOMA WILL SAG SOUTH AND STILL NORTH OF SOUTH CENTRAL TEXAS TODAY INTO TONIGHT AS A SURFACE LOW DEVELOPS OVER CENTRAL TEXAS. THIS SURFACE LOW THEN MOVES NORTHEAST ALLOWING A PACIFIC FRONT TO MOVE EAST ACROSS SOUTH CENTRAL TEXAS ON SATURDAY. MOIST SOUTHERLY LOWER FLOW MAY CREATE SOME LIGHT RAIN SHOWERS TODAY. STRONGER UPWARD FORCING DEVELOPS TONIGHT LEADING TO SCATTERED TO NUMEROUS SHOWERS AND THUNDERSTORMS OVERNIGHT INTO SATURDAY MORNING. CONVECTIVE PARAMETERS CONTINUE TO SUGGEST A POTENTIAL FOR A SMALL LINE WITH STRONG TO SEVERE DOWNBURST WINDS ALONG AND EAST OF HIGHWAY 281. DUE TO THE FAST MOVEMENT OF SYSTEM... RAINFALL AMOUNTS WILL GENERALLY BE LESS THAN 1/4 INCH... HOWEVER ISOLATED AMOUNTS UP TO 1 INCH ARE POSSIBLE EAST OF HIGHWAY 71. THE SHOWERS AND THUNDERSTORMS WILL MOVE EAST OF THE AREA DURING THE AFTERNOON WITH THE FRONTAL PASSAGE. ELEVATED FIRE WEATHER CONDITIONS ARE EXPECTED OVER SOUTHWESTERN AREAS DURING THE AFTERNOON AS A DRIER BREEZY AIRMASS MOVES INTO THAT AREA.

Sample: Area Forecast Discussion; San Antonio, TX

LONG TERM (SATURDAY NIGHT THROUGH THURSDAY)...
THE CANADIAN FRONT FINALLY MOVES THROUGH SOUTH CENTRAL TEXAS ON SUNDAY WHILE A LAGGING PORTION OF THE TROUGH MOVES THROUGH EARLY MONDAY. DRIER CONDITIONS IN THE LOWER LEVELS WILL PRECLUDE ANY RAIN. LWS NEAR OR BELOW FREEZING ARE EXPECTED ACROSS MUCH OF THE HILL COUNTRY TO MAINLY LOWER LYING AREAS ALONG THE ESCARPMENT SUNDAY AND MONDAY NIGHTS. ANOTHER COLD FRONT IS EXPECTED AROUND CHRISTMAS DAY WITH A WEAK UPPER LEVEL TROUGH MOVING ACROSS DURING THE MID WEEK. ISENTROPIC LIFT MAY GENERATE SOME SHOWERS OVER THE EASTERN AREAS CHRISTMAS DAY INTO THURSDAY.

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.PRELIMINARY POINT TEMPS/POPS...

AUSTIN CAMP HARRY	77	66	74	45	60	/	10	70	70	-	-
AUSTIN BERGSTRON INTL AIRPORT	76	65	76	42	62	/	10	70	70	-	-
NEW BRAUNFELS MUNI AIRPORT	77	64	77	44	63	/	10	60	60	-	-
BURNET MUNI AIRPORT	73	59	68	42	56	/	10	70	70	-	-
DEL RIO INTL AIRPORT	75	55	71	43	65	/	-	50	20	0	-
GEORGETOWN MUNI AIRPORT	76	63	71	42	57	/	10	70	70	-	-
HONDO MUNI AIRPORT	76	62	75	42	68	/	-	60	40	0	-
SAN MARCOS MUNI AIRPORT	76	65	74	43	61	/	10	60	60	-	-
LA GRANGE - FAYETTE REGIONAL	77	69	77	46	63	/	10	60	70	-	-
SAN ANTONIO INTL AIRPORT	76	64	76	46	66	/	10	60	60	-	-
STINSON MUNI AIRPORT	77	65	76	45	69	/	10	60	60	-	-

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.WX WATCHES/WARNINGS/ADVISORIES...

NONE.

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Sample: Area Forecast Discussion; San Antonio (continued)

AFD Mission Connection Statement

"The AFD is a semi-technical product primarily used as a means to explain the scientific rationale behind a forecast and summarize watches, warnings and/or advisories in effect. This highly visible product is used to convey forecast and watch/warning/advisory information primarily to federal agencies, weather sensitive officials, and the media. The AFD is also useful for coordination among WFOs and River Forecast Centers (RFCs), National Centers, and Center Weather Service Unit (CWSUs). The forecast insight provided in the AFD is beyond that which can be found in other NWS products."

References:

- Typical NWS Website (Example: San Antonio WFO)
< www.weather.gov/sanantonio >
- NWSI Chapter 10-503; Section 2, the AFD:
< <http://www.nws.noaa.gov/directives/sym/pd01005003curr.pdf> >