

TAF Improvements and New Initiatives

TAF Improvements and New Initiatives



Presentation Outline

- ❑ 3-hour TAF Amendments/30-Hour TAFs
- ❑ Categorical Amendment Criteria
- ❑ Impact Writing for TAFs/QC in AvnFPS
- ❑ Use of VCTS/CB in TAFs
- ❑ New Initiatives
- ❑ Additional ASB Updates



3-hour TAF Amendments

3-hour TAF Amendments



3-hour TAF Amendments

- 29 WFOs (Nationally) who have OEP TAF site(s)
 - 20 WFOs issuing 3-hour TAF Amendments
 - 9 WFOs remaining...
-
- *Over half way there!*
 - *Implementation date of June 30, 2010*

Airports with 3-Hour TAF Amendments

- **KATL** Atlanta Intl
- **KBOS** Boston Logan Intl
- **KBWI** Baltimore-Washington Intl
- **KCLE** Cleveland Hopkins Intl
- **KCLT** Charlotte Douglas Intl
- **KCVG** Covington/Cincinnati
- **KDCA** Washington National
- **KDEN** Denver Intl
- **KDFW** Dallas/Fort Worth Intl
- **KDTW** Detroit
- **KEWR** Newark Liberty Intl
- **KFLL** Fort Lauderdale
- **KIAD** Washington Dulles Intl
- **KIAH** Houston – George Bush Intl
- **KJFK** John F. Kennedy Intl
- **KLAS** Las Vegas McCarran Intl
- **KLAX** Los Angeles Intl
- **KLGA** New York LaGuardia
- **KMCO** Orlando Intl
- **KMDW** Chicago Midway
- **KMEM** Memphis Intl
- **KMIA** Miami Intl
- **KMSP** Minneapolis-St Paul Intl
- **KORD** Chicago-O’Hare Intl
- **KPDX** Portland Intl
- **KPHL** Philadelphia Intl
- **KPHX** Phoenix Sky Harbor Intl
- **KPIT** Pittsburgh Intl
- **KSAN** San Diego Intl
- **KSEA** Seattle-Tacoma Intl
- **KSFO** San Francisco Intl
- **KSLC** Salt Lake City Intl
- **KSTL** Lambert-St Louis Intl
- **KTPA** Tampa Intl – WFO Tampa
- **PHNL** Honolulu Intl – WFO Honolulu

Airports with TAFs Covering 30-Hours

- KATL Atlanta Intl
- **KAUS Austin**
- **KBDL Bradley Intl**
- KBOS Logan Intl
- KBWI Baltimore-Washington Intl
- KCLE Cleveland Hopkins Intl
- KCVG Covington/Cincinnati
- KDEN Denver Intl
- KDFW Dallas/Fort Worth Intl
- KDTW Detroit
- KEWR Newark Liberty Intl
- **PGUM Guam**
- KIAD Washington Dulles Intl
- KIAH Houston – George Bush Intl
- **KIND Indianapolis Intl**
- KJFK John F. Kennedy Intl
- KLAX Los Angeles Intl
- **KMKE General Mitchell Intl**
- KMSP Minneapolis-St Paul Intl
- **KOAK Oakland Intl**
- **KONT Ontario Intl**
- KORD Chicago-O’Hare Intl
- KPHL Philadelphia Intl
- KPIT Pittsburgh Intl
- KSAN San Diego Intl
- **KSDF Louisville Intl**
- **KSAT San Antonio**
- KSEA Seattle-Tacoma Intl
- KSFO San Francisco Intl
- KSLC Salt Lake City Intl
- KSTL Lambert-St Louis Intl
- **KSWF Stewart Intl**
- **PANC Anchorage Intl**
- PHNL Honolulu Intl
- **PAFA Fairbanks Intl**

Categorical Amendment Criteria

Categorical Amendment Criteria



Methodology

- Employs the following important concepts:
 - Tailors Ceiling and Visibility to meet specific **airport requirements**
 - Groups Ceiling and Visibility together into **categories** to match FAA Regulations
 - TEMPO groups checked immediately against METARS to notify forecasters of resulting customer impacts

Impacts of Standard Amendment Criteria

- Aviation community receives too many AMDs that do not have an impact on airport operations
- In Addition...
 - TEMPO groups may restrict operations resulting in flight delays and impact the National Airspace System (NAS)



Benefits of Using CAC

- **Better customer service**

- AMDs based upon specific airport criteria
- Regulatory needs of the flying community addressed
- Quicker response to customer needs, including out of category TEMPO groups

- **Forecaster's time maximized**

- Improved situational awareness
- Allows focus on sites needing attention
- AMDs only issued for meaningful thresholds
 - *Fewer amendments (WFO FAI decreased by 23%)*



AvnFPS Differences

The image shows two windows from the AvnFPS software. The top window is the 'TAF Editor' for stations Kbfd, KAOO, KUNV, KJST, KIPT, and KMDT. It features a table with columns for METAR, persistence (1hr), ltg, rltg, ccfp, grid, llws, and Editor Shortcuts. Red circles highlight the 'vis wnd wx' boxes in the METAR and persistence columns for Kbfd. The bottom window is the 'AvnFPS OB8.3.1 Monitor' for station PTAF. It shows a 'Checking tafs for PTAF' status and a text box containing the following text:

```
OK  
TAF  
PTAF 222225Z 222218 00000KT 3SM BR DVC015=  
METAR PTAF 222225Z 00000KT 3SM BR DVC015 03/03 A2945
```

Red circles highlight the 'cat vnd wx' boxes in the METAR and persistence (2hr) columns for PTAF.

Ceiling and visibility are now combined into one "cat" box

Commerce Learning Center



Commerce Learning Center
You Make Commerce Work

Impact Writing for TAFs

Impact Writing for TAFs



Impact Writing for TAFs

- You can integrate crosswind information into AvnFPS

TAF Impact Writing

wind[n].cross = crosswind for runway #n
 wind[n].runway = parallel component to runway #n
 wind[n].shift = tail-to-head or head-to-tailwind change from last forecast group (T or F)

- Edit /awips/adapt/avnfps/etc/tafs/KBOS/impact.cfg

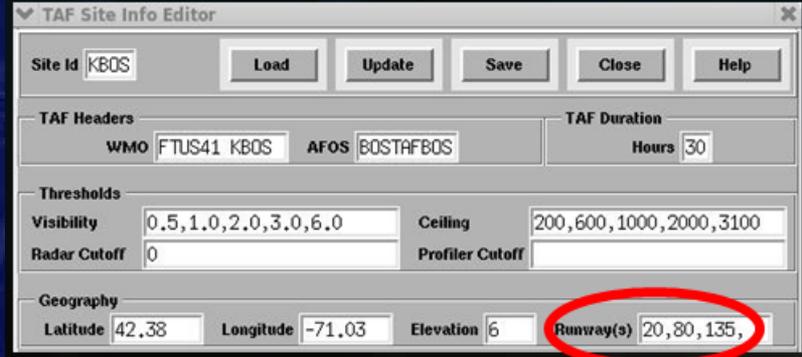
```
[conditions]
items=cond_1,cond_2,cond_3,cond_4
```

```
[cond_3]
tag=wshft
level=2
text=significant windshift on 15R/33L
expr=wind[2].shift and wind[2].runway>15
```

```
TAF
KBOS 181720Z 1818/1924 12015KT P6SM SCT040CB
FM182100 13020G30KT P6SM VCTS BKN030CB
TEMPO 1821/1822 15M +T5RA OVC010CB
FM182230 25020G40KT 6SM +SHRA OVC020
FM190100 27020G30KT --- Impact ---
FM190500 28020G25KT significant windshift on 15R/33L
FM191200 30010KT P6SM 5KC=
```

```
[cond_4]
tag=xw
level=3
text=significant crosswind on 15R/33L
expr=wind[2].cross>15
```

```
TAF AMD
KBOS 141321Z 1413/1518 06015G25KT P6SM SCT015 OVC025
FM141700 05025G35KT 4SM -RASN BR BKN008 OVC013
TEMPO 1422/1502 1 --- Impact ---
FM150200 03015G20K Fuel-Alternate 5
TEMPO 1502/1506 1 Significant crosswind on 15R/33L
```



Runway 4R/22L referenced as [0]
 Runway 9/27 referenced as [1]
 Runway 15R/33L referenced as [2]

Impact Writing for TAFs

- You can also integrate additional cloud heights or visibility thresholds into AvnFPS

```
TAF AMD
KBOS 071336Z 0714/0818 31006KT P6SM FEW250
FM071500 04012KT 4SM BR BKN012
FM071800 05014G22KT P6SM
FM080000 31009KT P6SM SKC
FM080500 30009KT P6SM BKN
FM080900 31006KT P6SM SKC
```

---	Impact ---
---	Loss of circle approach to 04L
---	Climate ---
---	4 matches for 25754 events in database

```
TAF AMD
KBOS 071340Z 0714/0818 01006KT 6SM BR SCT004
FM071500 04007KT 1SM BR BKN003
FM071800 05014G22KT P6
FM080000 31009KT P6SM
FM080500 30009KT P6SM
FM080900 31006KT P6SM
```

---	Impact ---
---	Requires assignment of ILS hold points
---	Climate ---
---	33 matches for 25754 events in database

Persistence in AvnFPS

- Change the TAF monitoring time in AvnFPS
 - Use 2 hours instead of default 1 hour
 - Allows TAFs to be focused on the 2-6 hour time frame

The screenshot shows the AvnFPS OB9.2 Monitor interface. At the top, it says 'AvnFPS OB9.2 Monitor connected to local host'. Below that is a 'File Options' section with buttons for 'TAF Editor', 'Climate', and 'Plot'. There are three radio buttons for 'XMIT-px2f', 'DATA-px2f', and 'INGEST-px2f', all of which are currently selected. The main area is a table with columns for 'Current', '2-h Look Ahead', '1tg', 'rltg', 'ccfn', 'WDFD', 'Grids', and 'llws'. A dropdown menu is open over the '2-h Look Ahead' column, showing options for '2-h Look Ahead', '3-h Look Ahead', and '4-h Look Ahead'. The table lists airports and their TAF/MTR times, with weather conditions represented by colored boxes (green for 'cat', yellow for 'wnd', blue for 'sky', and white for 'ws').

			Current	2-h Look Ahead	1tg	rltg	ccfn	WDFD	Grids	llws
KBOS	<input type="checkbox"/>	TAF 11:29 MTR 14:00	tpo cat wnd wx	cat wnd wx				nd wx sky		ws
KPVD	<input type="checkbox"/>	TAF 14:39 MTR 14:16	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws
KBDL	<input type="checkbox"/>	TAF 11:29 MTR 14:29	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws
KBAF	<input type="checkbox"/>	TAF 14:12 MTR 14:35	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws
KORH	<input type="checkbox"/>	TAF 13:31 MTR 13:54	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws
KMHT	<input type="checkbox"/>	TAF 11:29 MTR 14:00	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws
KFMH	<input type="checkbox"/>	TAF 11:29 MTR 14:35	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws
KHYA	<input type="checkbox"/>	TAF 11:29 MTR 14:29	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws
KACK	<input type="checkbox"/>	TAF 11:29 MTR 13:53	tpo cat wnd wx	cat wnd wx	ts	ts	ts	wnd wx sky		ws

Use of VCTS/CB in TAFs

Use of VCTS/CB in TAFs



Use of VCTS/CB in TAFs

- Vicinity:
 - **Not ICAO compliant**
 - Inconsistent use from WFO to WFO
 - Confusing to customers Internationally and Domestically
 - Being used for instances the TAF was not intended
 - VC and CB can be used inter-changeably now according to 10-813

Use of VCTS/CB in TAFs

- **Proposal: Remove VC use in TAFs and use CB**
 - Become ICAO compliant
 - FAA on board
 - Impacts remain the same to customers
 - TAFs can be used for their intended purpose
- Ex: SCT008 BKN025CB
- Ex: TSRA SCT010CB BKN020

Digital Aviation Services

The collage consists of three main images:

- Top Left:** A photograph of an air traffic control room with several operators at their workstations, which are equipped with multiple computer monitors displaying various data.
- Top Right:** A screenshot of a weather radar software interface. It features a central map with a color-coded radar overlay (red, yellow, green) indicating precipitation intensity. To the left of the map is a vertical list of forecast parameters such as 'Wind SFC Fcst (BOX)', 'Sky SFC Fcst (BOX)', and 'Precip SFC Fcst (BOX)'. The interface includes a menu bar at the top and a toolbar with various icons.
- Bottom Left:** A screenshot of a text-based software application window displaying a list of TAF (Terminal Area Forecast) and METAR (Meteorological Terminal Air Report) messages. The messages include station identifiers like 'KEOS', 'KEDL', and 'KORH', along with time, date, and forecast details. The text is organized into sections separated by 'TAF AMD' and 'METAR' labels.
- Bottom Right:** A photograph of a large commercial airplane, likely an Airbus A320, on a runway. The aircraft is white with blue accents on the tail and engines. It is positioned on a paved surface with a grassy field and trees in the background under a clear sky.

Digital Aviation Services

- **Why?**

– There is a demand for this information!



Digital Aviation Services

- *Why?*

- On the path to NextGen

- AWC/CWSU/WFO roles not yet defined, but we can start the process and provide meaningful input

- Integrate Aviation forecasting into GFE

- Traditional public, marine, fire weather already there!
 - Increases efficiency of forecast operations
 - Generate TAFs quickly and maintain consistency with other forecast products
 - Capability for additional TAF sites
 - Point and Click?

Procedures

GFE: (jdellica - JWDConfig)

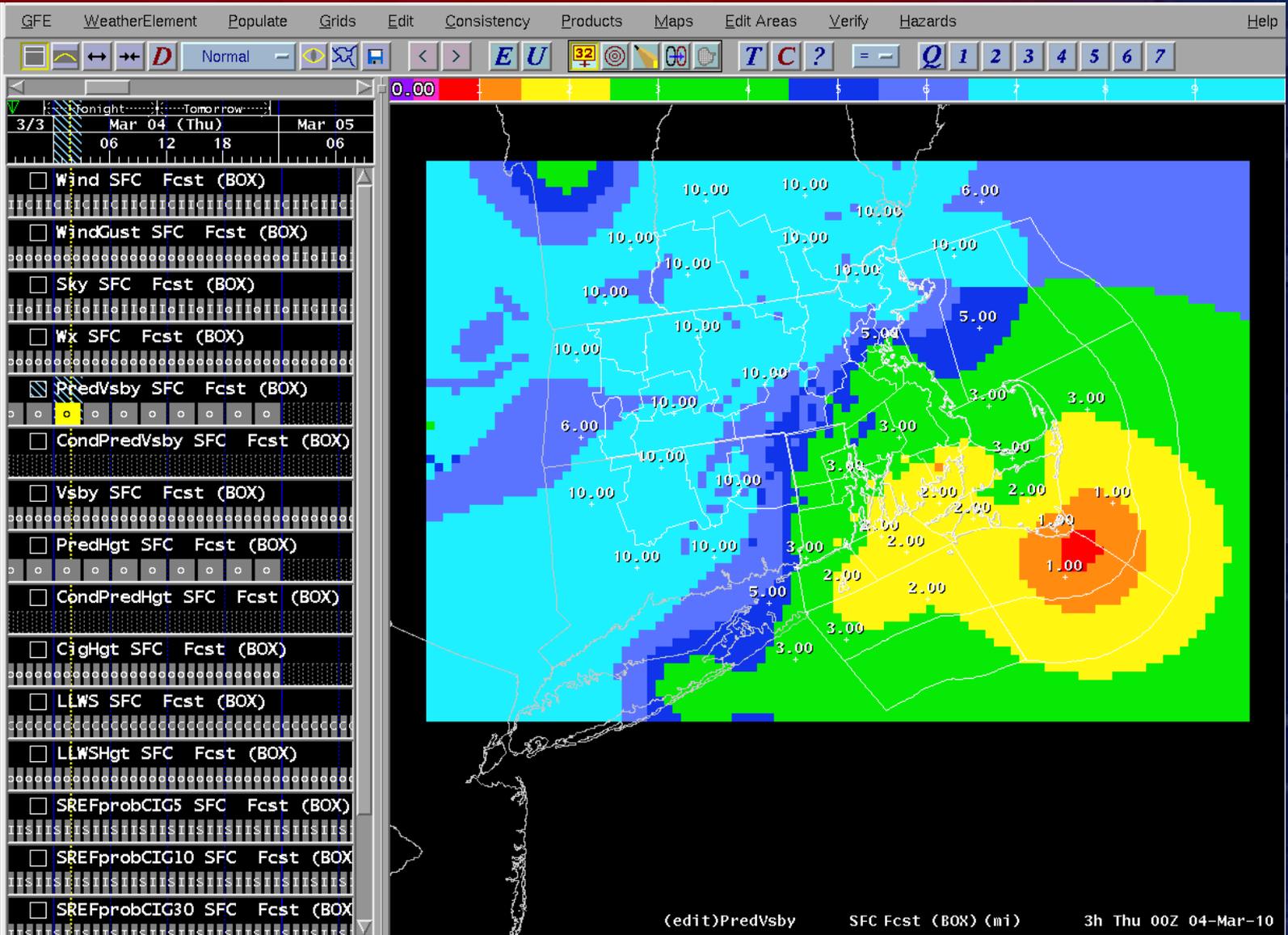
Aviation_CigHgt
 Aviation_CopySREF_CigVsby_Probs
 Aviation_LLWS
 Aviation_MatchGuidance
 Aviation_PredHgtFromRH
 Aviation_PredHgtFromRHnew
 Aviation_QCvsbyWx
 Aviation_Vsby
 BOX_Extended_LLWS
 BOX_Select_localLAPS
 DiffFromClimo
 DiurnalT_BOX
 Extended_MOSGuide
 GenerateCyclone
 MOSGuide_PoP
 MlxHgt_Forecast
 PWS_Procedure
 PopulateFromClimo
 Populate_SkyProcedure
 ReturnFromServiceBkup
 StormTide
 TCMWindTool
 Vsby_Fcst
 WindGust_Forecast
 More
 Copy Selected Grids From...
 Copy All Grids From...

Wind	SFC Fcst (BOX) (kts)	1h Tue 02Z 09-Mar-10
WindGust	SFC Fcst (BOX) (kts)	1h Tue 02Z 09-Mar-10
Sky	SFC Fcst (BOX) (%)	1h Tue 02Z 09-Mar-10
Wx	SFC Fcst (BOX) (wx)	1h Tue 02Z 09-Mar-10
PredVsby	SFC Fcst (BOX) (mi)	1h Tue 02Z 09-Mar-10
CondPredVsby	SFC Fcst (BOX) (mi)	<No Grid>
Vsby	SFC Fcst (BOX) (mi)	1h Tue 02Z 09-Mar-10
(edit)PredHgt	SFC Fcst (BOX) (100ft)	1h Tue 02Z 09-Mar-10
CondPredHgt	SFC Fcst (BOX) (100ft)	<No Grid>
CigHgt	SFC Fcst (BOX) (100ft)	1h Tue 02Z 09-Mar-10
LLWS	SFC Fcst (BOX) (kts)	1h Tue 02Z 09-Mar-10
LLWSHgt	SFC Fcst (BOX) (100 ft)	1h Tue 02Z 09-Mar-10
SREFprobCIG5	SFC Fcst (BOX) (%)	1h Tue 02Z 09-Mar-10
SREFprobCIG10	SFC Fcst (BOX) (%)	1h Tue 02Z 09-Mar-10
SREFprobCIG30	SFC Fcst (BOX) (%)	1h Tue 02Z 09-Mar-10
SREFprobVSBY1	SFC Fcst (BOX) (%)	1h Tue 02Z 09-Mar-10
SREFprobVSBY3	SFC Fcst (BOX) (%)	1h Tue 02Z 09-Mar-10

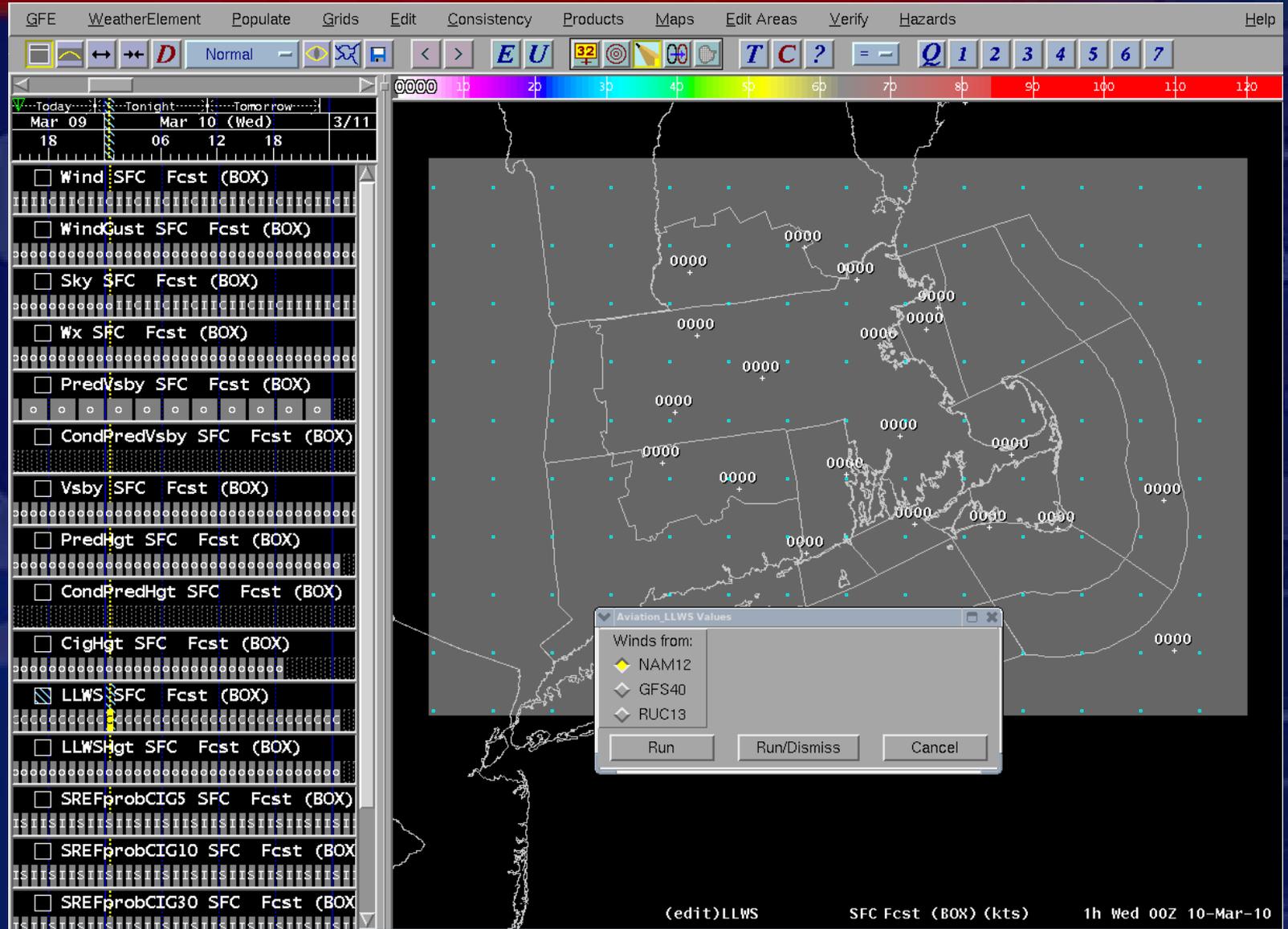
0:4
03/08
10

Status: ISC/Inlt: ISCxmt: Time: 20:44Z 08-Mar-10

Visibility Grid



Low Level Wind Shear



TAF Formatter

The screenshot displays the TAF Formatter application window. The main window has a menu bar with 'GFE', 'Products', 'Data Source', 'Processor', 'Issued By', and 'Help'. A list of products is shown on the left, with 'TAF' selected. A 'TAF Values' dialog box is open in the foreground, allowing configuration of the base time and mode. The background shows a data grid with columns for dates and times.

TAF Values Dialog:

TAF base time	TAF Mode
<input type="radio"/> 00Z	<input type="radio"/> Routine
<input type="radio"/> 06Z	<input checked="" type="radio"/> Amendment
<input type="radio"/> 12Z	<input type="radio"/> Delayed
<input checked="" type="radio"/> 18Z	<input type="radio"/> Corrected

Main Window Product List:

- AFD
- AFM
- CCF
- CWF
- ESF (Eastern Region ESF Formatter)
- FTP
- FWF
- FWS
- HourlyData
- MVF
- PFM
- PNS (ER PNS Formatter)
- SAF
- SFT
- SPS
- SRF
- StormTideSHEF
- TAF
- TotalWaterLevel
- ZFP
- CivilEmergency
- Hazard
- Baseline
- BaselineHazard
- Region
- Product Editor / Make Correction

System Information:

Status: [Green] Text Status: [Green] ISCxmt: [Green] Time: 19:51Z 03-Mar-10

TAF Formatter

Products Data Source Processor Issued By Help

TAF

File Edit Options CallToActions

```

FTUS41 KBOX 031952 AAX
TAF AMD
KBOS 031952Z 0320/0424 03019G31KT 3SM -SN OVC025
FM032100 03019G31KT 6SM -SN OVC008
FM040000 03018KT 3SM -SN OVC008
FM040300 02018KT 2SM -SN OVC015
FM040600 02019KT 3SM -SN OVC015
FM041200 01019G27KT P6SM VCSH OVC050
FM041500 01019G28KT P6SM OVC025
FM041600 01018G28KT P6SM VCSH OVC025
FM041800 01017G26KT P6SM -SN OVC015=

TAF AMD
KPVD 031952Z 0320/0418 03018G34KT 3SM -SN OVC020
FM032100 03018G33KT 3SM -SN OVC015
FM032300 02017KT 3SM -SN OVC015
FM040000 02017KT 3SM -SN OVC008
FM040300 02016KT 2SM -SN OVC008
FM040600 01017KT 2SM -SN OVC015
FM040900 36016KT 3SM -SN OVC015
FM041200 01015G27KT P6SM VCSH OVC025
FM041500 01016G27KT P6SM OVC025
FM041600 01015G26KT P6SM VCSH OVC025=

TAF AMD
KBDL 031952Z 0320/0424 01014G26KT 3SM -RA OVC008
FM032100 01014G26KT P6SM -RA OVC008
FM032300 36013KT P6SM -SN OVC008
FM040000 36013KT P6SM -SN OVC050
FM040300 36013KT P6SM -SN OVC025
FM040800 35012KT P6SM OVC025
FM041200 35012KT P6SM OVC050
FM041500 35013G23KT P6SM OVC025=

TAF AMD
KBAF 031952Z 0320/0418 02012G24KT 6SM -RA OVC010
FM032100 02012G23KT P6SM -RA OVC008
FM032200 02012G20KT P6SM -SN OVC008
FM040000 02012KT P6SM -SN OVC050
FM040300 02011KT P6SM -SN OVC015
FM040800 01012KT P6SM OVC015
FM040900 01012KT P6SM OVC025
FM041200 36012KT P6SM OVC050
FM041500 01014G23KT P6SM OVC025=

TAF AMD
KORH 031952Z 0320/0418 03012G30KT 1SM -SN OVC003
FM032100 03012G30KT P6SM -SN OVC003

```

Save Draft Transmit... Type: rou Product expires in: 12 At: 08:00Z 04-Mar-10

AvnFPS OB9.2 Monitor connected to local host

File Options

TAF Editor Climate

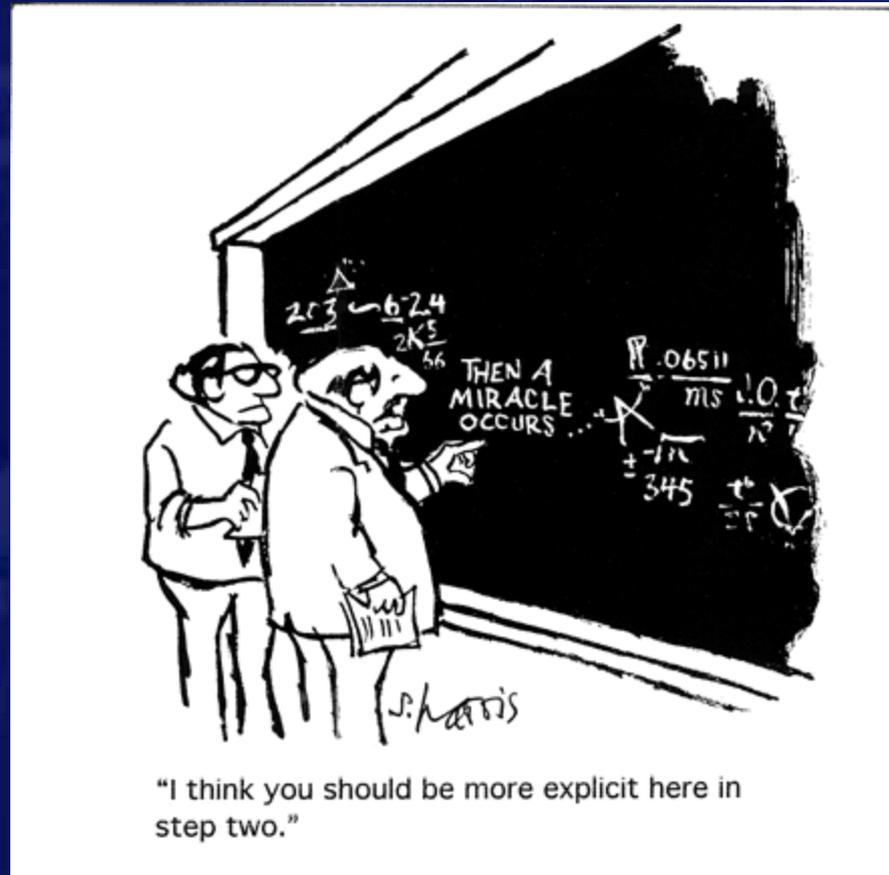
DATA-px2f XMIT-px2f INGEST-px2f

Current Observation 2-h Persistence

KBOS	<input type="checkbox"/>	TAF 17:21 MTR 17:54	tpo cat wnd wx	cat wnd wx
KPVD	<input type="checkbox"/>	TAF 17:21 MTR 17:51	tpo cat wnd wx	cat wnd wx
KBDL	<input type="checkbox"/>	TAF 17:21 MTR 17:51	tpo cat wnd wx	cat wnd wx
KBAF	<input type="checkbox"/>	TAF 17:21 MTR 17:53	tpo cat wnd wx	cat wnd wx
KORH	<input type="checkbox"/>	TAF 17:21 MTR 17:54	tpo cat wnd wx	cat wnd wx
KMHT	<input type="checkbox"/>	TAF 17:21 MTR 17:53	tpo cat wnd wx	cat wnd wx
KFMH	<input type="checkbox"/>	TAF 17:21 MTR 18:15	tpo cat wnd wx	cat wnd wx
KHYA	<input type="checkbox"/>	TAF 17:21 MTR 17:56	tpo cat wnd wx	cat wnd wx
KACK	<input type="checkbox"/>	TAF 17:21 MTR 17:53	tpo cat wnd wx	cat wnd wx



Verification



Additional Updates

Additional Updates



Additional Updates

- New 1" Hail Criteria and Aviation
- CWSU WIPs Webpage
 - <https://ocwws.weather.gov/cwsu/index.shtml>
- NextGen Public Website
 - www.weather.gov/nextgen
- National Aviation Brochure
 - www.weather.gov/aviaiton
- AWIPS II

New 1" Hail Criteria and Aviation

- **Is the Aviation Community Impacted?**
- **Products Aviation Community Concerned About... with “Potentially” Impacts**
 - **Aviation Watch Notification (SAW)**
 - **Issued for 1/2” hail and greater**
 - **Convective SIGMET**
 - **Issued based on FAA regulations**
 - **Airport Weather Warnings**
 - **Locally driven criteria (small hail and greater)**

National Weather Service

AVIATION WEATHER SERVICES



NWS 10-813 Update

NWS 10-813 Update



Thanks for Your Time!

