



3^d Weather Squadron

Integrity - Service - Excellence

FORECAST PERFORMANCE METRICS

**RGAAF Weather Station
January 2012**





Overview

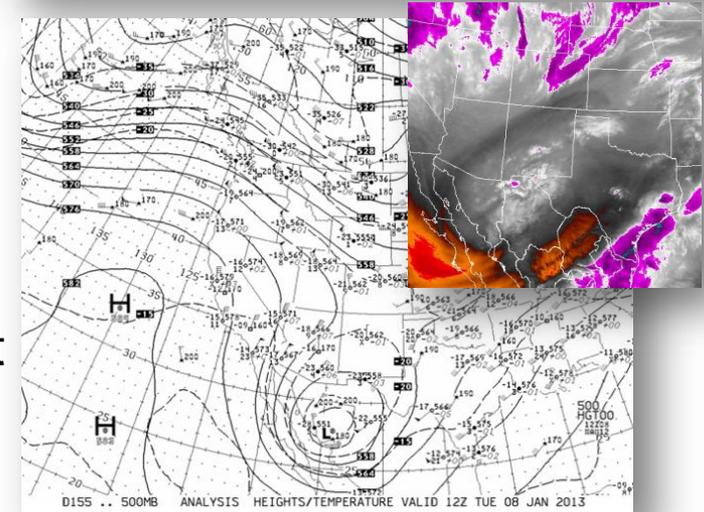
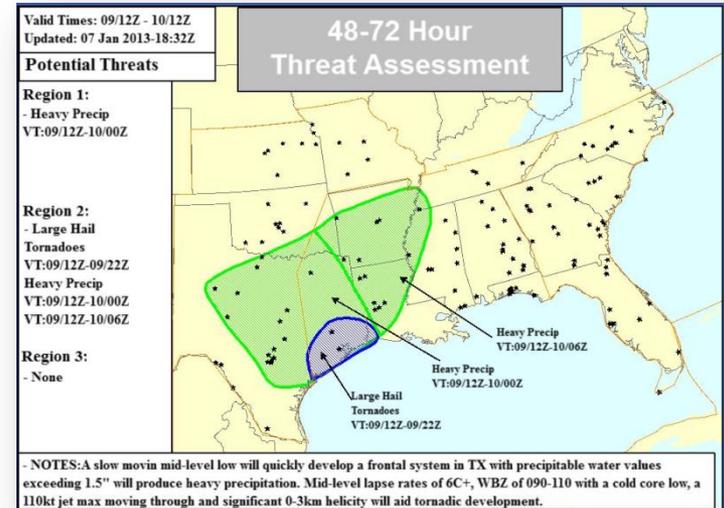
- Monthly Weather Summary
- How do we measure our performance?
- Verification Statistics
- Flight Weather Briefings
- Weather Warnings





January 2013 Weather Summary

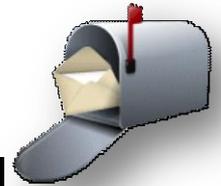
January 2013 continued the trend experienced latter half of 2012--warm and dry. Total monthly rainfall looked good (3.31 inches)—well above the monthly average of 1.6 inches (January is typically the driest month). Unfortunately, nearly all of it fell on the evening of 8-9 Jan from a single storm system. Only .12 inches fell the remainder of the month. Average daily maximum temperature was 62 degrees--4 degrees above normal. We set or tied three new daily high temperatures. We hit 70 or higher 11 days and the mercury hit 80 or higher 3 days during January! Latest North Texas drought information can be obtained at: <http://www.srh.noaa.gov/fwd/?n=drought>





How well are we forecasting mission impacting weather?

- Best measure of our performance is direct feedback from aircrews and other operators
 - Click on “Feedback Icon” on our flimsy; send an E-mail
 - Complete Flight Weather Briefing Feedback Form on our webpage or faxed with all DD175-1s
 - Call RGAAF weather station Flight Chief at 288-9166
- Please provide mission specifics:
 - Was weather forecast for your mission Go or No Go?
 - Was actual weather for your mission Go or No Go?
 - Was your mission altered or cancelled due to weather?
- We’ll take good and bad comments!



How are we doing?
Your feedback is important to us!

Please circle the appropriate response, provide mission specifics, and enter any additional comments in Remarks.

1. Weather Forecast for your mission was: GO NO GO
2. Actual weather for your mission was: GO NO GO
3. Was your mission altered or cancelled due to weather: YES NO
4. Mission Details:
Aircraft Type: Call Sign/Tail # Type Briefing: Brief/Date/Time:
Remarks:

Please fax this form to the Weather Operations Center (RGAAF) Weather Station at OBA 710 1100. Copies 250,000 1100 to send an Email to the Flight Chief: dan@obafleetops.com



Aircrew Feedback

- 1 Aircrew Briefing Form returned in **January**
 - **UC35/Pat 601 Wx=Go Mission=Go; Remarks: never snowed at ADW, but ceilings, icing, and turbulence were accurate**

**Please give us
feedback—good
or bad!**

GIVE US PIREPS!

2012-02-24 09:21 P. 2/2

HLR003



**How are we doing?
Your feedback is important to us!**

Please circle the appropriate response, provide mission specifics, and enter any additional comments in Remarks.

1. Weather Forecast for your mission was: GO NO GO

2. Actual weather for your mission was: GO NO GO

3. Was your mission altered or cancelled due to weather: YES NO

4. Mission Details:

Aircraft Type	Call Sign/Tail #	Type Briefing (circle 1 or 2)	Brief Date/Time
737	60101	1	0900

Remarks:
Good job
No snow at ADW

Please fax this form to the Weather Operations Center (30CAF Weather Station) at DSN 738 1180 / Comm 324 288 1180 or send an E-mail to the Flight Commander: T1 Casey Christensen: casey.christensen@af.mil or to the NCOIC: MSgt Fawcett: fawcett@30caf.af.mil



PIREPS

- We received “3” PIREPs from aircrews/ATC



Please call us!

**“Gray METRO - UHF 306.5
Help the next aircrew/mission!”**





Objective Method

- In addition to direct feedback we employ an objective method to measure (verify) our forecast performance:
 - We selected three key operational parameters:
 - Ceiling / Visibility < 1000 feet / 3 miles (*IFR*)
 - Ceiling / Visibility < 500 feet / 1/2 mile (*HLR Airfield Minimums*)
 - Thunderstorms (*Lightning Warning issued for Fort Hood*)
 - We measure the accuracy of each Fort Hood Reservation Forecast (Flimsy) published on the 3 WS web page
 - We use weather observations at GRK, HLR, GOP (Gatesville), and any PIREPs to verify each Flimsy at the 3-, 6-, and 12- hour point from the original issuance time

The image shows a complex weather forecast table titled "3d WEATHER SQUADRON - FORT HOOD MISSION PLANNING DECISION FORECAST". It includes sections for "FLIGHT OPERATIONS", "FLIGHT LEVELS, WINDS, DENSITY, AND TEMPERATURES (FC)", "FLIGHT OPERATIONS FOR LOCAL FLYING AREA (over FHO)", "METRIC TRAINING AREA (over FHO)", and "METRIC TRAINING AREA (over FHO)". The table contains multiple columns for time, location, and various weather metrics like visibility, ceiling, and wind speed.

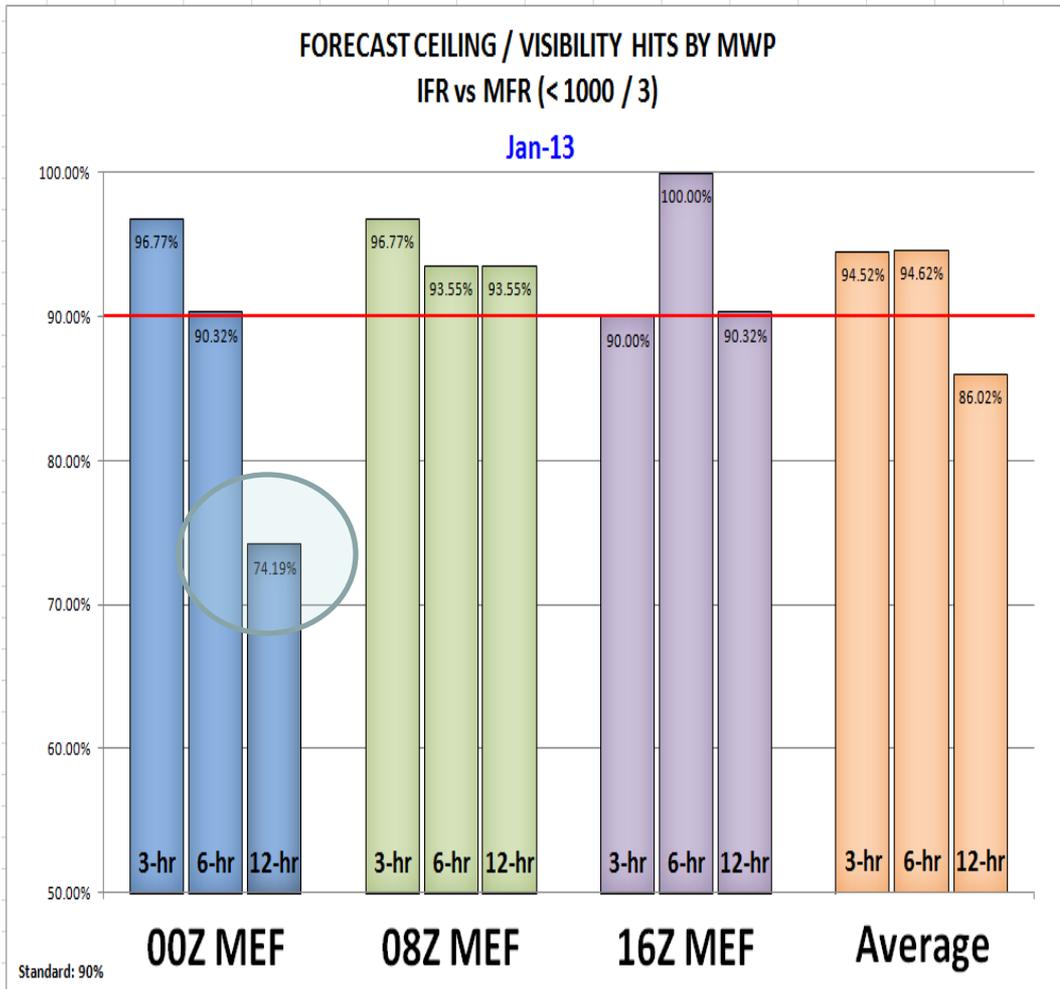


Did the Forecast or Weather Impact the Mission?

- Did we forecast “GO” weather for your mission and weather was “GO”--mission completed
- Did we forecast “GO” weather for your mission and weather was “NO GO”--mission cancelled or changed due to un-forecast weather
- Did we forecast “NO GO” weather for your mission and weather was “GO”--mission cancelled or changed due to forecast (*lost opportunity or needless change*)
- Did we forecast “NO GO” weather for your mission and weather was “NO GO”--mission cancelled or changed due to forecast/weather (*if inserted early in planning process this situation can prevent wasted time and enhance overall planning process*)



January 2013 IFR vs VFR



00Z Flimsy (1800L)

- Planning Forecast for next day
- 74% correctly forecasted IFR conditions next morning
 - Four 4 false-alarms and four missed forecasts=zero bias

08Z Flimsy (0200L)

Early morning missions

- 3-Hr - Correctly forecasted "NoGo" 5 of 5 occurrences with only 1 false alarm
- 6-Hr - Correctly forecasted "NoGo" 8 of 9 occurrences with only 1 false alarm

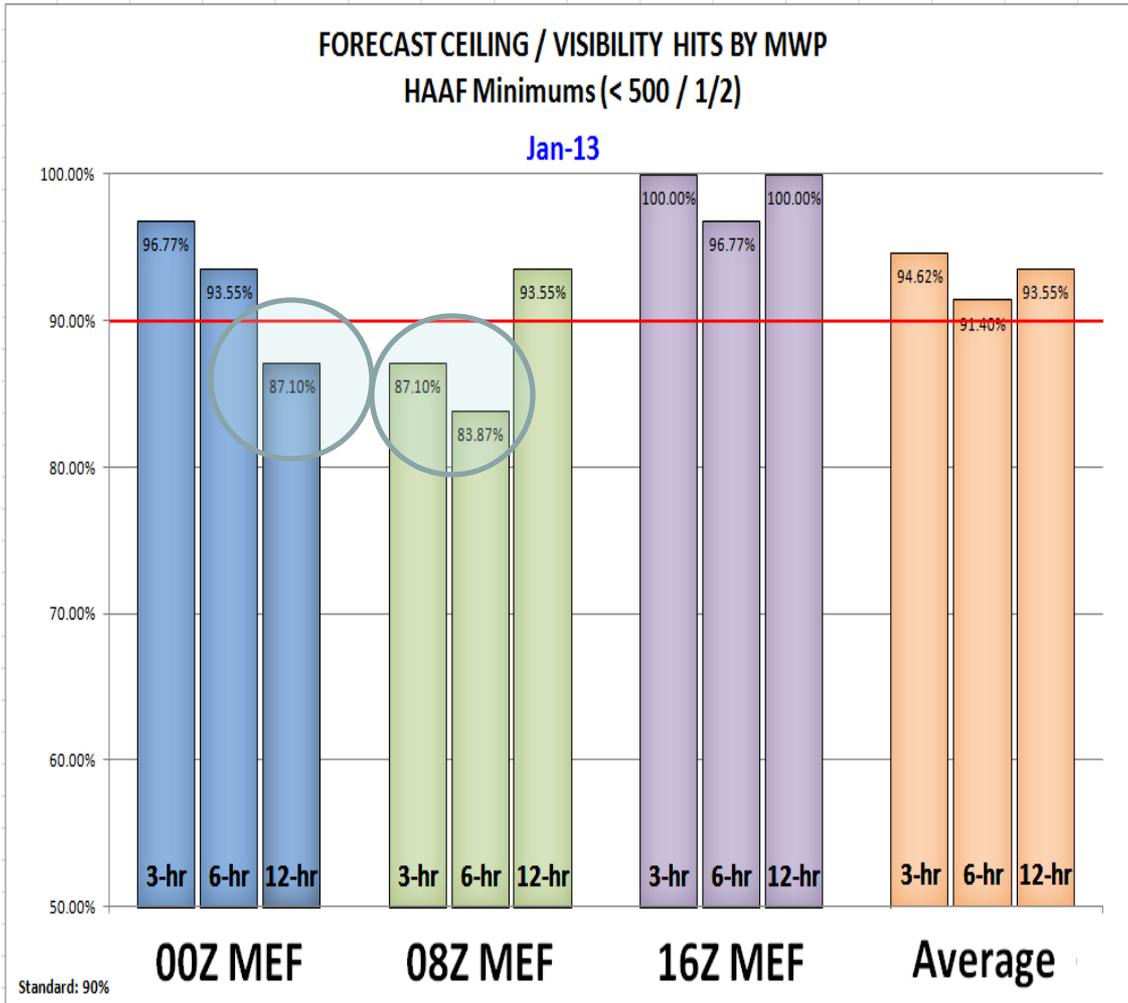
16Z Flimsy (1000L)

Afternoon/Evening missions

- 3 for 4 at 3-Hr execution forecast and 2 for 2 at the 6-Hr time—outstanding!



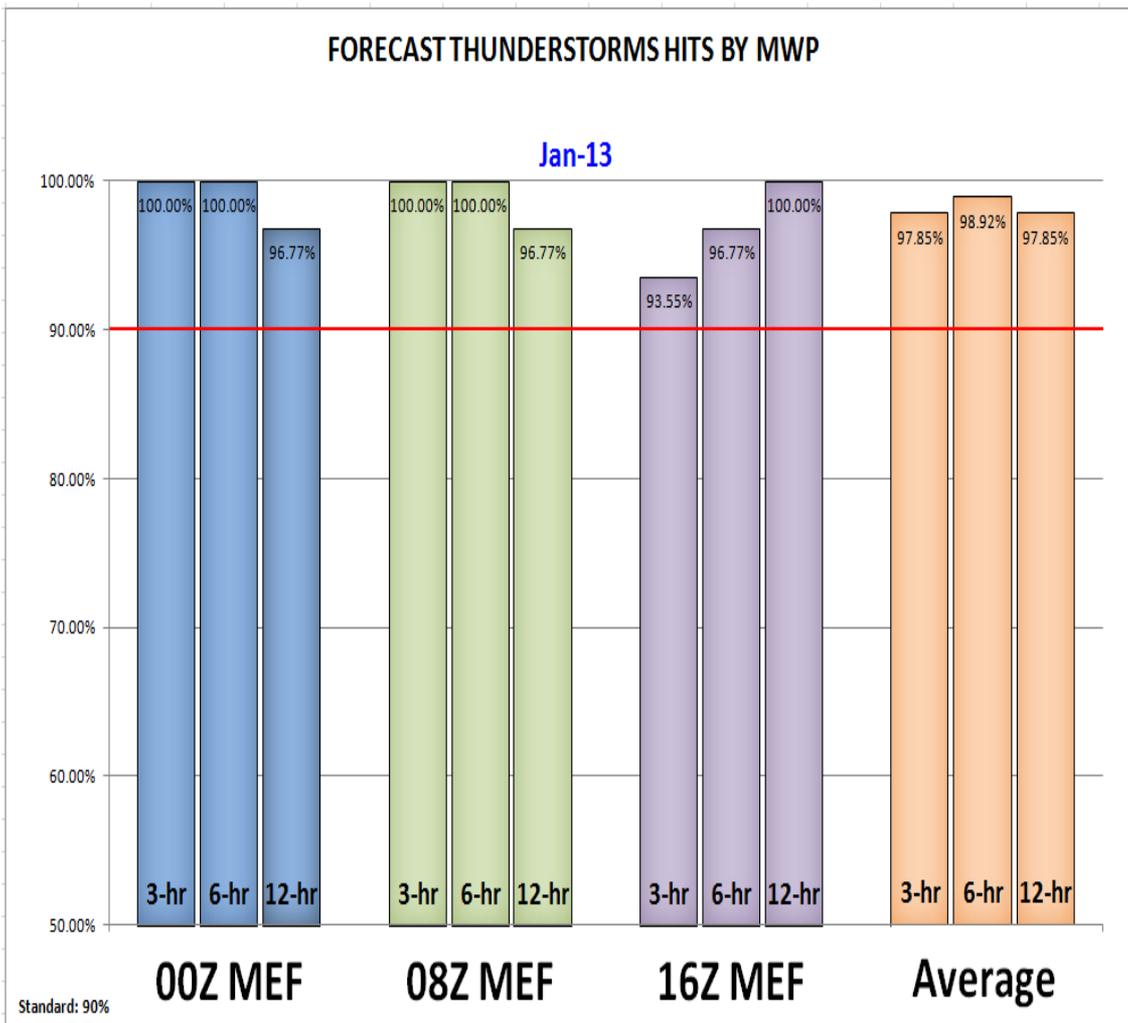
January 2013 HAAF Minimum



- Continue to struggle here a little—did not correctly forecast LIFR the next morning in the 00Z planning flimsy, but not for the lack of trying—3 FA and only one missed forecast—aggressive
- Too aggressive on 08Z Flimsy with 6 false alarms, but 5 had IFR conditions present



January 2013 Thunderstorms

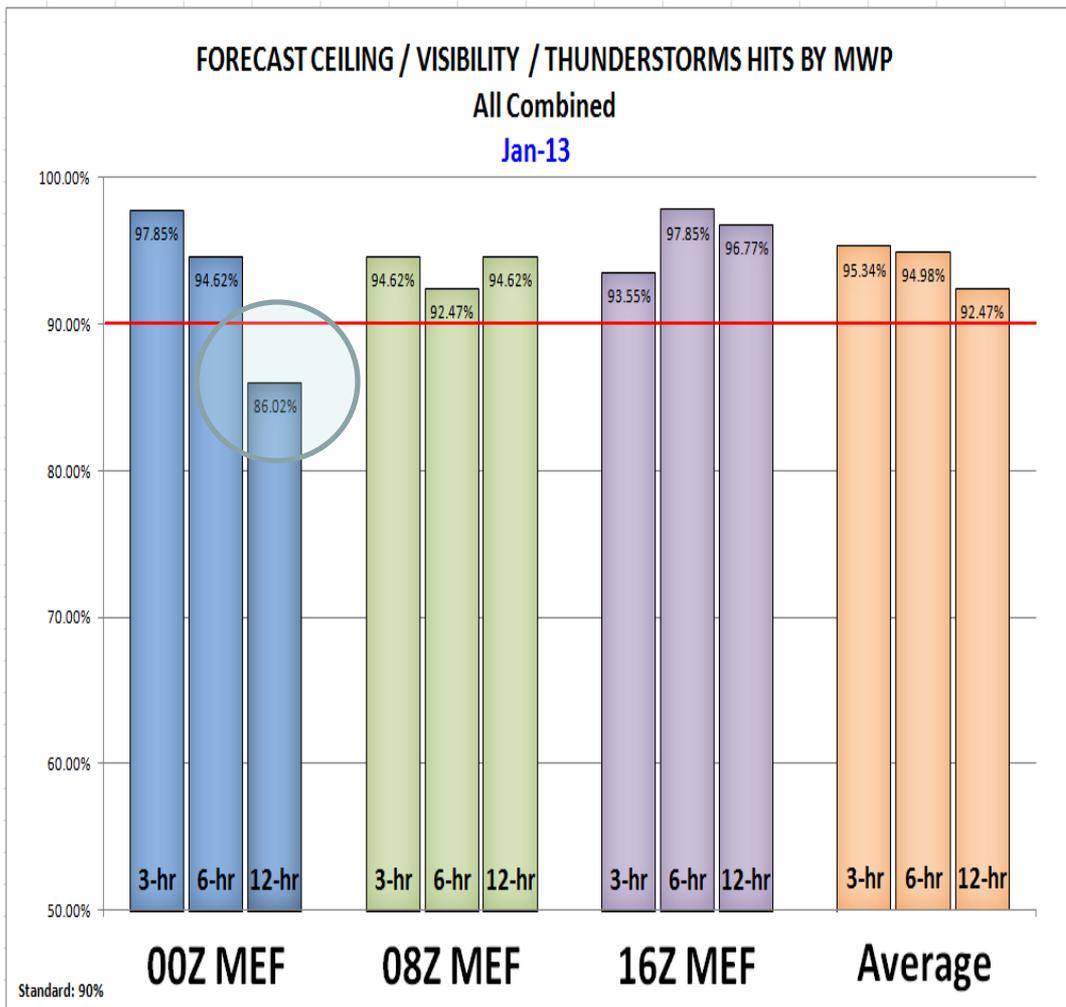


- *Thunderstorms on Fort Hood and subsequent Lightning Warnings have a larger impact during Summer months while low ceilings/visibilities occur more during Winter*

- Only 2 thunderstorm days during the month—good job forecasting both events--no missed forecast, just some timing issues



January 2013 All Combined

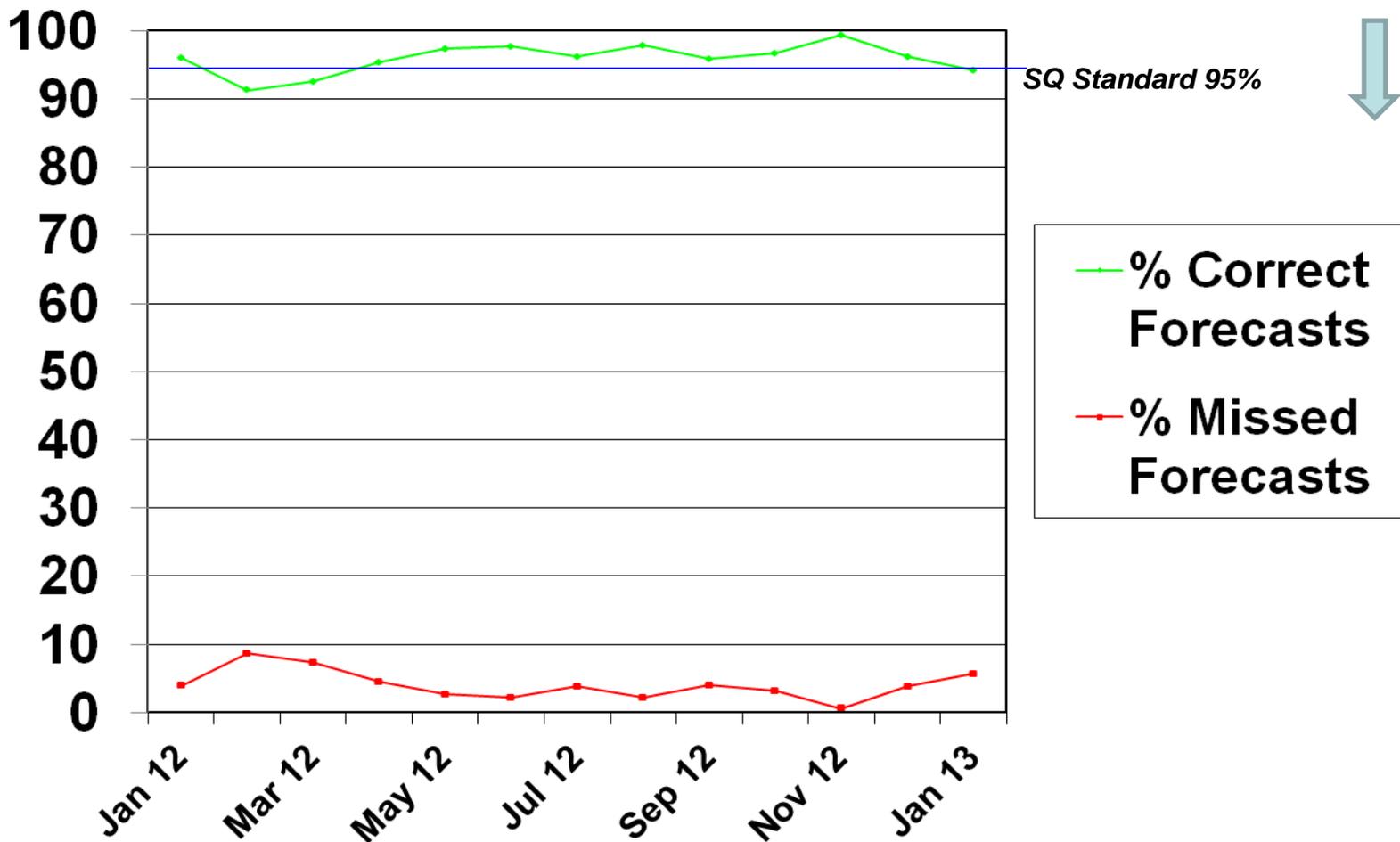


- Overall **94%** forecast accuracy—percentage down a little over last month, but we experienced more challenging weather—saw strong improvement in some areas!

**Use our forecasts early in your planning process--they can prevent wasted time and enhance your overall flight/mission planning*

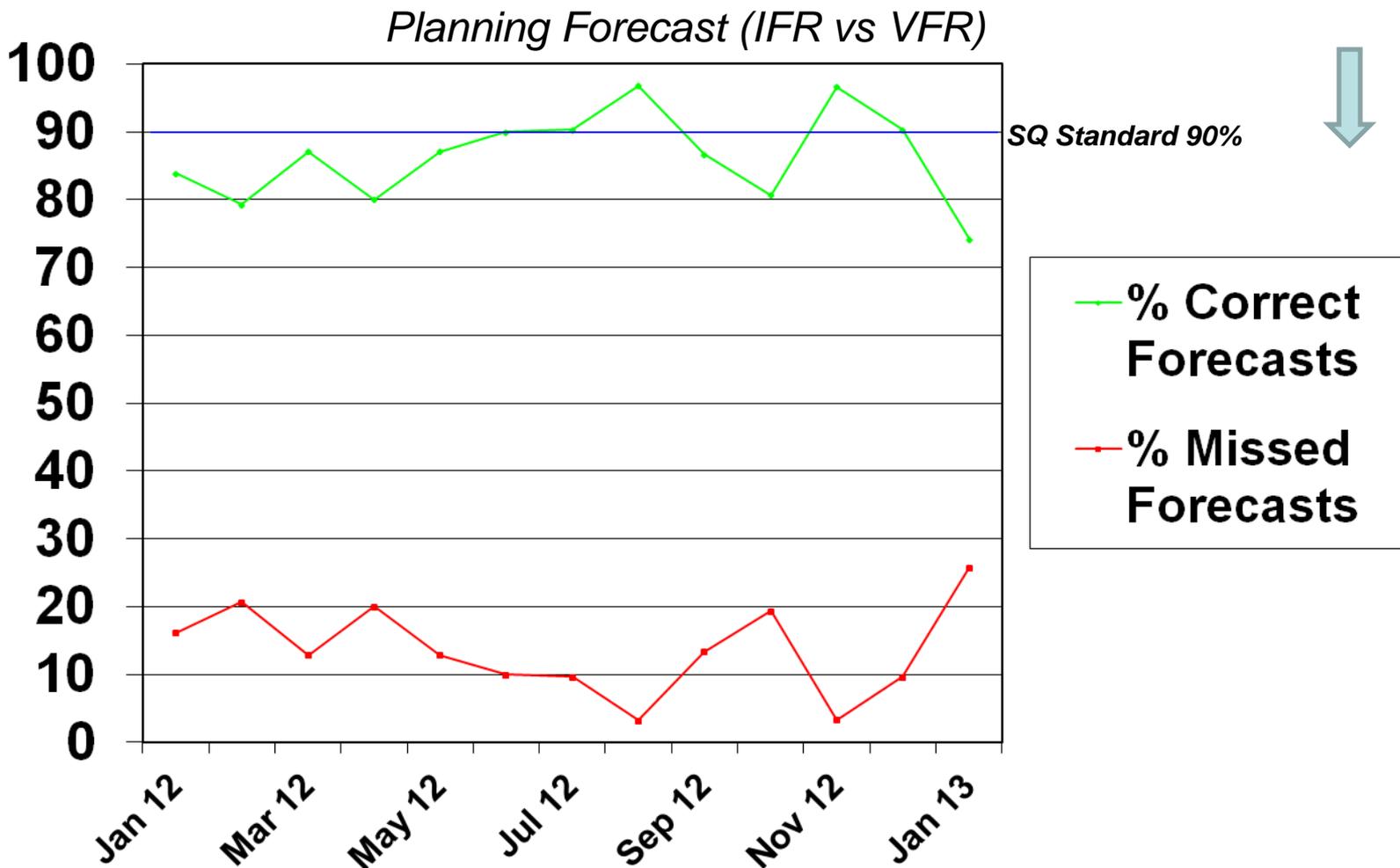


Overall MWPVER Trend



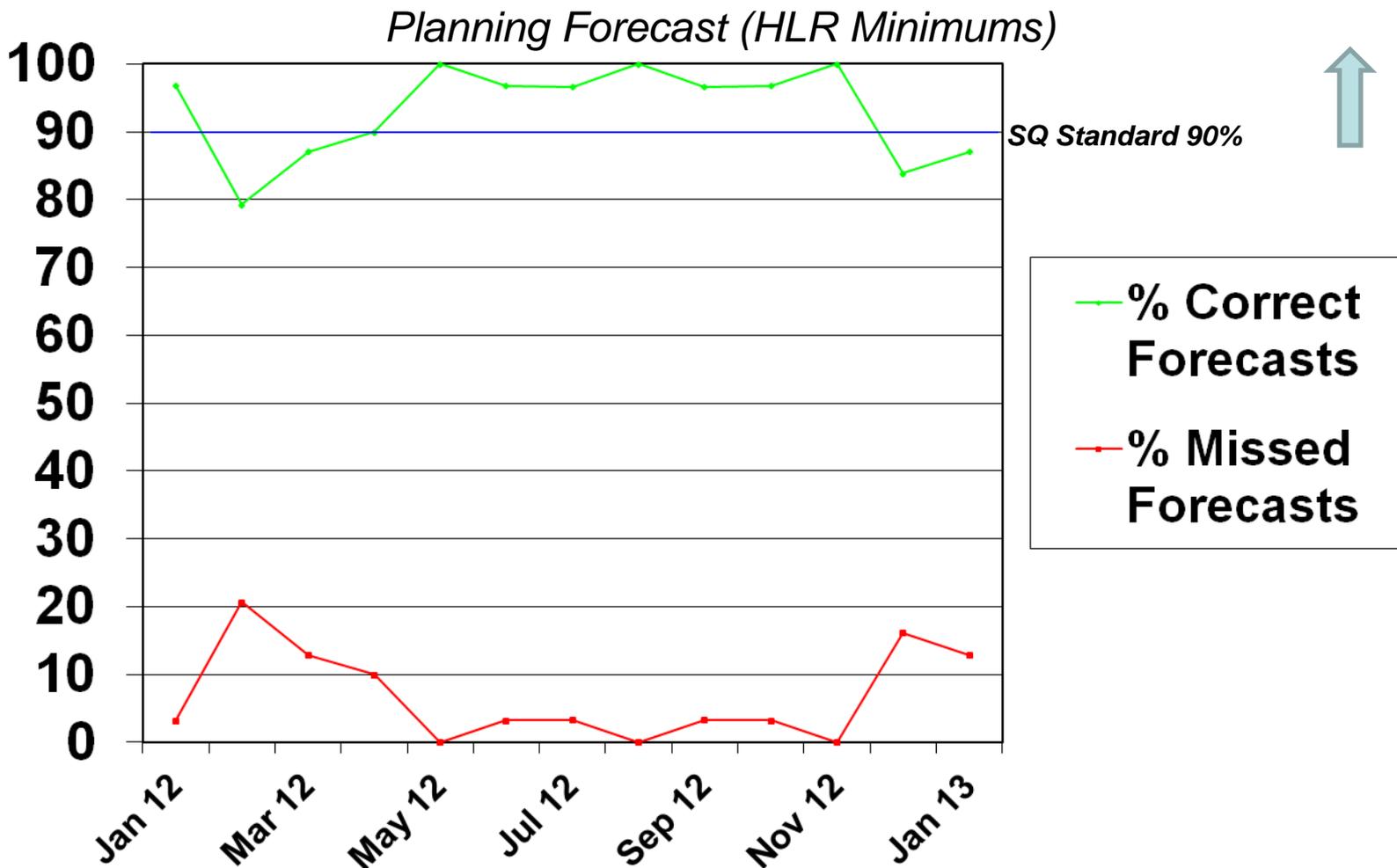


00Z MWP 12-Hour IFR vs VFR Forecast Trend





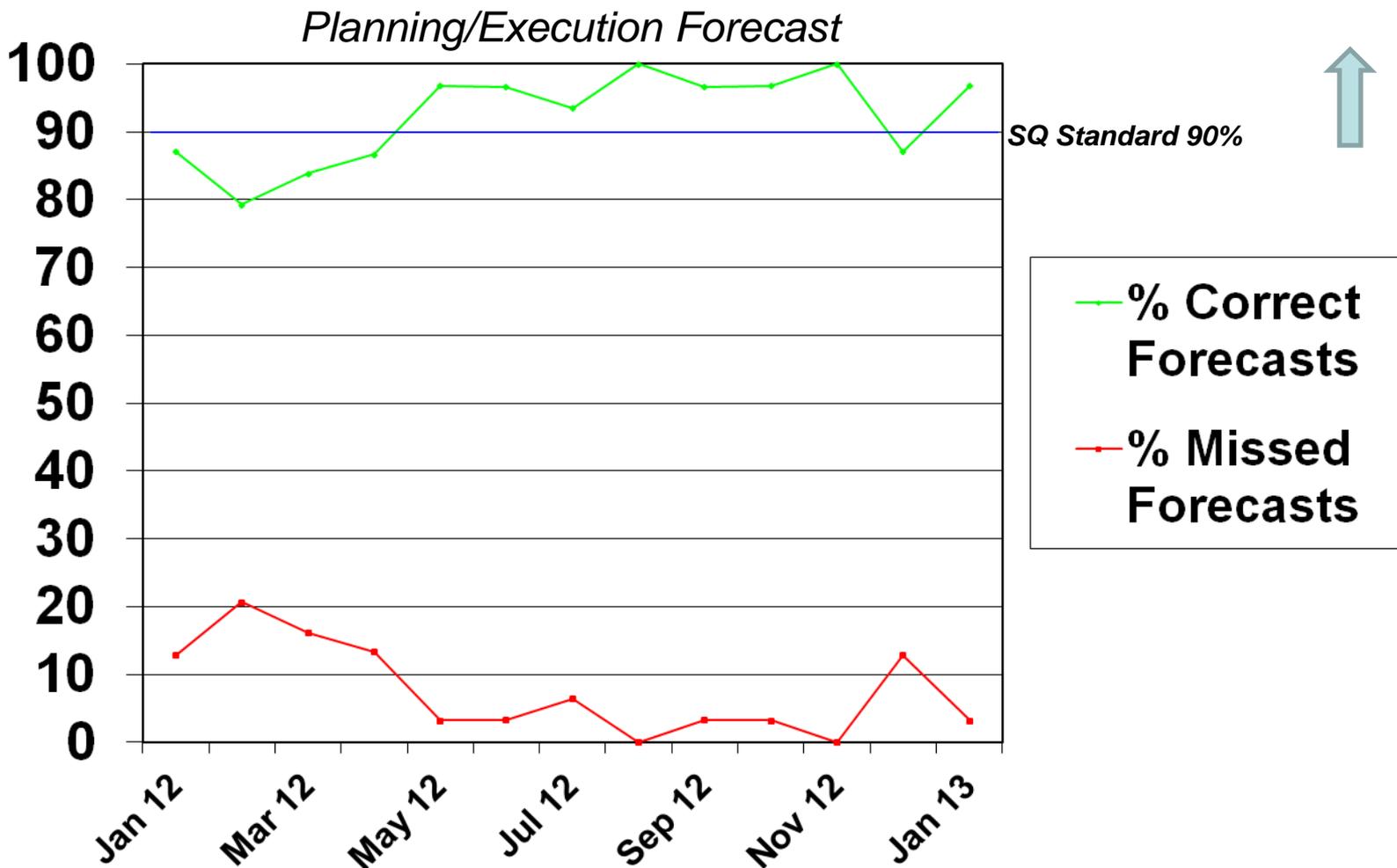
00Z MWP 12-Hour **500** / $\frac{1}{2}$ Forecast Trend





08Z MWP

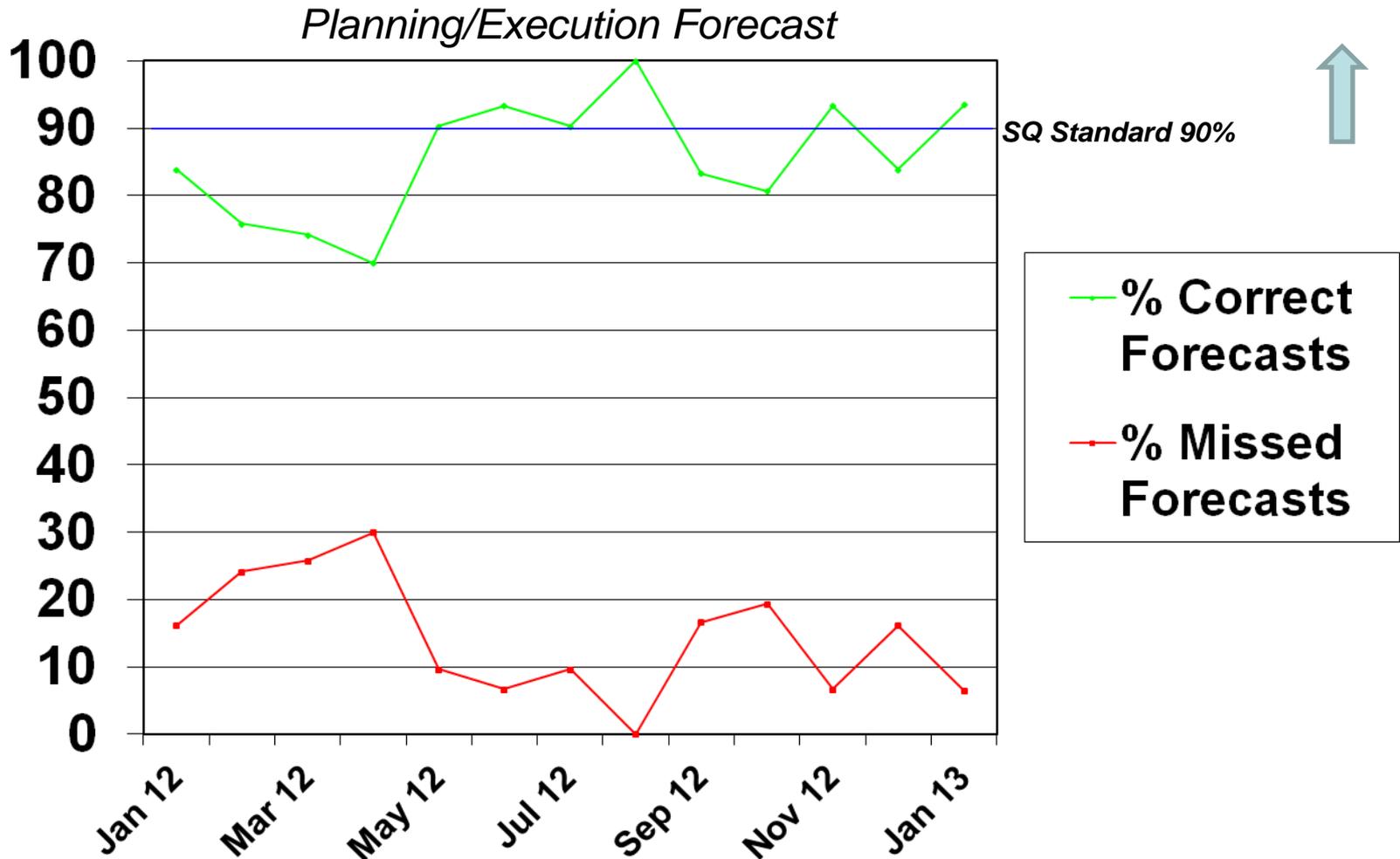
3-Hour IFR vs VFR Forecast Trend





08Z MWP

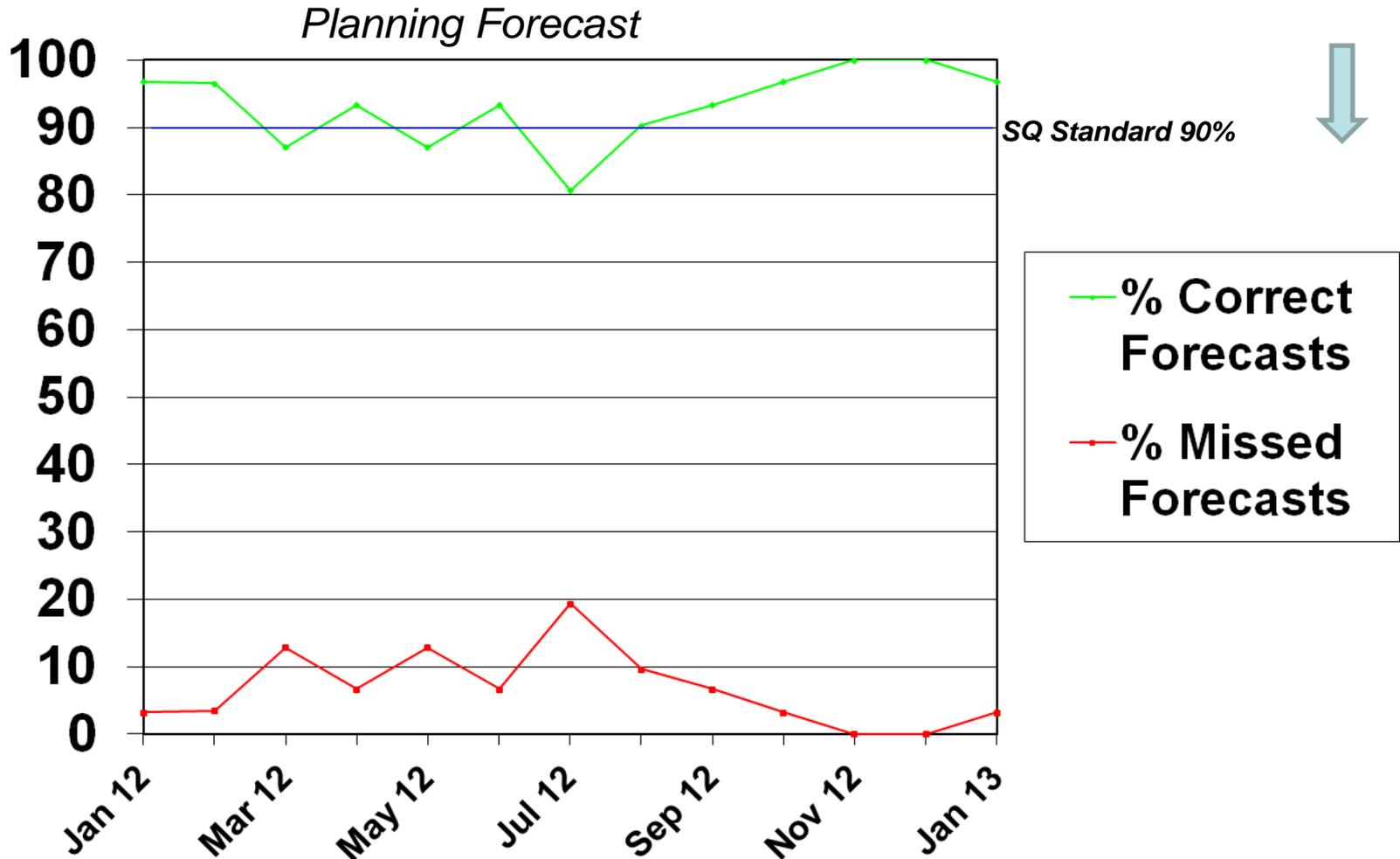
6-Hour IFR vs VFR Forecast Trend





08Z MWP

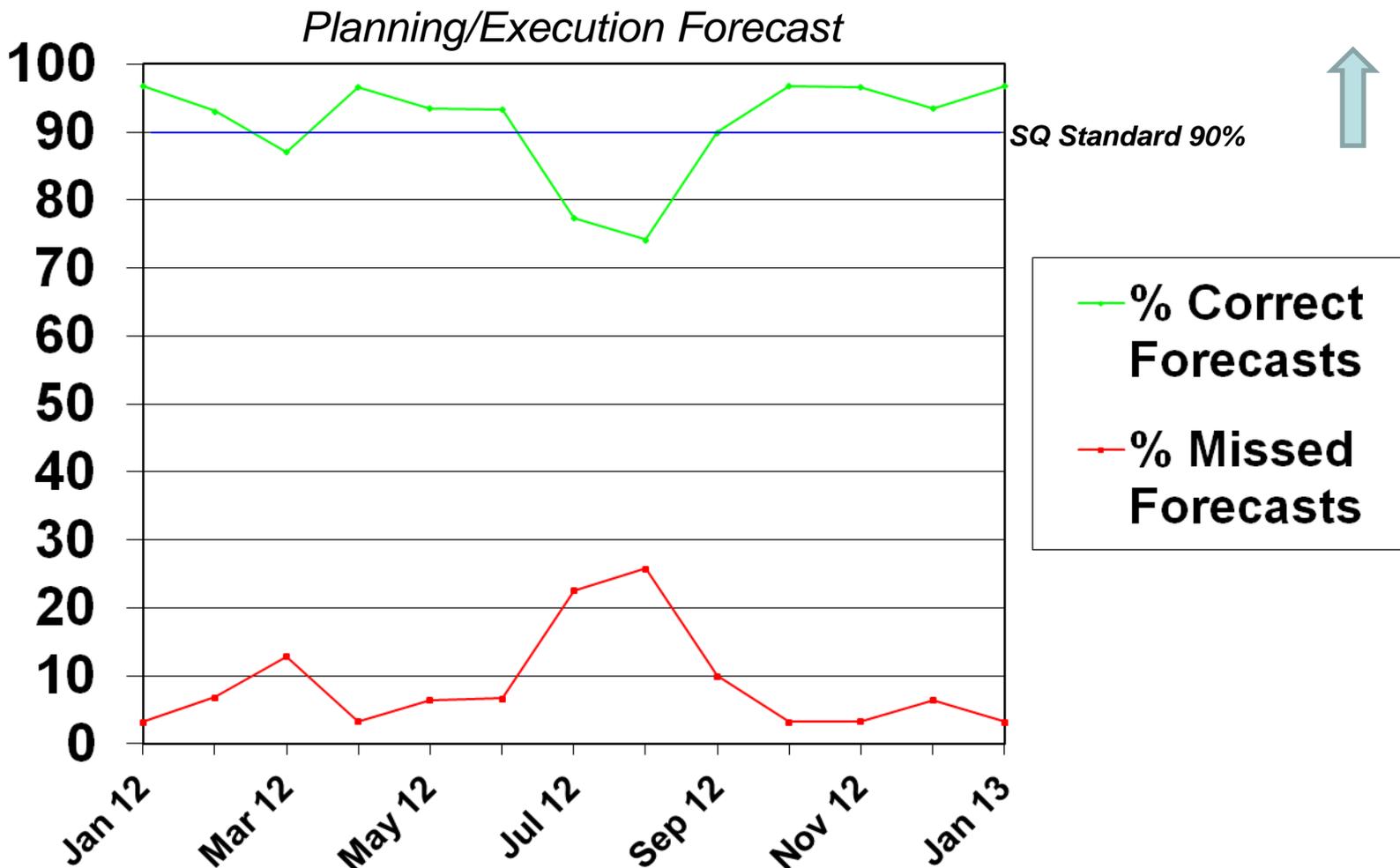
12-Hour Thunderstorm Forecast Trend





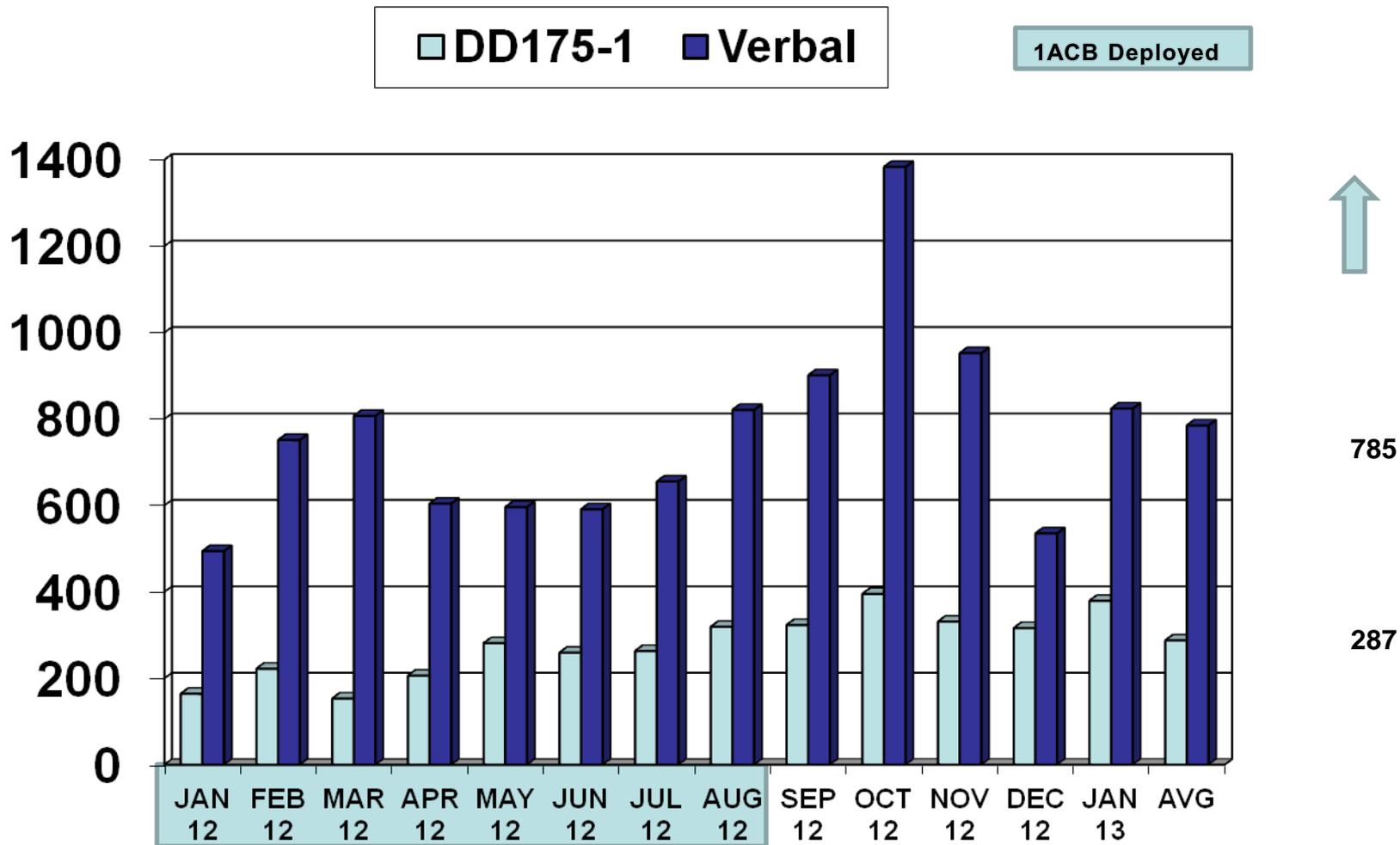
16Z MWP

6-Hour Thunderstorm Forecast Trend





Flight Weather Briefings



Average ~39 Flight Weather Briefings per day in January

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26 OWS WARNVER – Fort Hood

IWWC – Jan 2013

Criteria	Desired Lead-Time	Lead-Time	Remarks
Heavy Rain 2"/12hr	1 hr	+14:59	KGRK 2.26 in/12hr
Moderate Thunderstorms	1 hr	N/A	False Alarm
Strong Wind ($\geq 35 < 50$ kt)	1 hr	N/A	False Alarm
Freezing Precipitation	1 hr	+4:14	(not in original MEF)
Strong Wind ($\geq 35 < 50$ kt)	1 hr	N/A	False Alarm
Strong Wind ($\geq 35 < 50$ kt)	1 hr	+2:49	KGRK 34 kt (90%)
Strong Wind ($\geq 35 < 50$ kt)	1 hr	+5:00	KGRK 35 kt
Severe Thunderstorms	1 hr	N/A	False Alarm (HLR 40 kt)
Strong Wind ($\geq 35 < 50$ kt)	1 hr	+4:40	KGRK 34 kt (90%)



26 OWS WARNVER – Fort Hood

IWWC – Jan 2013

Does not include extensions/amendments...

WWA SUMMARY

Criteria	# Req	# Issued	# MDLT	# RBNI	Met 50% DLT	QPM	False Alarm Rate
Damaging Wind ≥ 45 kt	0	0	0	0	0	N/A	N/A
Severe Thunderstorm	0	1	0	0	0	N/A	N/A
Moderate Thunderstorm	0	1	0	0	0	N/A	N/A
Strong Wind $\geq 35 < 45$ kt	3	5	3	0	3	100%	40%
Freezing Precipitation	1	1	1	0	1	100%	0%
Heavy Rain ≥ 2 in /12 hr	1	1	1	0	1	100%	0%
TOTALS	5	9	5	0	5	100%	44%

OUTSTANDING TEAMWORK BETWEEN THE AF REGIONAL WEATHER CENTER (26 OWS) AND 3 WS!!!



26 OWS WARNVER – Fort Hood

IWWC – Jan 2013

Does not include extensions...

Lightning Watches

(Lightning within 5nm of Fort Hood Reservation)

Desired Lead-Time (Advance Notice) = 30 minutes

# Req	# Issued	# MDLT	# RBNI	QPM	False Alarm Rate
3	5	2	0	67%	40%

OUTSTANDING TEAMWORK BETWEEN THE AF REGIONAL WEATHER CENTER (26 OWS) AND 3 WS!!!

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3 WS WARNVER

IWWC – Jan 2013

Does not include extensions/amendments...

Western Training Area (WTA) - Thunderstorm Watches
Desired Lead-Time (Advance Notice) = 2 hours (Issued by 3 WS)

# Req	# Issued	# MDLT	Met 50% DLT	# RBNI	QPM	False Alarm Rate
3	3	2	2	0	67%	0%

Observed Weather Advisories Issued:

- 10 Surface Wind \geq 25 kt
- 1 Moderate icing



Questions?

**Please contact
the current
RGAAF Weather Station
Flight NCOIC**

at

288-9166/288-4331

or E-mail:

neel.a.rodgers.mil@mail.mil