



3^d Weather Squadron

Integrity - Service - Excellence



FORECAST PERFORMANCE METRICS

**RGAAF Weather Station
September 2016**





Overview

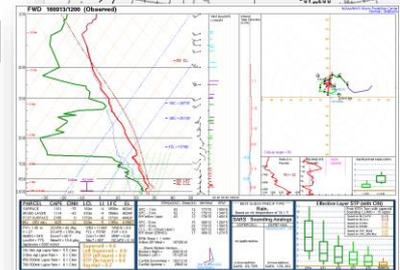
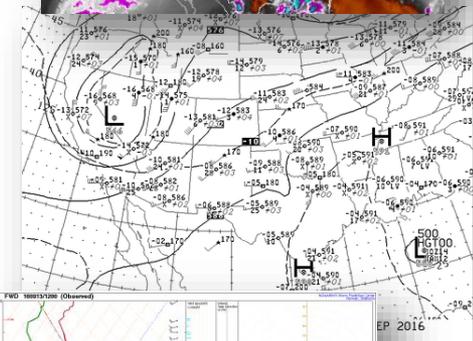
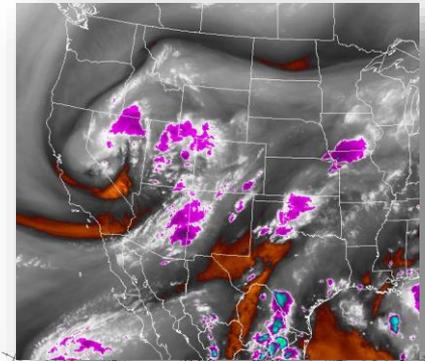
- Monthly Weather Summary
- How do we measure our performance?
- Verification Statistics
- Flight Weather Briefings
- Weather Warnings





September 2016 Weather Summary

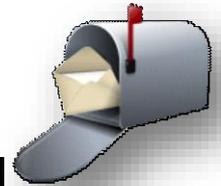
- Generally, slightly warmer/drier than normal
- Average daily maximum/minimum temperature near normal, but overall average a degree above normal
 - Highest temperature was 96...below record of 111 degrees set in 2000
 - Lowest temperature was 53 set the last morning of the month
- Only .85" of rain recorded
 - Scattered rainshowers on the 25th dropped more than 3" on some areas of Fort Hood based on radar estimates
 - About 3/4 inch above normal for the year





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 or 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 288 738 1100. Copies 288 738 1100 or send an Email to the Flight Chief: flight.chief@3dws.af.mil



Aircrew Feedback

- **2** Feedback Forms / E-mails in **September**

We Need feedback!!!



Forecasters...don't forget to pass along the feedback forms...solicit feedback during re-briefs!



Aircrew Feedback

Aircraft Type	Call Sign/Tail #	Type Briefing (DD175-1 or Verbal)	Brief Date/Time
----------------------	-------------------------	--	------------------------

UH60	26575	DD175-1	12SEP16
------	-------	---------	---------

Name/Rank	Phone Number	E-mail
------------------	---------------------	---------------

CPT Wagner, Geoffrey	832-212-7653	Geoffrey.r.wagner.mil@mail.mil
-------------------------	--------------	--------------------------------

Remarks

Weather briefers were able to send -1 as requested and provide brief over the phone with changes according to takeoff time and altitudes. Actual weather conditions were as briefed.



Aircrew Feedback

Aircraft Type	Call Sign/Tail #	Type Briefing (DD175-1 or Verbal)	Brief Date/Time
C560	R60110	DD175-1	

Name/Rank	Phone Number	E-mail
Roman/CW4	912-660-0351	Michael.j.roman.mil@mail.mil

Remarks

Second instance in a week where my requested weather was incorrect and not on time.

Please E-mail this form to usarmy.hood.3-asog.mbx.3w3-woc@mail.mil or fax this form to the Weather Operations Center (RGAAF Weather Station) at DSN 738 1190 /Comm 254 288 1190.

- Both MSgt Woodson and I reached out to CW4 Roman and in the end the issue was an incorrect E-mail address

1 CW4 Roman,

I am writing you in response to the feedback we received on Sunday for your flight. A1C Burke passed along that you had requested weather for KGRK-KSDM and not KGRK-KFOE. We do not have a record of a requested flight plan for KGRK-KDSM, that I can tell. We have two emails requesting weather sent on 23 Sep, one to KFOE and the other to KCOS for the 26th. I am trying to find the disconnect to prevent issues in the future with you receiving timely weather briefs. Did you call and make the weather request for KGRK-KDSM.

I apologize for any inconvenience and I appreciate any assistance.

V/r,

Larry R. Woodson, MSgt, USAF
Operations Flight Chief
3rd Weather Squadron/DOW
90041 Clarke Road
Ft Hood AIN, TX 76544
DSN: 738-1312

2 MSgt Woodson,

Thank you for your concern. I am not sure what happened however this is not the first time that I have sent an email over for process with the attached DD175 and had a response that the email cannot be found. I have been CCing the emails to my other crew member to ensure the email goes through and it's not a connectivity issue. I am not sure where the disconnect is however I am currently on the phone with your airmen and am having the same issue for a different flight. I look forward to finding a solution. Thank you very much.

Very Respectfully,

Michael J. Roman
CW4, AV/C-12V IP
11th TAC/ C Co. 6-52 AV
Phone:
Mobile: 619-694-9772
Email: michael.j.roman.mil@mail.mil



Aircrew Feedback

3

Sir,

First, I apologize for any inconvenience concerning your flight weather briefings not accomplished in advance due to potential E-mail/human issues. The forecasters in the weather station review our E-mail account continuously for flight weather briefing requests. With multiple forecasters and supervisory personnel reviewing the account it is possible E-mails get moved or deleted unintentionally. The weather station averages 40+ weather briefings a day for fixed-wing, rotary, and UAS operations, so it gets busy at times especially when the weather is challenging.

With that said, I searched the server and found two E-mails from you last Friday (23 Sep)--attached. The first one has a Flight Plan for KGRK to KFOE with what appears to be an incorrect date of 20 Sep. I do not know if the forecaster called you or you called us to correct the day this mission/briefing was actually for. The second E-mail is a mission KGRK to KHUA to KCOS and back for 26 Sep. There is no E-mail record for a mission on the 27th. Again this does not mean one was not sent by you, we just have no record of it.

I will talk with the NCOICs/forecasters of the Weather Station and recommend we implement a process to reply via E-mail to all weather briefing requests to 1) confirm receipt and 2) ensure we have the correct mission info. This might help eliminate the issues you have experienced. In addition, I know in the past when we used fax as the primary means of briefing requests aircrews would follow-up with a phone call to verify receipt, so I would always encourage you to do that as part of your mission planning.

Again, I apologize for the problems.

v/r

BARRY J. ORTNER, DAF CIV, USAF
3d Weather Squadron, Standards & Evaluation (3 WS/DOV) Fort Hood, TX 76544
DSN738-4259/4258, Com 254-288-4259/4258

4

Sir,

Thank you very much! This morning we were able to identify that when I send your office an email from my phone or iPad the email was incorrect so that could have been the hold-up. I am sorry for the hassle it caused your office but am confident we shouldn't encounter this problem in the future. Thank you very much!

Very Respectfully,

Michael J. Roman
CW4, AV/C-12V IP
11TAC/ C Co 6-52
Phone:
Mobile: 912-660-0351
Email: michael.j.roman.mil@mail.mil



PIREPs

- We received “4” PIREPs...

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 report titled "3D WEATHER SQUADRON - FORT HOOD MISSION PLANNING / EXECUTION FORECAST". It includes various data tables such as "FLIGHT LEVELS, WINDS (MKTG) AND TEMPERATURES (FC)", "FLIGHT FORECAST FOR LOCAL FLYING AREA (over Fort Hood)", and "TEST FLIGHT ANALYSIS". The report contains numerous columns for time, location, and weather parameters, with some cells highlighted in green and red to indicate specific conditions or alerts.

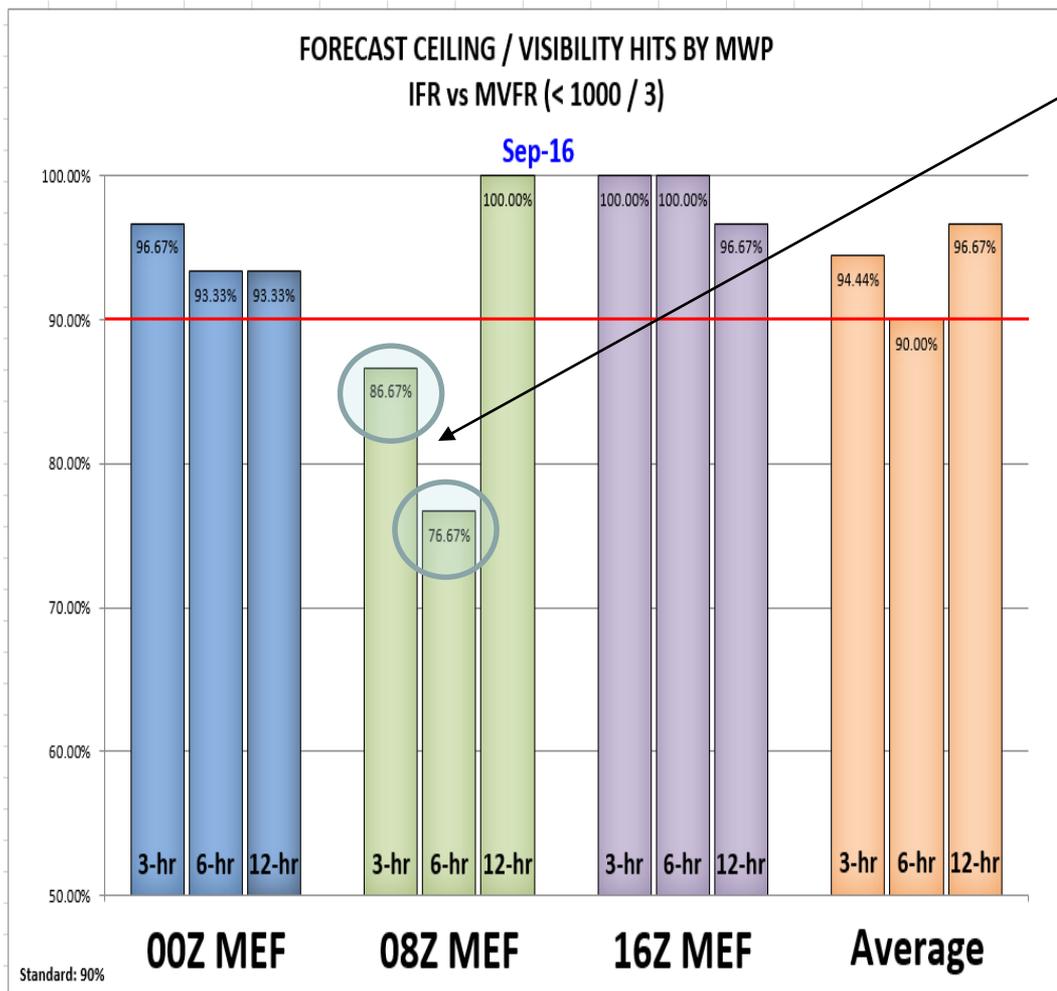


Did the Forecast or Weather Impact the Mission?

- 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*)



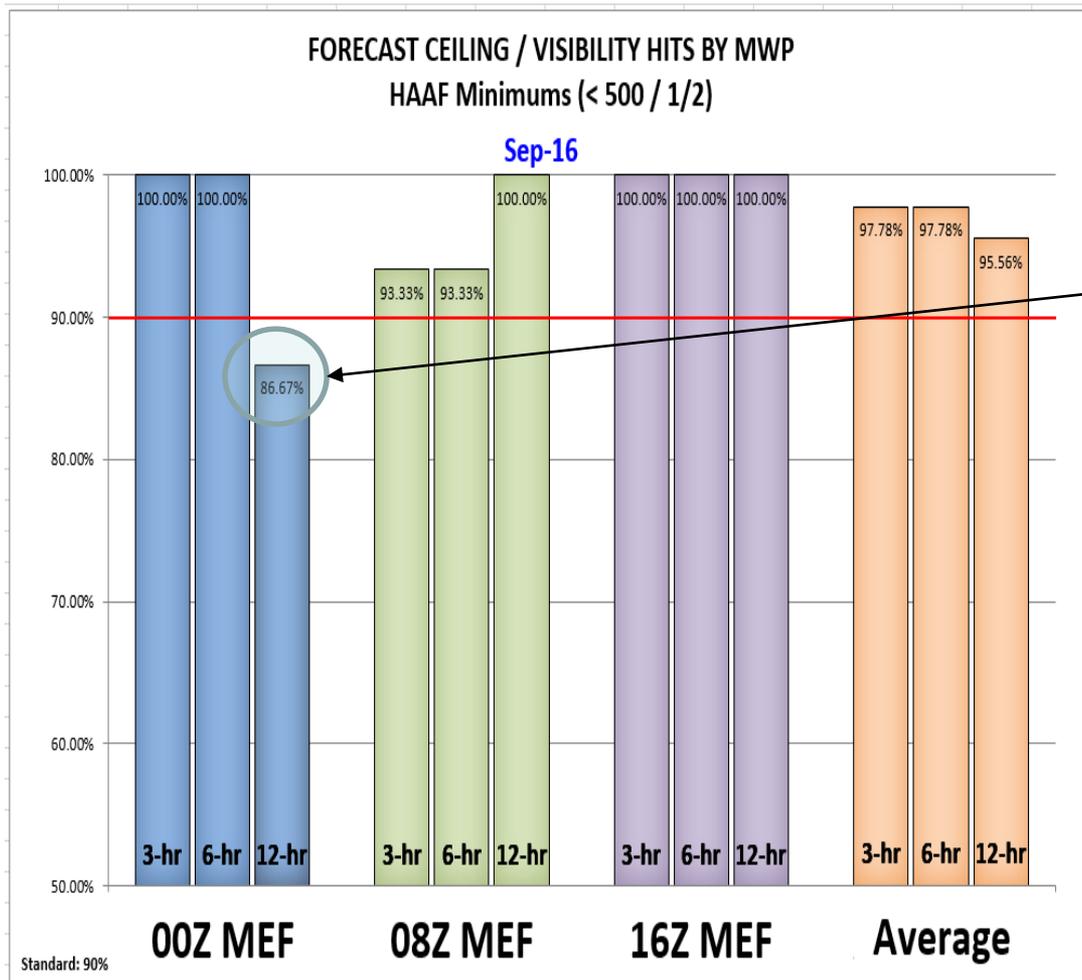
September 2016 IFR vs VFR



- Early morning forecast (0300L) Flimsy continues to be most challenging
- Did ok forecasting IFR at sunrise (3-hr)...forecasted 3 of 4 observed NoGo events with 3 false alarms (87% overall accuracy)
- Not so good at the 6-hr point (09L) where we missed 7 forecasts because we predicted improving conditions too soon in every instance



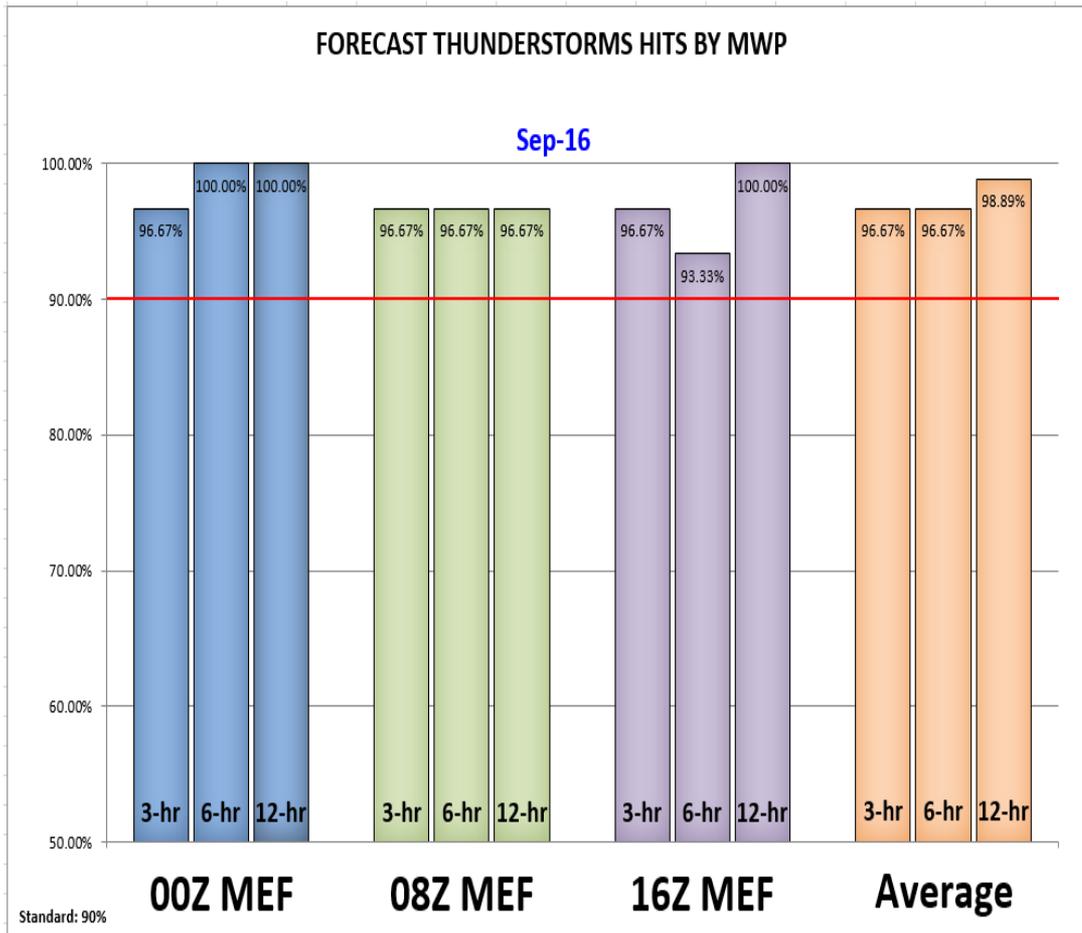
September 2016 HAAF Minimum



- LIFR conditions are always the most challenging to forecast, but we did well overall
- We accurately predicted LIFR ceilings 12 hours out (00Z MEF) in one event, but missed two others with false alarm (it was IFR)



September 2016 Thunderstorms

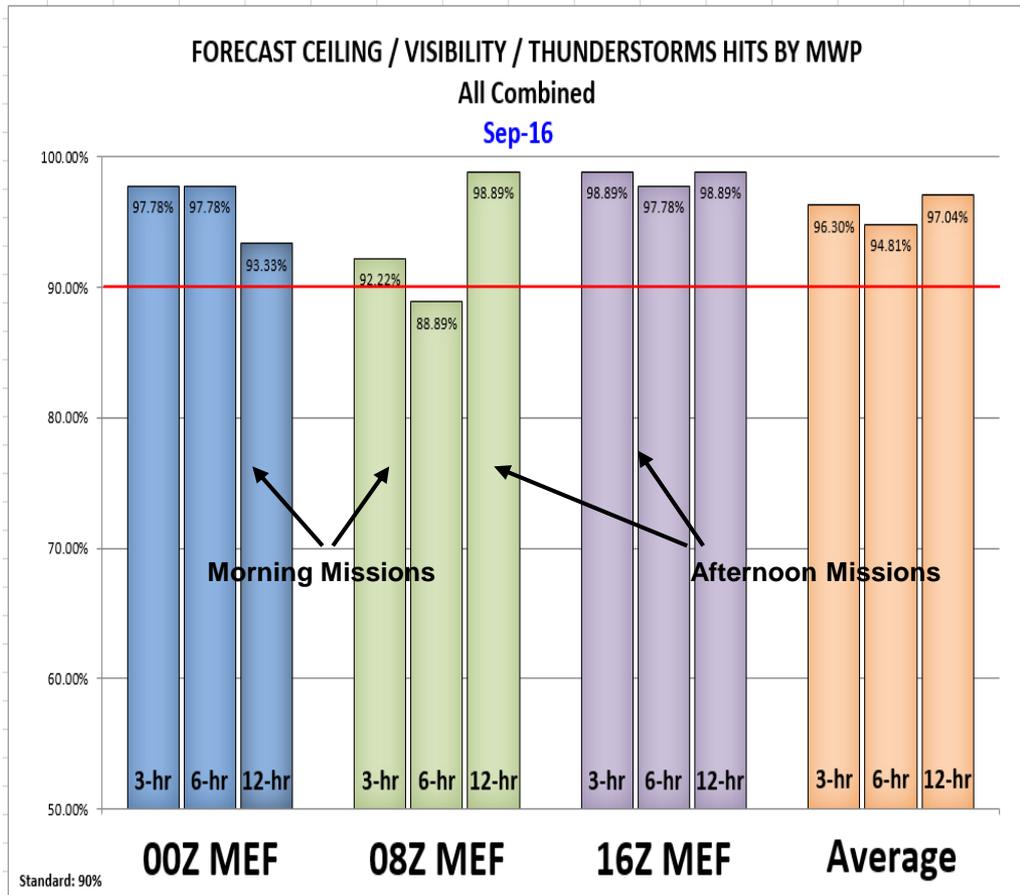


- *Thunderstorms on Fort Hood and subsequent Lightning Warnings have a larger impact during Summer months while low ceilings/visibilities occur more during Winter*

- Too few events



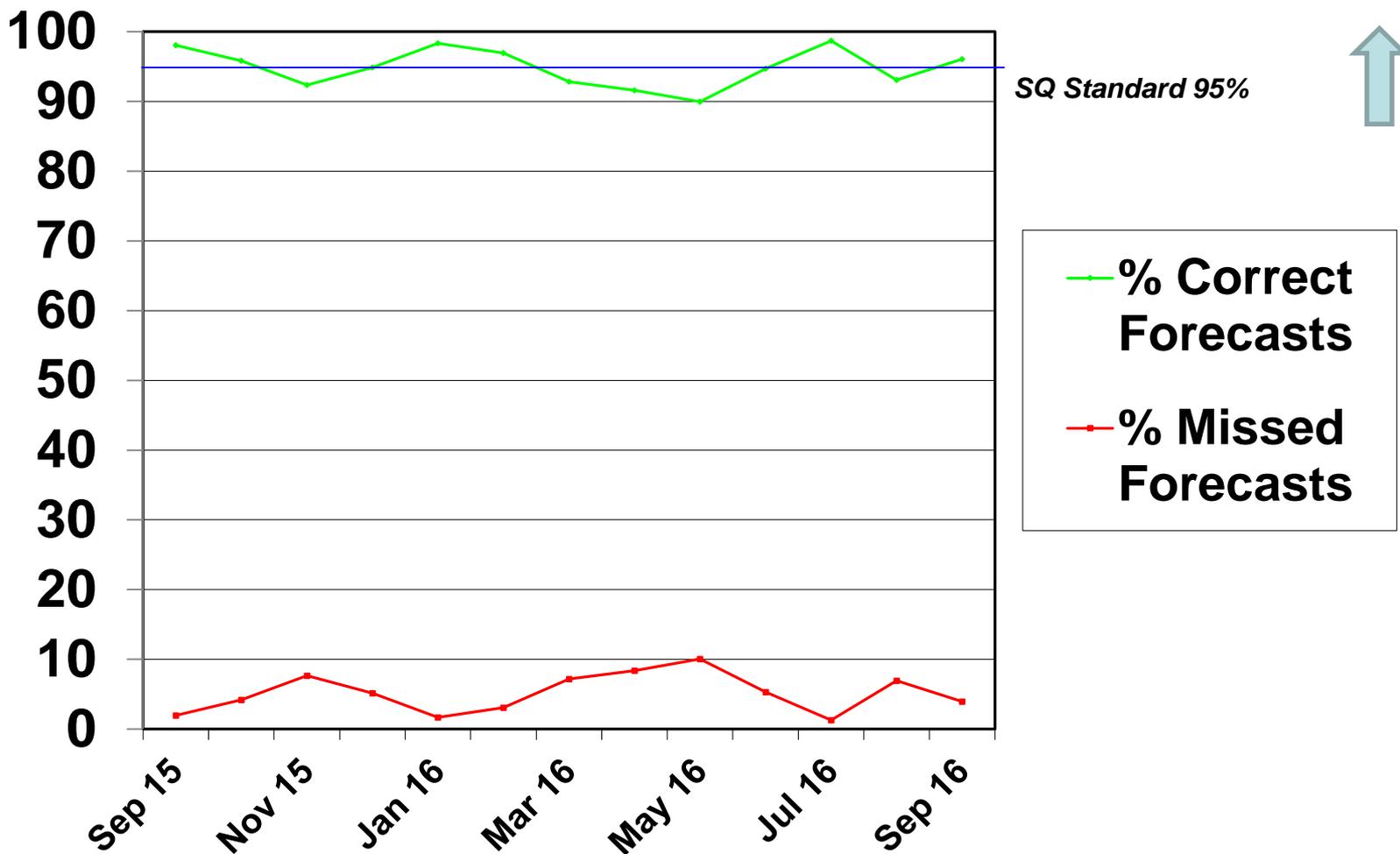
September 2016 All Combined



- Overall **96%** accuracy
- *Use our forecasts early in your planning process--they can prevent wasted time and enhance your overall flight/mission planning*

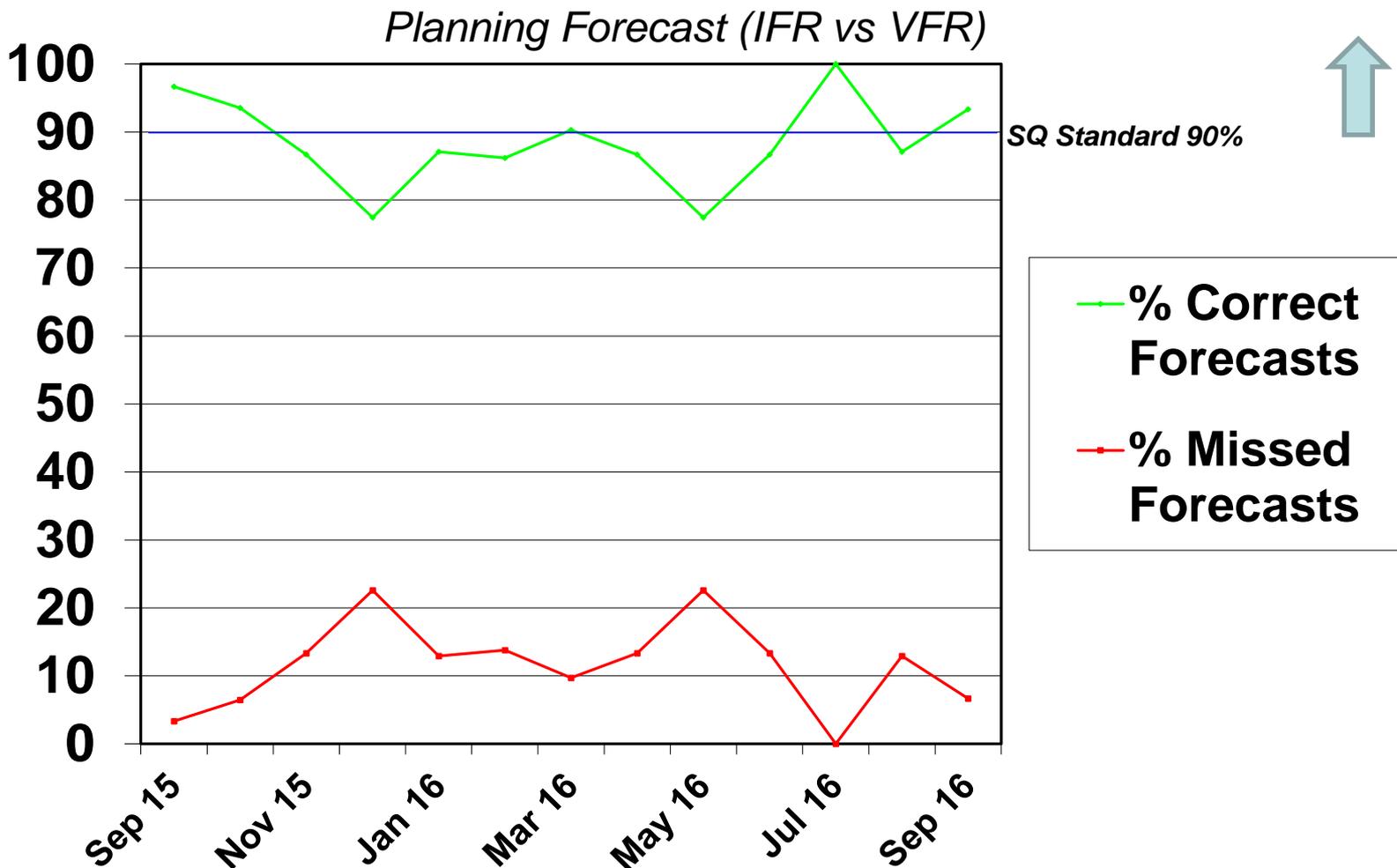


Overall MWPVER Trend



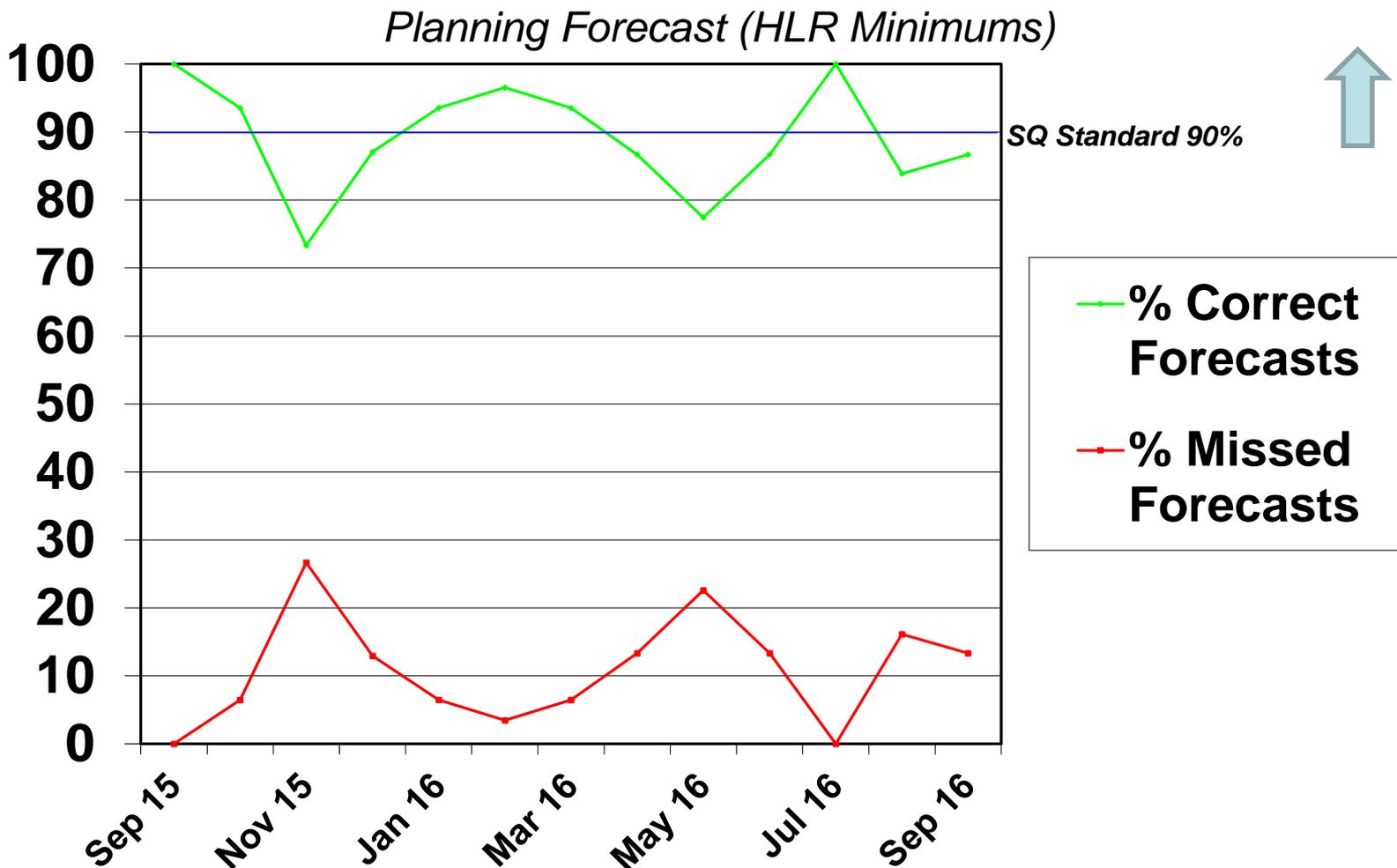


00Z MWP 12-Hour IFR vs VFR Forecast Trend





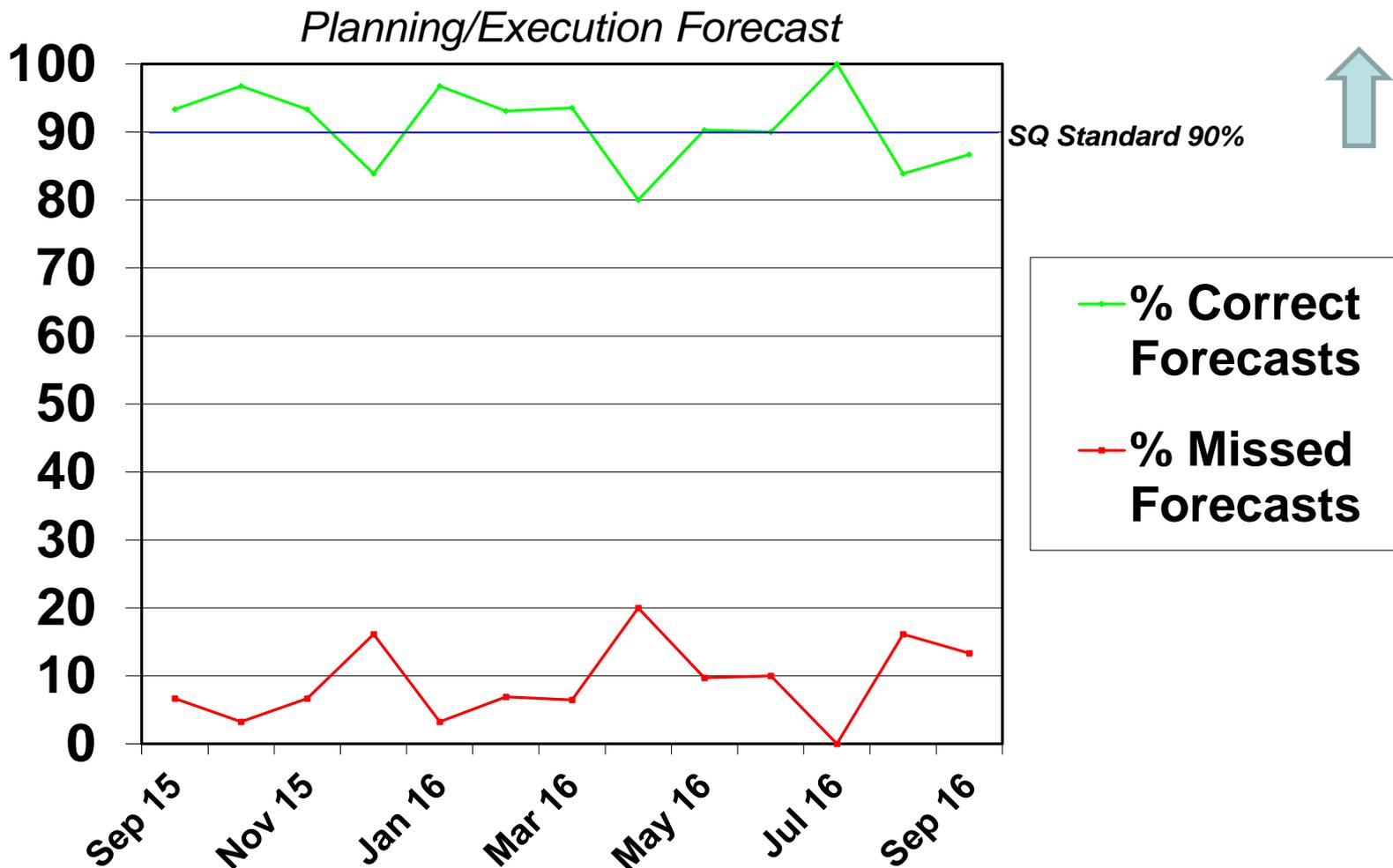
00Z MWP 12-Hour **500 / 1/2** Forecast Trend





08Z MWP

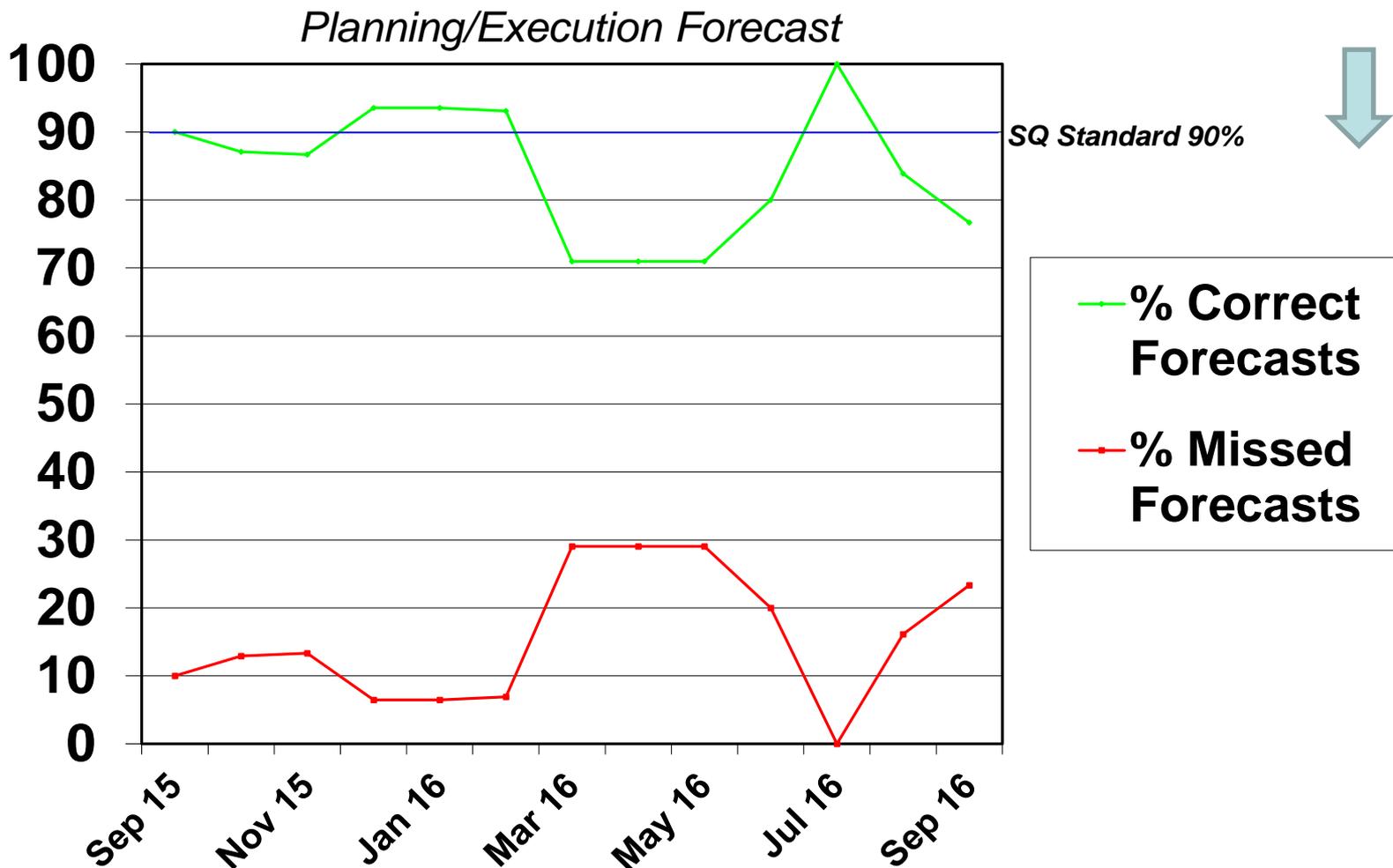
3-Hour IFR vs VFR Forecast Trend





08Z MWP

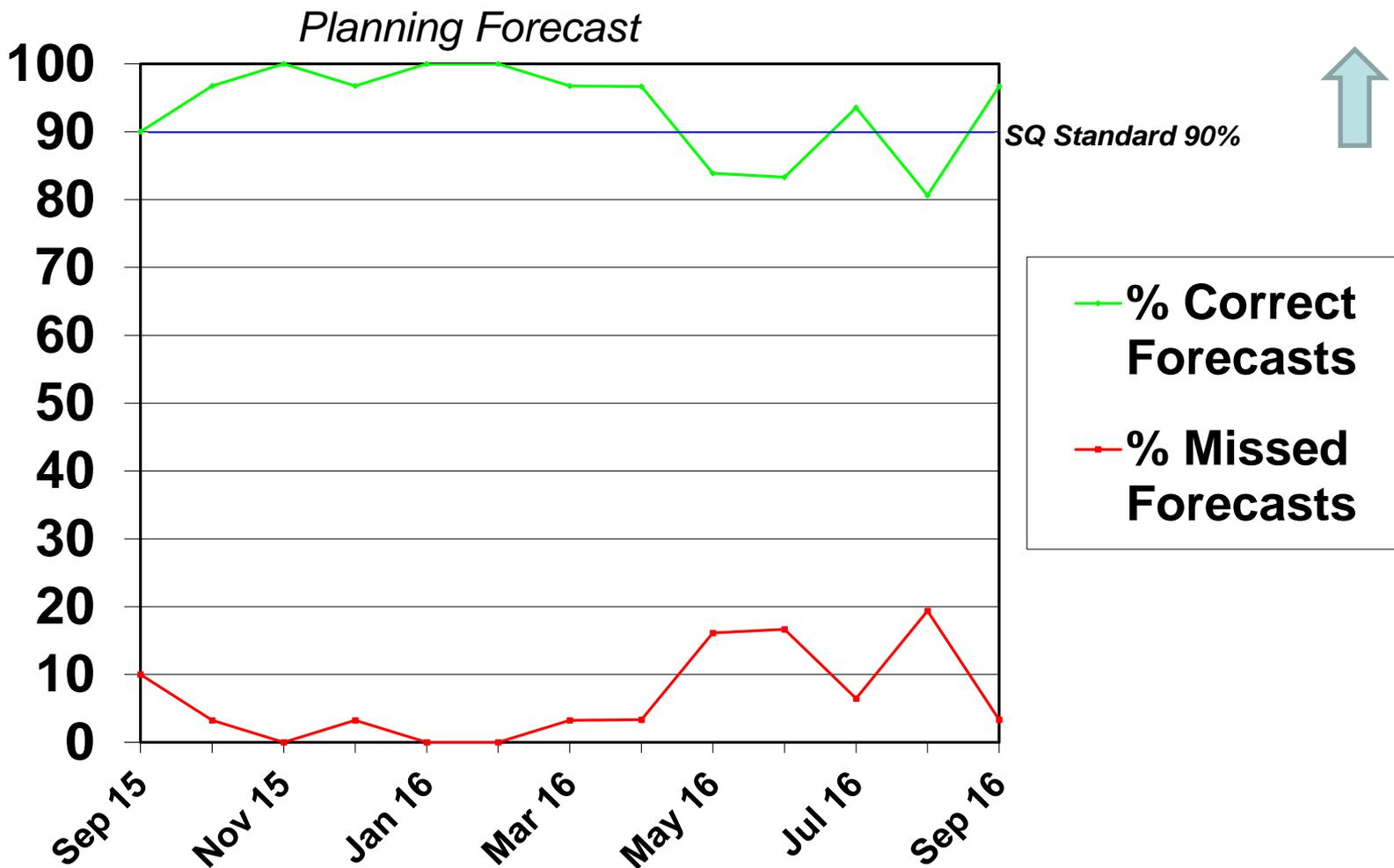
6-Hour IFR vs VFR Forecast Trend





08Z MWP

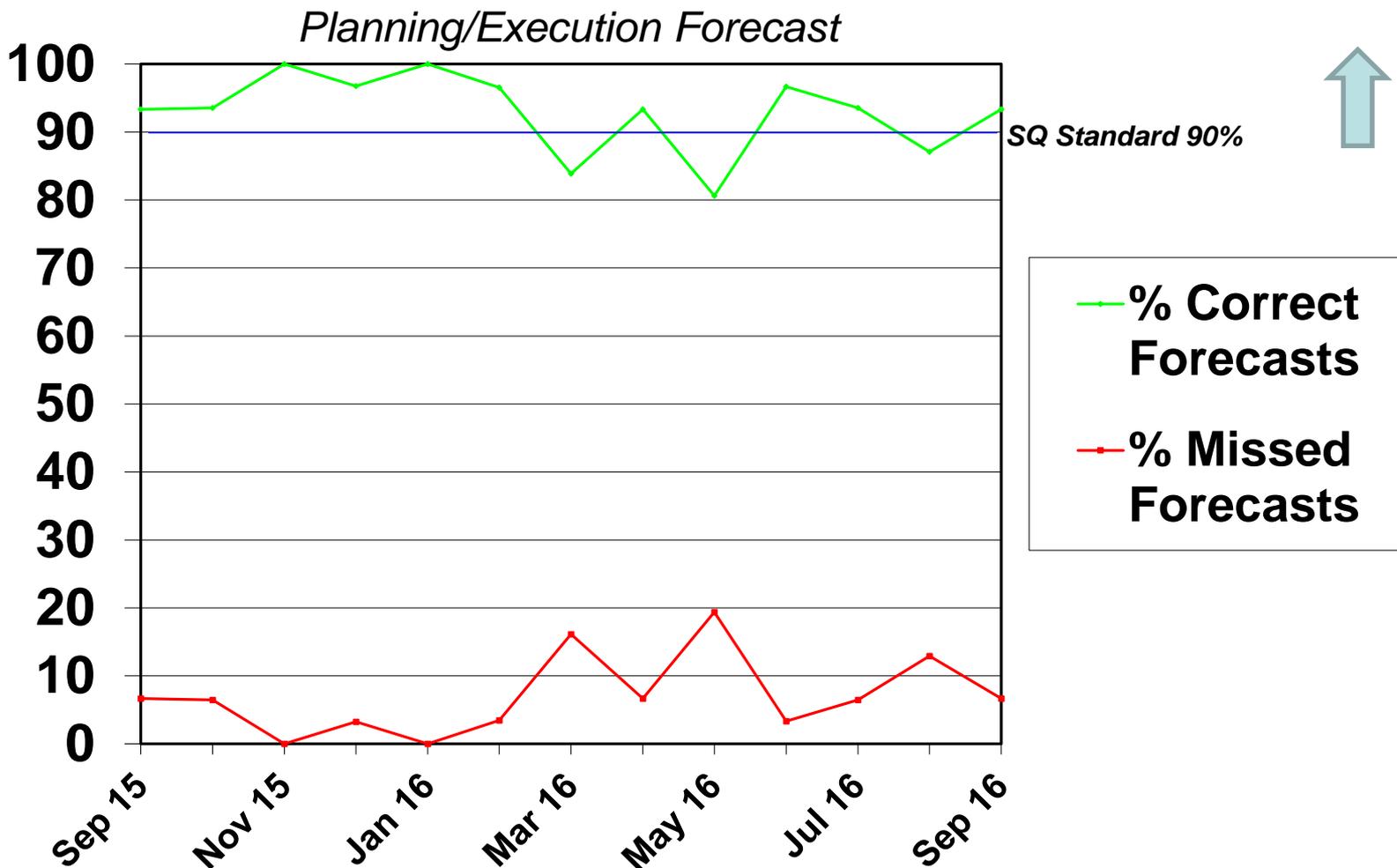
12-Hour Thunderstorm Forecast Trend





16Z MWP

6-Hour Thunderstorm Forecast Trend





26 OWS WARNVER – Fort Hood

IWWC – September 2016

Criteria	DLT	LT	Remarks
Moderate (Strong) Thunderstorms (09-030 24Sep)	1:00	+0:06	35KT GRK Thunderstorm outflow

NOTE: The 3 WS is responsible for issuance of all forecast warnings (+ lightning watch) for proof of concept 1Feb-31Dec2016



26 OWS WARNVER – Fort Hood

IWWC – September 2016

WWA SUMMARY

Criteria	Req	Issued	MDLT	LT > 0	Neg LT	False Alarm	RNI	QPM	CAP	FAR
Tornado										
Damaging Wind \geq 45 kt										
Severe Thunderstorm										
Moderate Thunderstorm	1	1	0	1	0	0	0	0%	100%	0%
Strong Wind \geq 35 < 45 kt										
Freezing Precipitation										
Heavy Rain \geq 2 in /12 hr										
TOTALS	1	1	0	1	0	0	0	0%	100%	0%

NOTE: The 3 WS is responsible for issuance of all forecast warnings (+ lightning watch) for proof of concept 1Feb-31Dec2016



26 OWS WARNVER – Fort Hood

IWWC – September 2016

Lightning Watches
(Lightning within 5nm of Fort Hood Reservation)
Desired Lead-Time (Advance Notice) = 30 minutes

Req	Issued	MDLT	LT > 0	Neg LT	False Alarm	RNI	QPM	CAP	FAR
3	8	3	3	0	5	0	100%	100%	62.5%

NOTE: The 3 WS is responsible for issuance of all forecast warnings (+ lightning watch) for proof of concept 1Feb-31Dec2016



3 WS WARNVER

IWWC – September 2016

Western Training Area (WTA) - Thunderstorm Watches

Desired Lead-Time (Advance Notice) = 2 hours

Req	Issued	MDLT	Met 50% DLT	LT > 0	Neg LT	False Alarm	RNI	QPM	CAP	FAR
14	19	5	10	14	0	5	0	36%	100%	26%

- 36% had full 2 hours desired lead-time ↓
- 71% had at least 1 hour lead-time ↑
- 100% had positive lead-time ↑

Observed Weather Advisories Issued:

- 4 Surface Wind \geq 25KT



Questions?

**Please contact
3 WS/DOV
at
288-4259/4258
or E-mail:**

usarmy.hood.3-asog.mbx.3w3-woc@mail.mil