



Fleet Numerical Meteorology & Oceanography Center

FNMOC Ensemble Verification System

20 Mar 2014

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Goals for FNMOC Ensemble Verification System









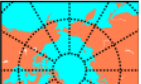


- **Support all NUOPC metrics**
- **30 day running statistics**
- **Single model and multi-model metrics**
- **Both forecast vs analysis (UKMO) and forecast vs observations**
- **Verification of both raw and bias corrected forecasts**
- **Plots of metrics vs forecast time, timeseries, reliability diagram, ROC curve**
- **Public web page with near realtime information**
- **User selectable thresholds**

FNMOCC EFS Verification Web Page

http://www.fnmoc.navy.mil/efs_verif/

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EFS Verification Products Region Map Index Analysis Date: 2014-03-23 00Z [WxMap Home](#) [Help](#)

 Global NVG NUOPC	 W Atlantic NVG NUOPC	 S Pacific NVG NUOPC	 N Pacific NVG NUOPC	 Mediterranean NVG NUOPC	 S Atlantic NVG NUOPC	 E Pacific NVG NUOPC	 Indian Ocean NVG NUOPC
 Arctic NVG NUOPC	 N Atlantic NVG NUOPC	 W Pacific NVG NUOPC					

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Main Selection Page

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EFS Verification

Statistics

Map Index

WxMap Home

Help



N Atlantic

WxMap product missing

Verify: Observations

raw bias-correct

Model: NVG

Model Run: 2014-03-20 00 Z

Region: N Atlantic

Field: 250mb wind

Threshold: >60.0 knots

Metric: Reliability

Color Graphs

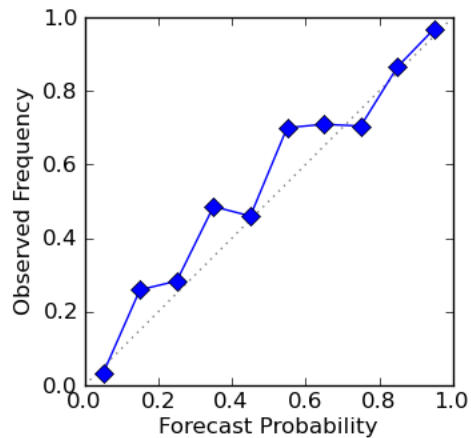
Multi-Line Graphs

Save Graph



Reliability for N Atlantic/NVG/raw

250mb wind >60.0 knots (Observations)
30 days ending: 20-Mar-2014 00Z
Forecast: 18-Mar 00Z, Tau=048



P	N
.05	1761
.15	158
.25	127
.35	107
.45	100
.55	100
.65	117
.75	132
.85	149
.95	1386

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Making Your Selections

Verify:

Observation or Analysis (truth)
Raw or bias corrected (forecast)

Model:

NVG, GFS, CMC, NUOPC (NVG+GFS+CMC)

Model Run:

Date/time group of verification time (2014032500)

Region:

Global, N. Atlantic, S. Atlantic, N. Pacific, S. Pacific, W. Atlantic,
E. Pacific, Mediterranean, Indian Ocean, Arctic

Field:

From analysis: 2 m air temp, 10 m winds, 250 mb winds

From obs: 2m air temp (buoy), 10 m winds (buoy), ssmi winds, ascat

winds,

surface winds (buoy+land+ssmi), 250 mb winds (raob)

Metric:

with forecast time: bias, spread/skill, CRPS, Brier Score,

time series: bias, crps, spread/skill

Reliability Diagram, ROC Curve

Making Your Selections

Thresholds:

Air Temperature

> 0° C

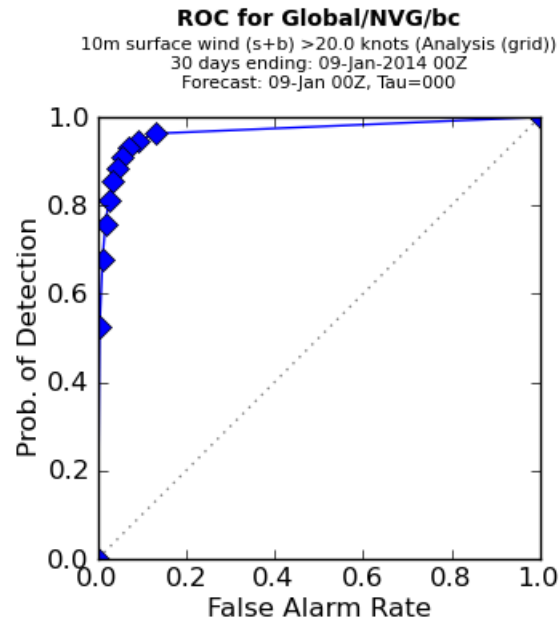
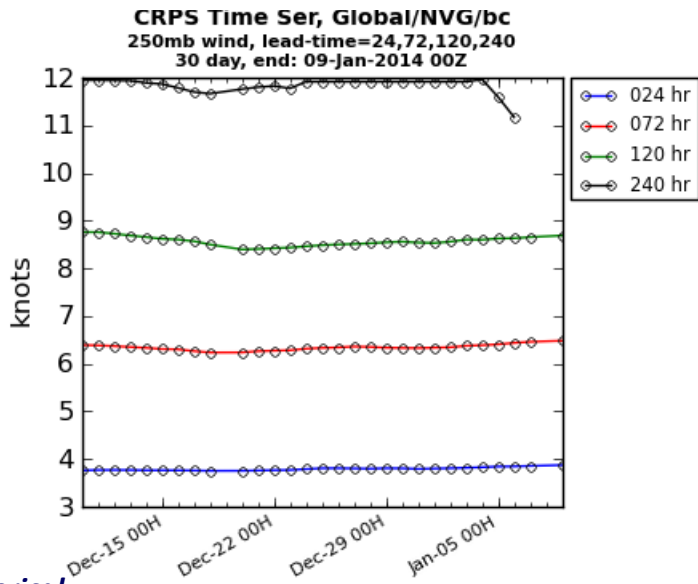
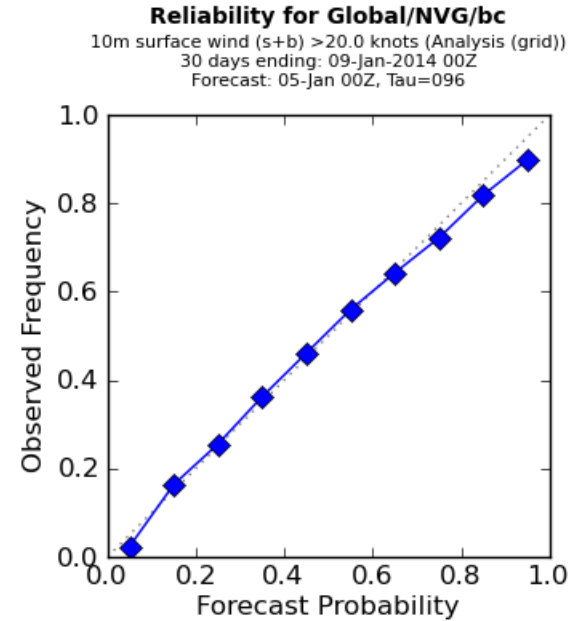
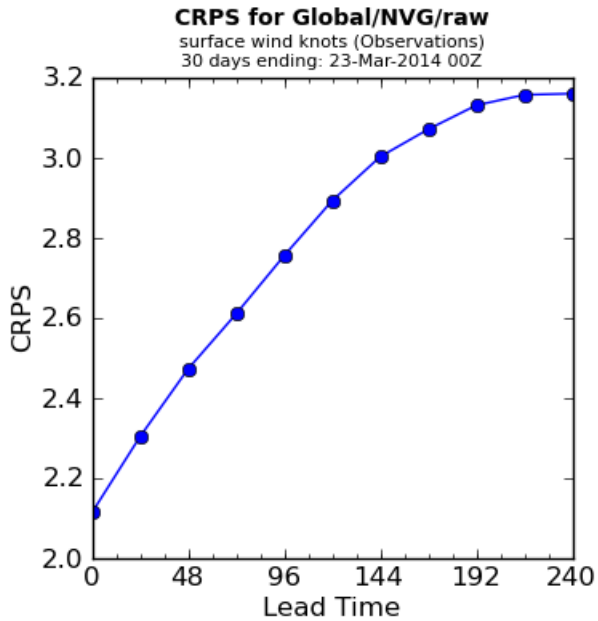
Surface winds

> 20 kt, > 35 kt, > 50 kt

250 mb winds

> 60 kt

Graph Types



Coming Soon

- **User selectable thresholds**
- **Precipitation verification**
- **Cloud cover verification**

Multi-model Ensemble (FNMOE, CMC, NCEP)

Probability of surface winds > 25 kt, 72 hour forecast for 20140319 1800Z

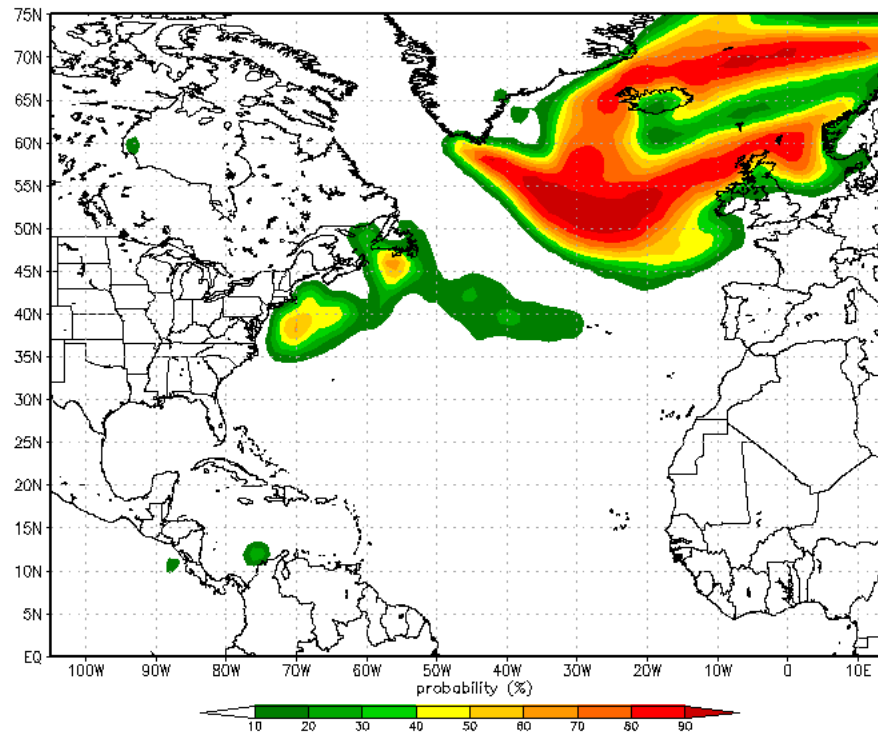
Models Product List Help

Model, Area : Multi-Model Ensemble, North Atlantic, 1 deg
 Compare : [GFS Ensemble N Atl](#) [CMC Ensemble N Atl](#)

DTG : 2014031812
Run :

Tau: [000](#) [006](#) [012](#) [018](#) [024](#) [030](#) [036](#) [042](#) [048](#) [054](#) [060](#) [066](#) [072](#) [078](#) [084](#) [090](#) [096](#) [102](#) [108](#) [114](#) [120](#) [126](#) [132](#) [138](#) [144](#) [150](#) [156](#) [162](#) [168](#) [174](#) [180](#) [186](#) [192](#) [198](#) [204](#) [210](#) [216](#) [222](#) [228](#) [234](#) [240](#)

Other Products	
MSL Pressure	loop
500mb Height	loop
1000mb Height	loop
6-hr Precip	loop
2m Temperature	loop
700mb Rel Hum	loop
700mb Vert Vel	loop
850mb Temperature	loop
850mb Rel Hum	loop
850mb Rel Vort	loop
850mb Vert Vel	loop
10m Horizontal Wind	loop
250mb Wind Speed	loop
500mb Rel Vort	loop
1000mb-500mb Thickness	loop
Prob 10m Wind Speed > 20 kts	loop
Prob 10m Wind Speed > 25 kts	loop
Prob 10m Wind Speed > 35 kts	loop
Prob 10m Wind Speed > 50 kts	loop
Other Models	
Nogaps Ensemble N Atl	
GFS Ensemble N Atl	
CMC Ensemble N Atl	



VT: Fri 12Z 21 MAR 14
 FNMOE EFS (U): Probability of 10m Wind > 25 kts
 Run: 2014031812Z Tau: 72

Members Available: NCP 20 GFS 20 CMC 19

Approved for public access. Distribution is unlimited.

Thanks!

Questions?