Experimental National Blend of Models Text Messages

Product Description Document (PDD)

Part I - Mission Connection

- a. Product Description The National Blend of Models (NBM) is a nationally consistent and skillful suite of calibrated forecast guidance based on a blend of both NWS and non-NWS numerical weather prediction model data and post-processed model guidance. The NBM has been generating experimental gridded guidance since January 6, 2016. To familiarize and engage a wider customer base with the NBM, the NWS proposes to generate a product suite of station MOS-like guidance. The NBM guidance in these bulletins will reflect the value of the closest gridpoint to the station listed in the bulletin.
- b. Purpose The NBM contains several new weather elements along with their associated probabilities that are not part of the Meteorological Development Laboratory's (MDL's) current MOS guidance suite. Moreover, certain categorical elements within the current MOS guidance (for example, 6-h quantitative precipitation forecasts) are in categorical form which limit the amount of information forecasters can glean from potential upcoming hazardous events for IDSS. These shortcomings, along with the infrequent updating cadence of the current MOS guidance, have necessitated that these NBM ASCII text bulletins be added to the current suite of MDL's products.
- c. Audience The target audience includes NWS forecasters both at Weather Forecast Offices (WFO's), Regional and National Centers along with public, commerce, media, and emergency managers.
- d. Presentation Format As noted above, the NBM text messages will be very similar in format and appearance to the current Localized Aviation Model Output Statistics Program (LAMP) hourly and GFS-MOS short-term and extended-range text bulletins. The top two rows of each message will indicate the times for which the guidance is valid and the left-most column will indicate the weather element for which guidance is available. The values inside this matrix will be populated by the guidance itself. Please see the Technical Description below for NBM text file examples.
- e. Feedback Method We would appreciate feedback concerning this new experimental product between the dates of March 15, 2018 through June 27, 2018. For those users with an NOAA LDAP account we welcome your feedback with the subject line "NBM Text File Feedback" using the following email address: VLab.Notifications@noaa.gov

For those individuals without an NOAA LDAP account you may email Jeff Craven,

MDL's Statistical Modeling Branch Chief, using the same subject line mentioned above at: jeffrey.craven@noaa.gov

Part II - Technical Description

a. Format and Science Basis - Hourly NBM processing involves ingesting new DMO and statistically post-processed model fields to generate blended guidance for that hour. In some instances the updates are confined to just the short-term as no new global model guidance is available. For select hours, however, new global model guidance is ingested along with the routinely updating hourly short-term model guidance. To quickly capture and interrogate these hourly and inter-hourly NBM updates, we have generated four distinct NBM bulletins. These bulletins along with their respective detailed descriptions can be found at https://www.weather.gov/mdl/nbm_text. Customers who require a more dedicated connection to this data flow can find these text messages at (add ftpprd url). Internal NOAA customers can also find NBM text files at https://sats.nws.noaa.gov/~downloads/nbm/bulk-text/. We note that the sats server is not supported 24/7 and as such experiences planned and unplanned outages every so often. What follows are examples of each of the four types of NBM text files.

1-hourly NBM guidance from 1-25 hours (NBH)

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DPT	59	59	59	59	59	60	60	60	61	61	61	61	62	63	63	63	63	64	64	64	63	63	63	63	64	
SKY	13	6	8	19	21	8	18	32	60	70	79	78	79		66	66	56	37	36	21	22	23	22	29		
WDR	20	20	20	20	21	21	20	21	20	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	22	
WSP	5	5	6	5	5	4	4	4	4	4	5	6	6	7	8	8	8	9	8	8	8	7	5	4	4	
GST	15	15	16	16	16	16	14	14	14	13	15	15	16	20	21	21	21	20	19	18	16	14	13	11	12	
P01	0	0	Θ	0	0	0	0	0	0	Θ	0	1	0	5	1	0	0	0	Θ	0	0	5	12		14	
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12-hourly NBM guidance from 24-192 hours (NBE)

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FHR	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	
N/X	38	56	37	51	34	51	999	999	999	999	999	999	999	999	999	32 50
TMP	40	51	41	45	37	44	999	999	999	999	999	999	999	999	999	
DPT	33	37	32	30	29	27	999	999	999	999	999	999	999	999	999	
SKY	28		52	33	30	38	999	999	999	999	999	999	999	999	999	
WDR	35		33	32	33	32	999	999	999	999	999	999	999	999	999	
WSP	4	3	4		8					999						
GST	4	3	4	999	999	999	999	999	999	999	999	999	999	999	999	
P12	6	13	20	999	999	999	999	999	999	999	999	999	999	999	999	22 23
Q12	0	Θ	Θ	999	999	999	999	999	999	999	999	999	999	999	999	
Q24		Θ		0		999		999		999		999				
PZR	0	Θ	Θ	0	0					999			,			
PSN	0	Θ	Θ	0	100	0	999	999	999	999	999	999	999	999	999	
PPL	0	Θ	Θ	0	0	0	999	999	999	999	999	999	999	999	999	
PRA		100				100										
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S24		Θ		0		999		999		999		999				

b. Data Availability - These four distinct NBM bulletins will be issued hourly (0000-2300 UTC) and will be available approximately 15 minutes past each hour.