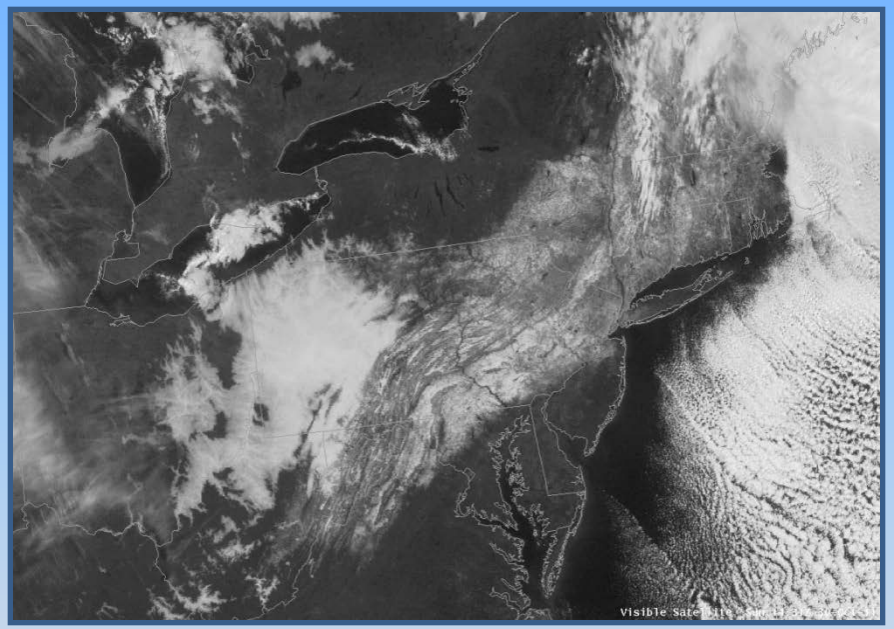
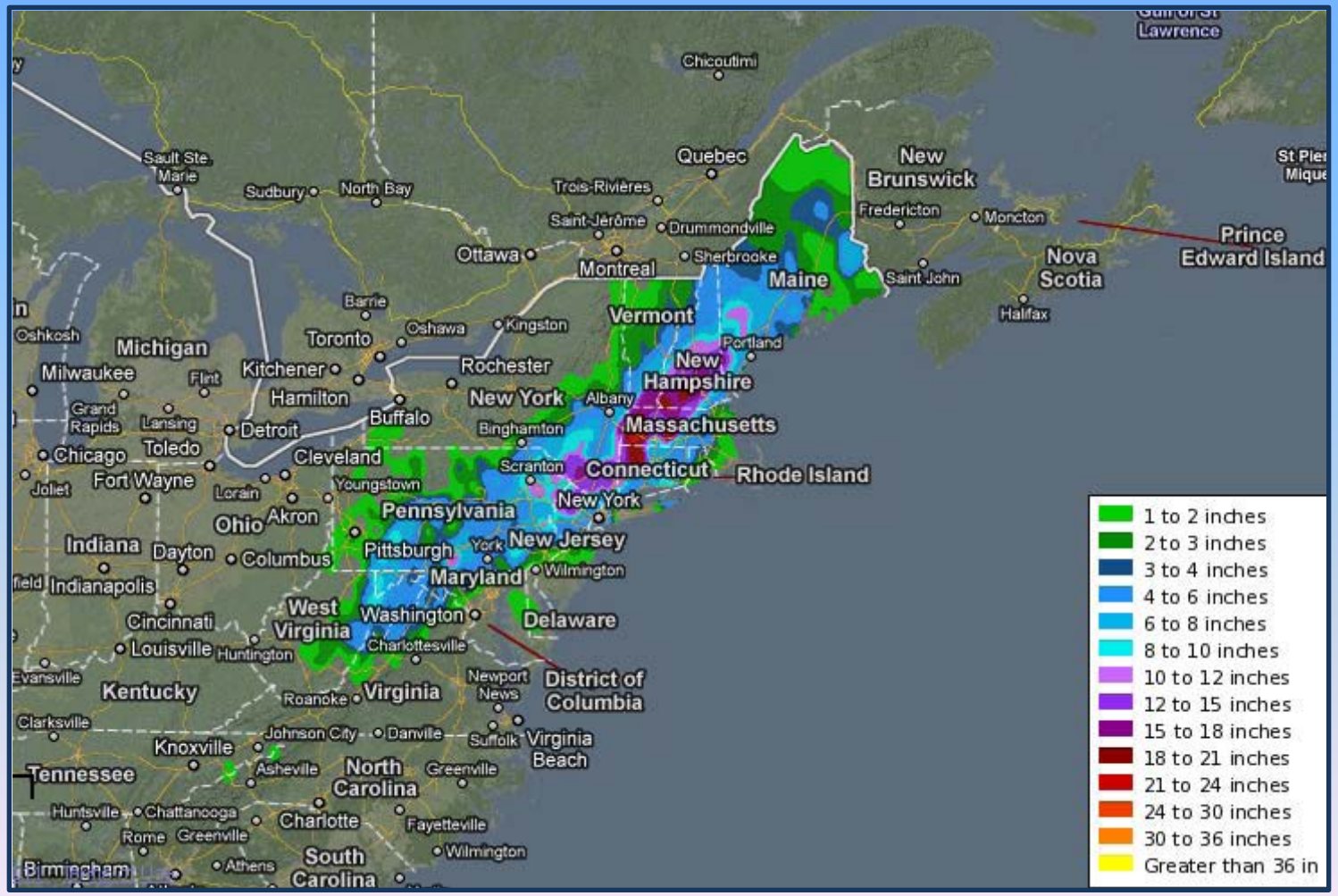
"Snowtober" Overview
October 29, 2011



Joe DelliCarpini
Science and Operations Officer
NOAA/NWS Taunton, MA

Observed Snowfall

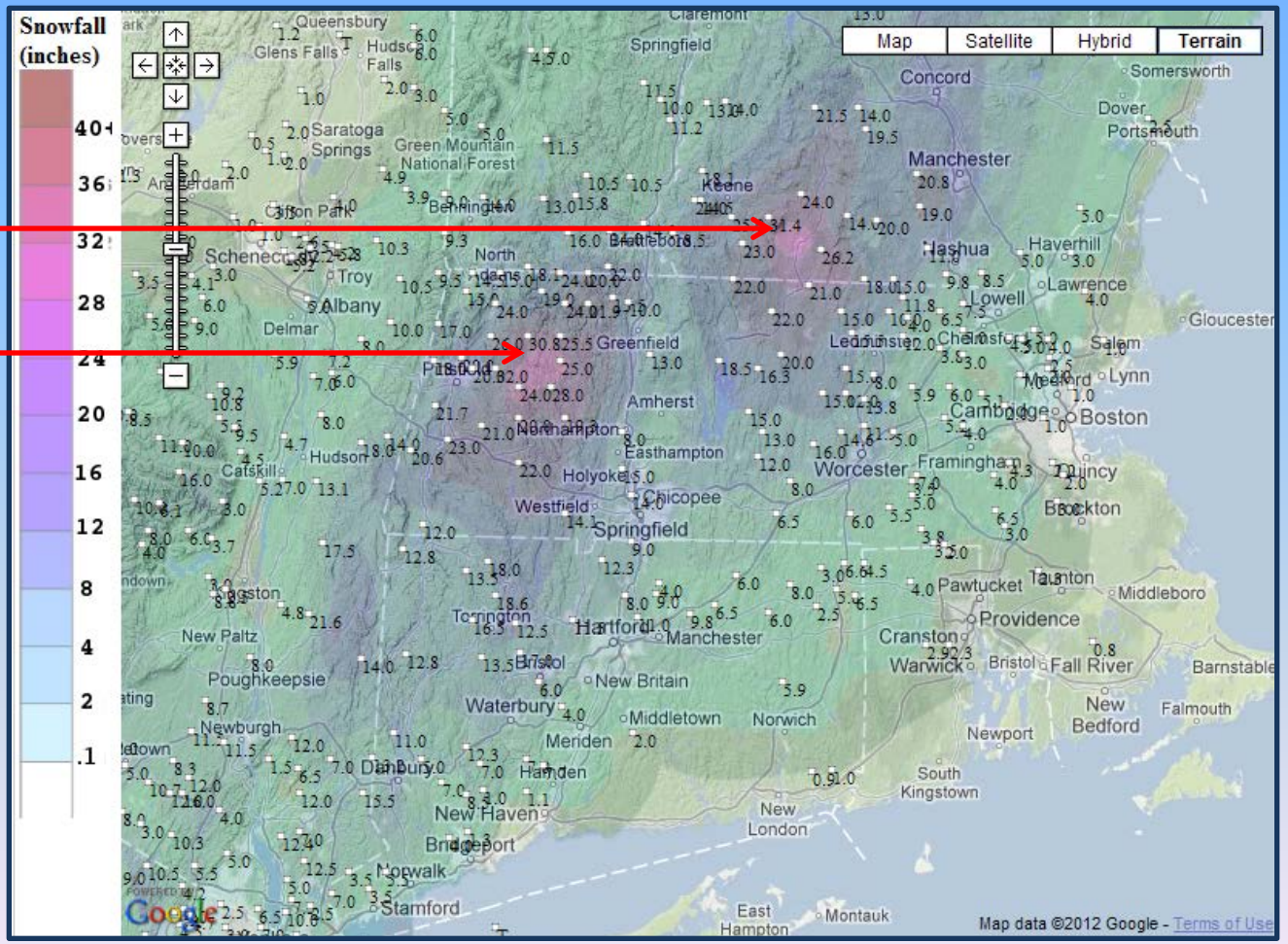
October 29-30, 2011



Observed Snowfall

October 29, 2011

Maximum of 24-31 inches

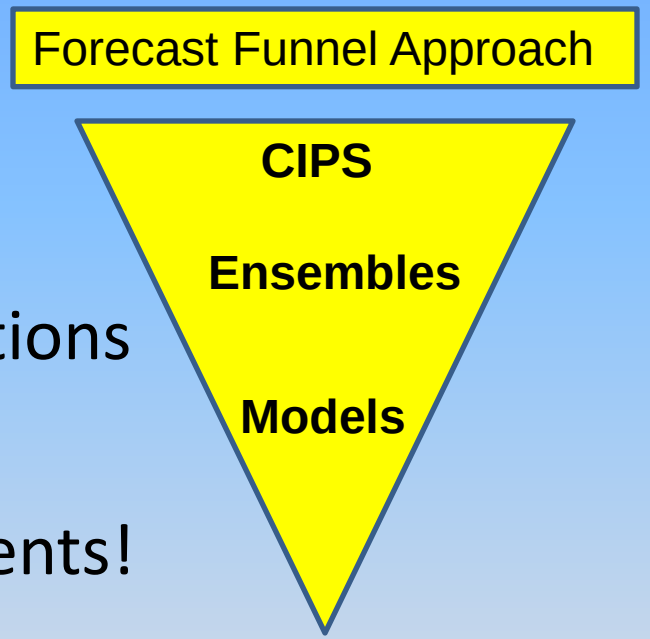


Forecast Issues at NWS Taunton

- ***Maximizing lead time to our partners***
  - EMs, utilities, airlines, etc.
- ***Consistency in snowfall forecasts***
  - Assessment of surface temperatures (melting)
  - Precipitation type near the coast (rain vs. snow)

Maximizing Lead Time

- ***CIPS Winter Weather Analogs***
  - Can help couch expectations (36-72h)
- ***Ensembles***
  - Provide a window of possible solutions
  - Useful to convey uncertainty
  - Tend to “water down” extreme events!
- ***Deterministic Models***
  - ECMWF “locked in” Wed Oct 26 (hints as early as Mon)
  - GFS/NAM came on board Thu Oct 27
  - Near Term: Higher resolution models (mesoscale banding)



Brief to Emergency Managers

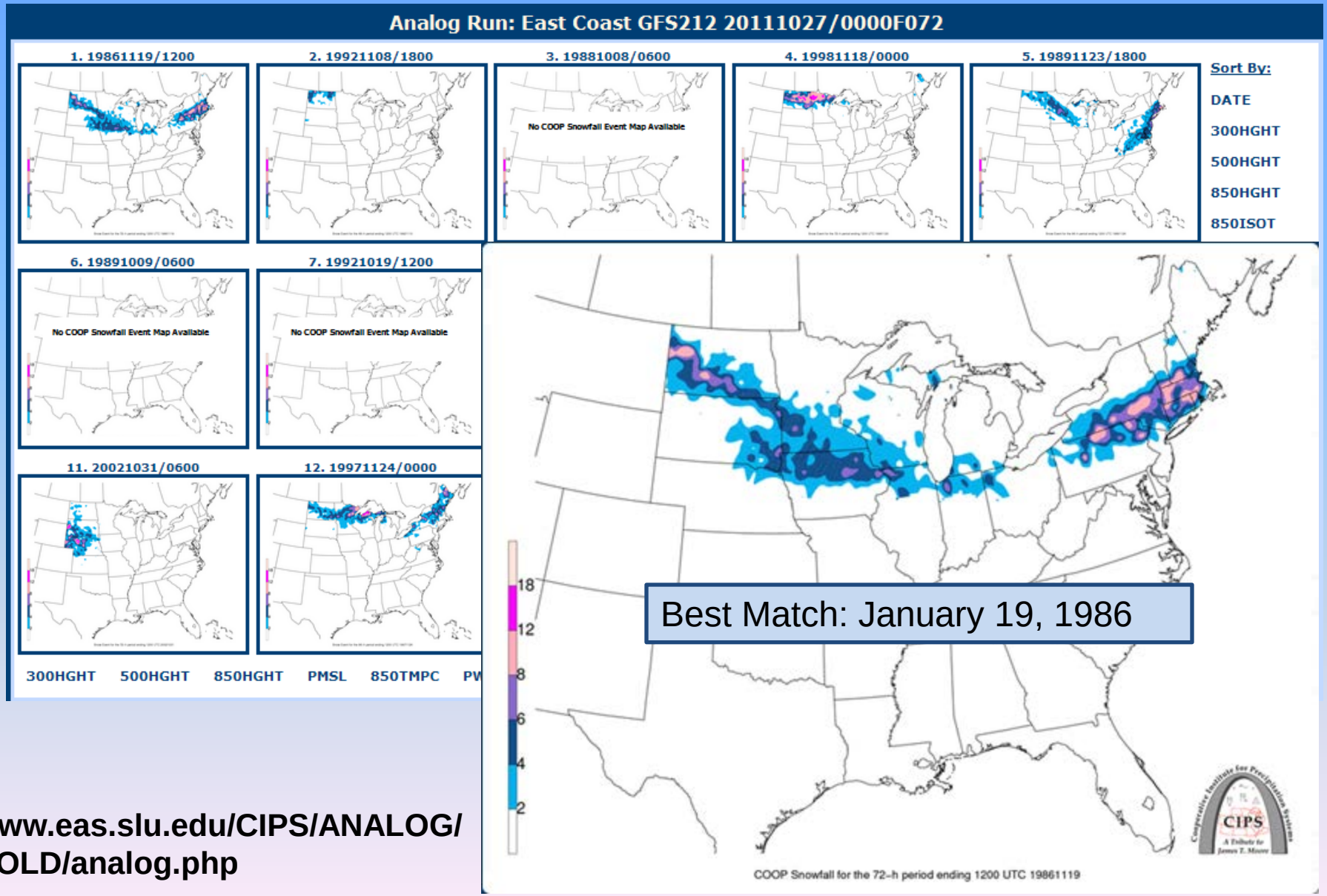
Monday October 24, 2011 4:35 PM

This is a very early heads up of the possibility of one or two significant winter weather and coastal impact events. One event may be centered about Thursday night, and another event may be centered about Saturday night. Confidence of such an anomalous event this far out is low for the Thursday night event and even lower for the Saturday night event. Nonetheless, due to the potential impact, we wanted to give you a very early heads up. If our confidence grows for the Thursday night, we may consider a Tuesday afternoon conference call.

There are three primary concerns with both potential events. One is the potential, albeit low at this time, of plowable snow across portions of northern Massachusetts and southwest New Hampshire with one or both systems. The second and even greater concern is the impact that several or more inches could have on trees (most still with considerable foliage) and power lines with again northern Massachusetts and southwest New Hampshire possibly at greatest risk. Third, we have high astronomical tides later this week through the weekend. We see a rather high probability of one or two episodes of minor coastal flooding and a low (but not negligible) probability of moderate or greater coastal flooding.

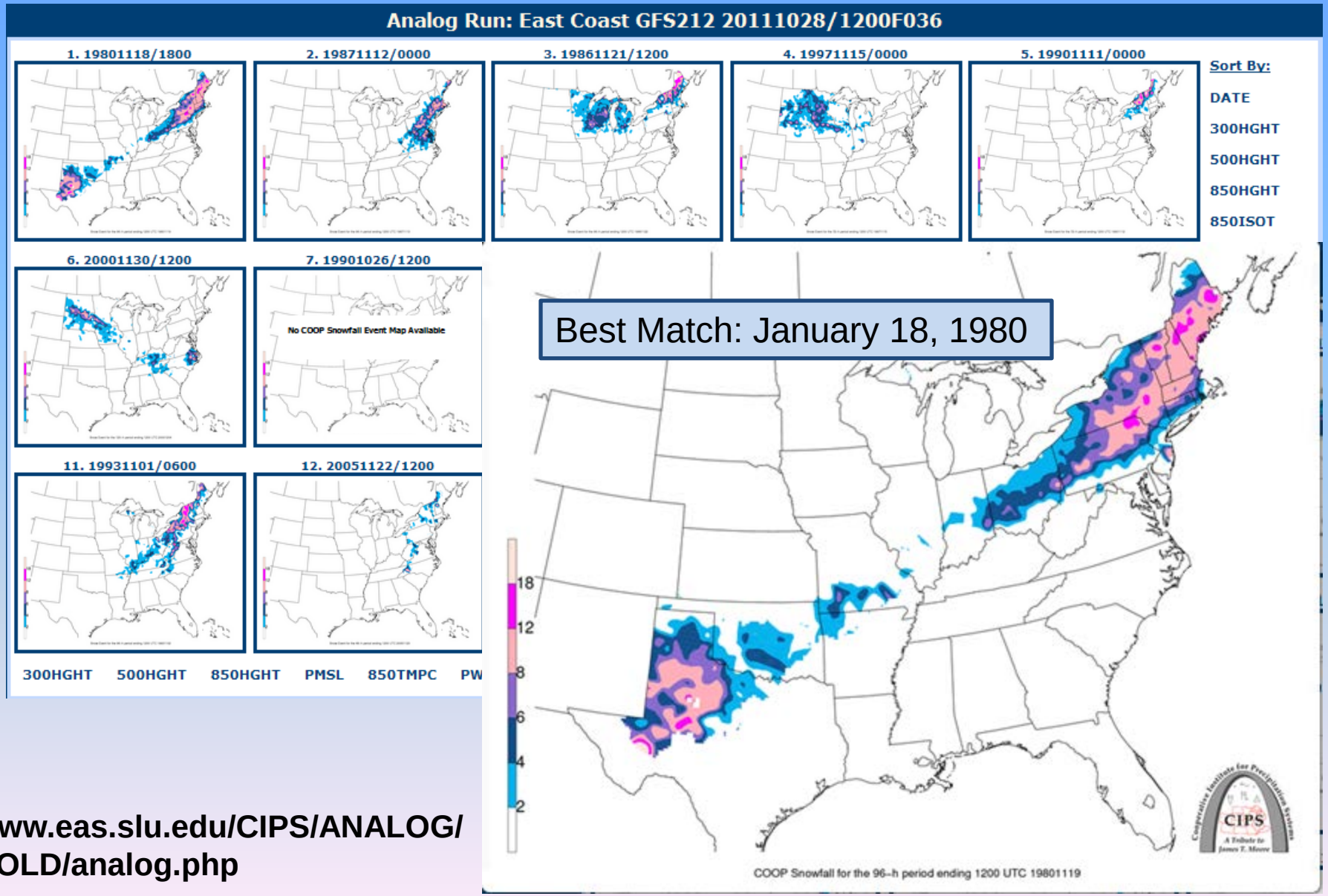
For now, we suggest that you simply stay aware of later weather forecasts and the NWS Hazardous Weather Outlooks. This is climatologically a very anomalous event, which by its very nature reduces our confidence level. If the threat appears to increase sufficiently over the next 24 hours, we will consider a conference call Tuesday afternoon.

CIPS Analogs: 72h



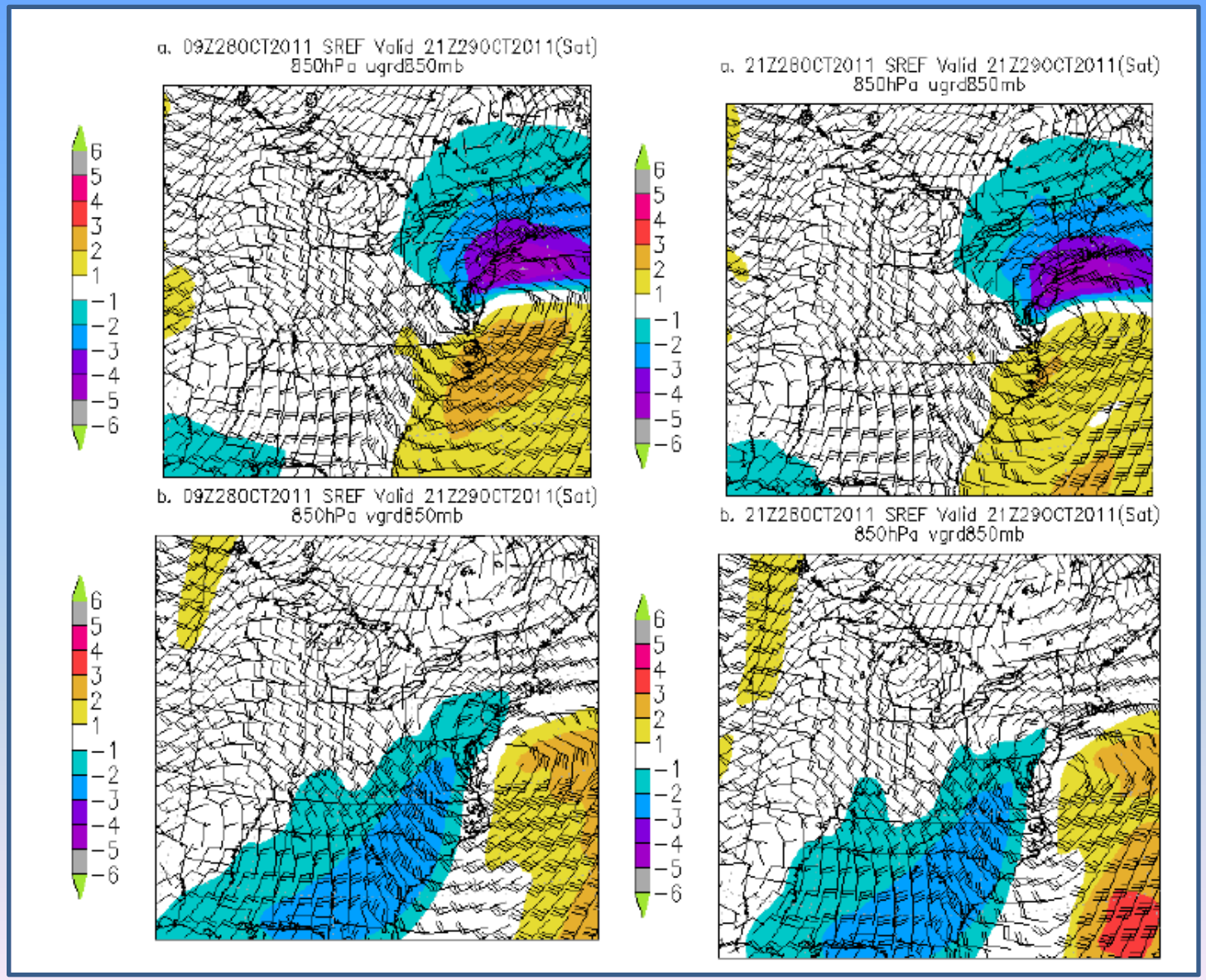
www.eas.slu.edu/CIPS/ANALOG/COLD/analog.php

CIPS Analogs: 36h



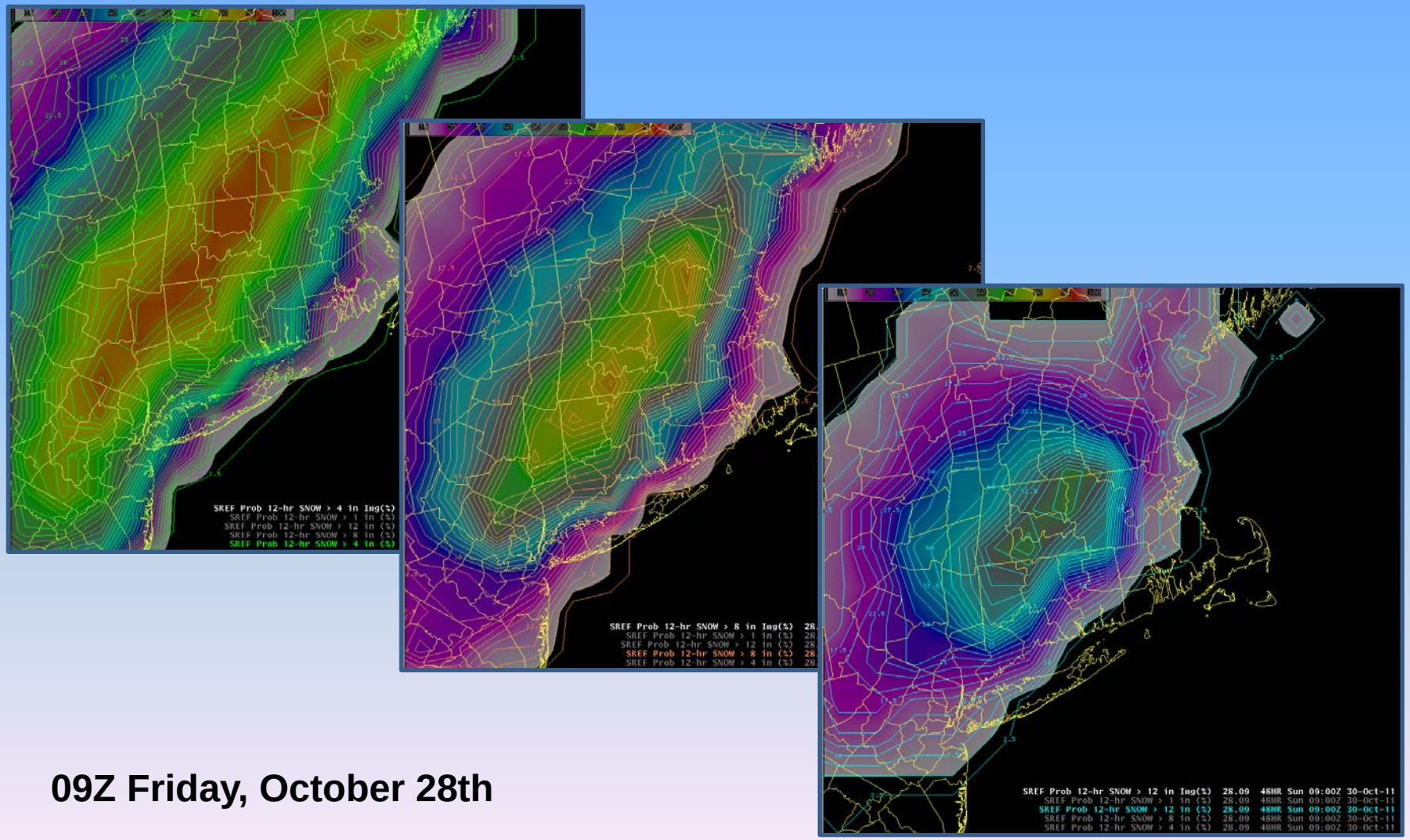
www.eas.slu.edu/CIPS/ANALOG/COLD/analog.php

SREF 850 MB Wind Anomalies



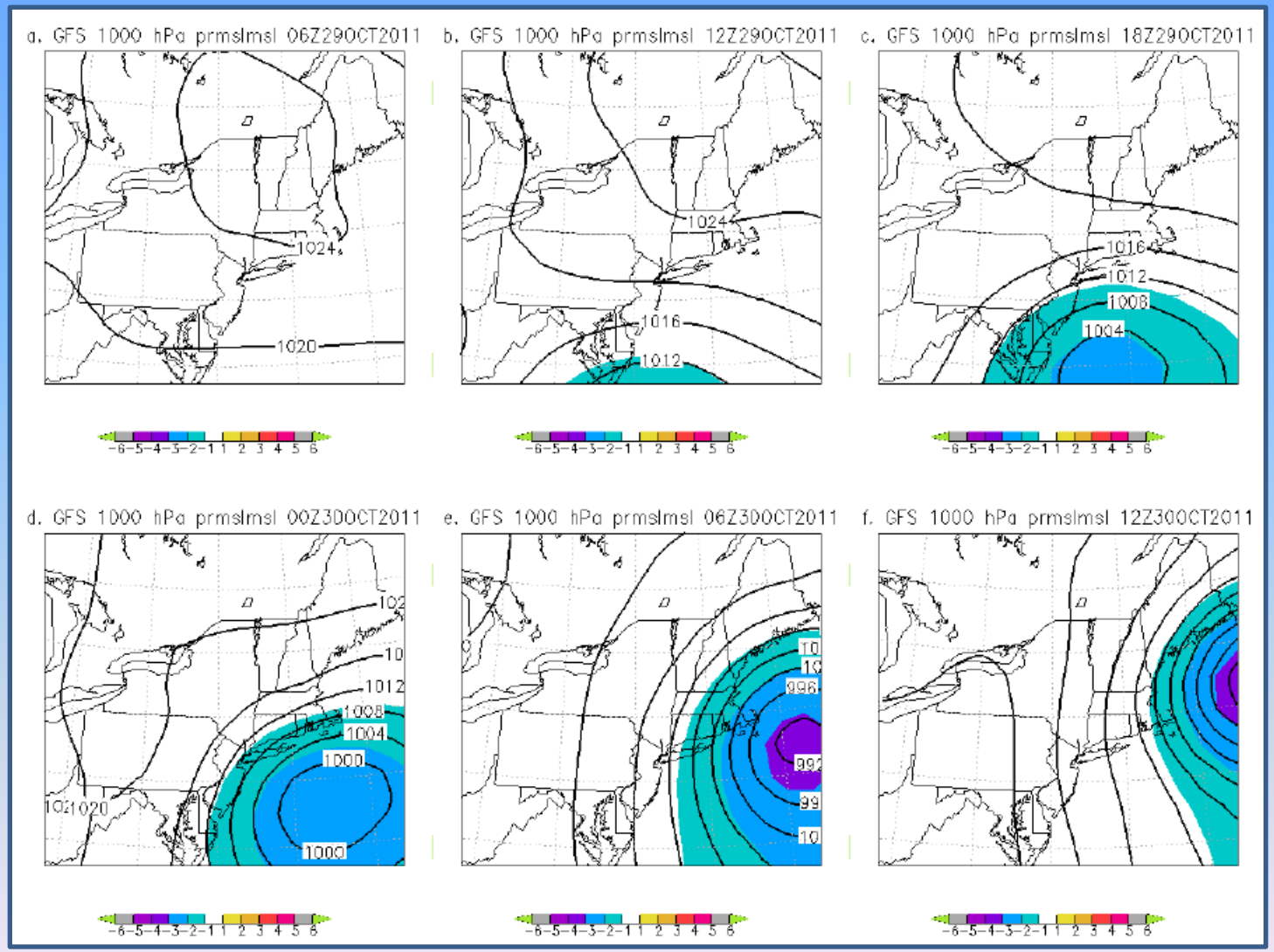
Grumm and LaCorte, 2011

SREF Snowfall Probabilities

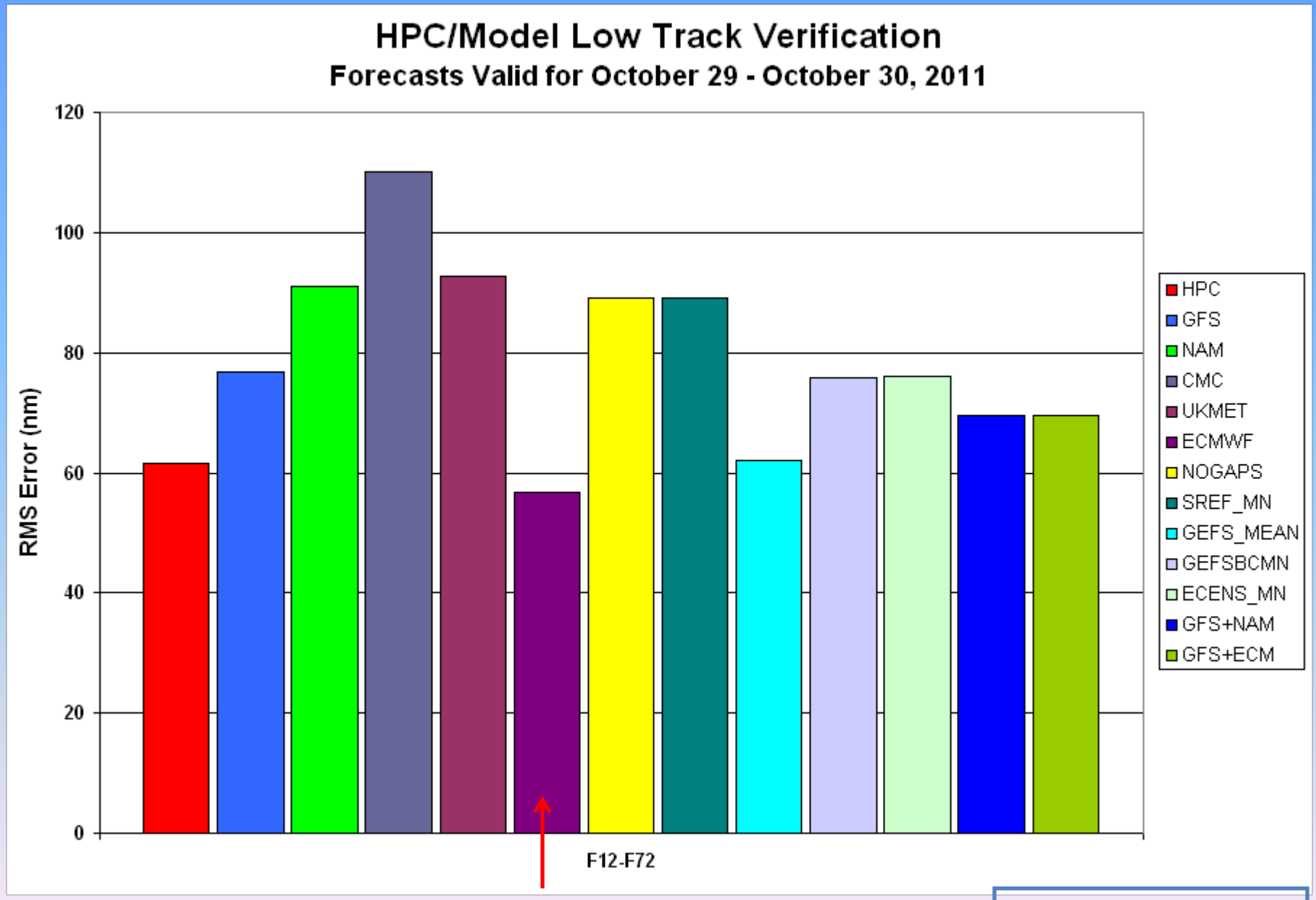


09Z Friday, October 28th

GFS Sea Level Pressure and Anomaly

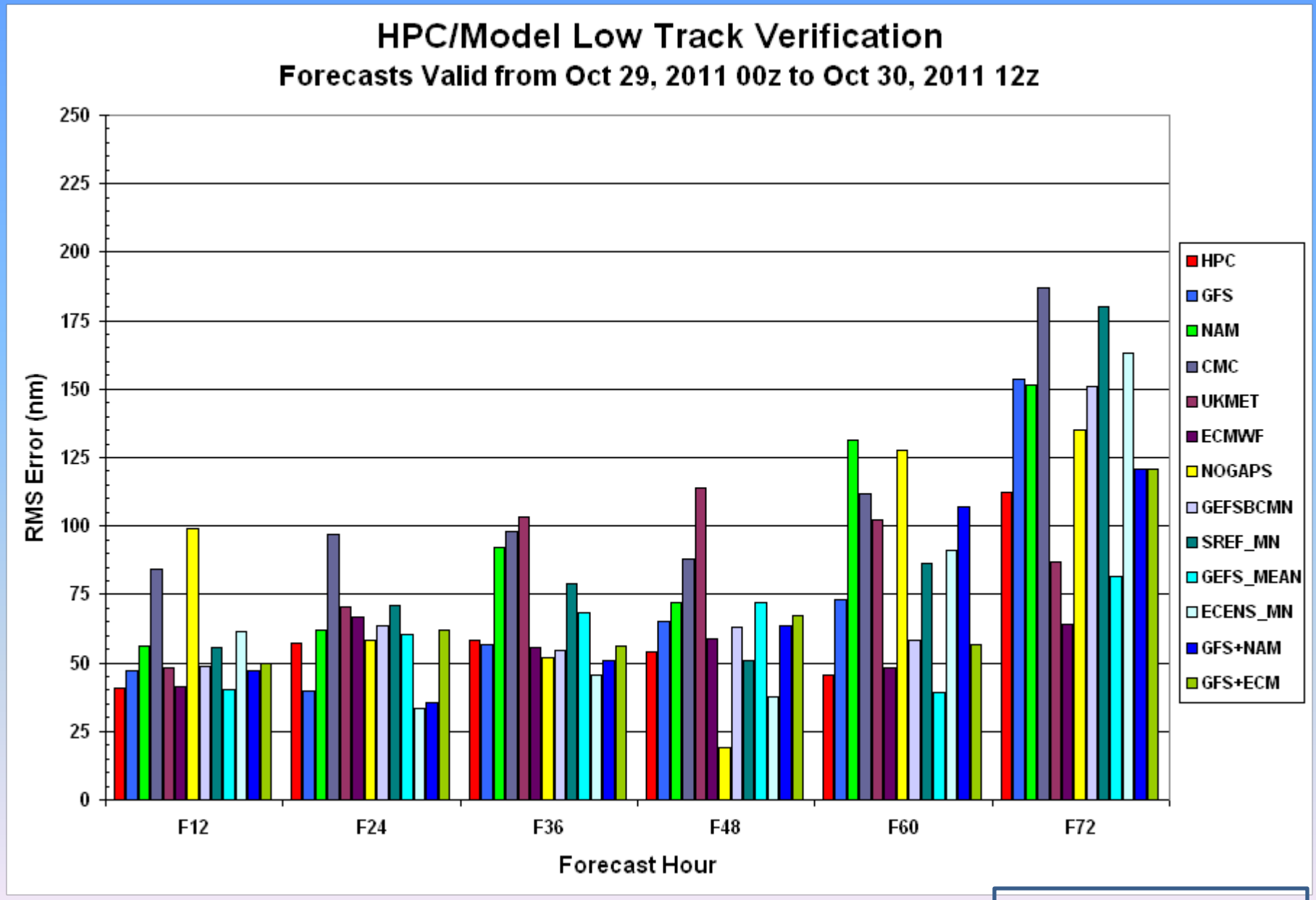


Grumm and LaCorte, 2011



ECMWF

Dave Novak, HPC



Dave Novak, HPC

Issue with Model Guidance

Wet bulb cooling affects precipitation type!

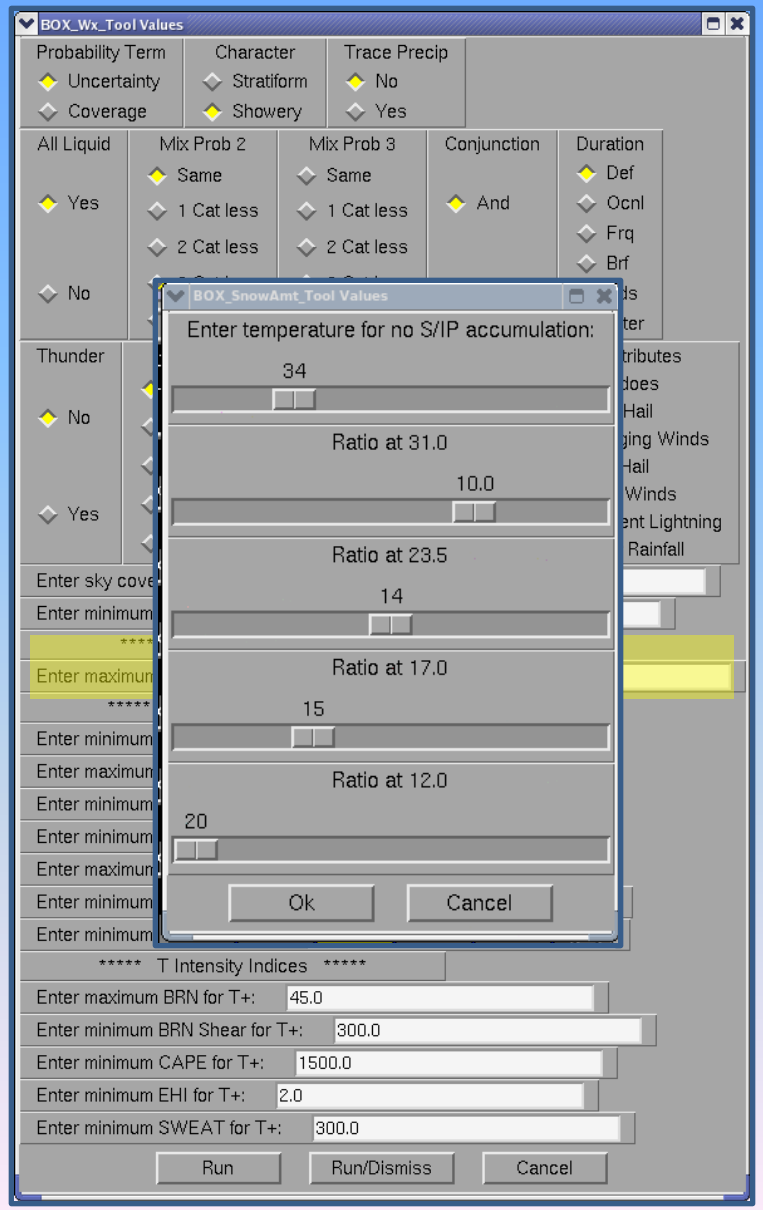
FOUS21 KBDL 280000

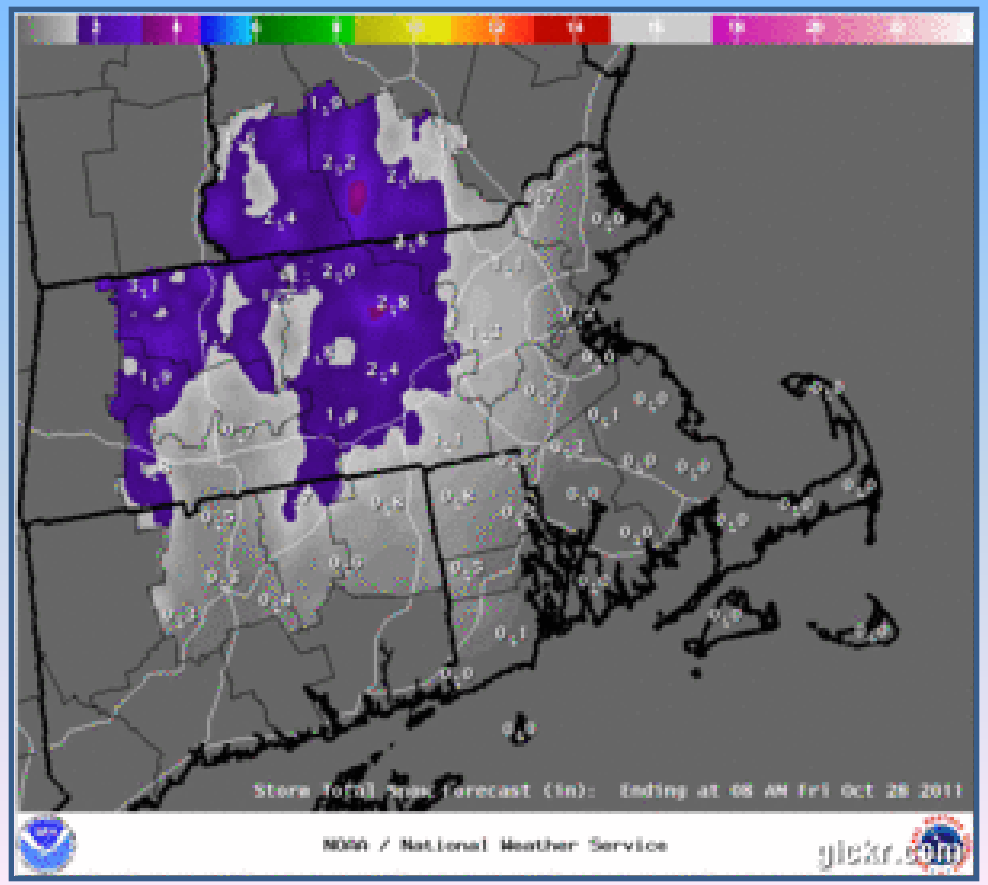
KBDL GFS MOS GUIDANCE 10/28/2011 0000 UTC

DT	/OCT	28					/OCT	29					/OCT	30					/
HR	06	09	12	15	18	21	00	03	06	09	12	15	18	21	00	03	06	09	12	18	00
X/N							50				34				41				30		43
TMP	34	31	31	41	48	47	39	36	36	37	37	38	39	39	36	36	35	34	33	42	36
DPT	30	27	25	24	22	21	22	22	24	25	26	25	28	31	32	30	29	28	27	28	27
CLD	BK	CL	CL	FW	FW	FW	FW	BK	OV	OV	OV	OV	OV	OV	OV	OV	OV	OV	SC	FW	CL
WDR	34	34	33	34	33	32	33	36	01	02	01	02	04	02	01	35	34	34	33	32	31
WSP	07	05	05	08	08	07	03	02	03	04	06	11	11	14	16	15	17	12	10	15	07
P06			0		0		0		2		7		57		93		88		34	5	0
P12							0				8				93				91		7
Q06			0		0		0		0		0		2		5		2		0	0	0
Q12							0				0				5				3		0
T06		0/	1	0/13		0/	0	0/	7	0/	5	4/	4	4/13		3/	1	0/	3	0/	9
T12				0/13				0/11				4/	7			8/16			0/10		
POZ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
POS	68	72	67	66	17	42	41	38	42	71	62	26	29	33	73	61	76	77	78	56	65
TYP	S	S	S	S	R	R	R	R	R	S	S	R	R	R	S	S	S	S	S	S	S
SNW											0								0		
CIG	7	8	8	8	8	8	8	8	8	7	7	6	4	3	3	4	5	6	7	8	8
VIS	7	7	7	7	7	7	7	7	7	7	7	7	2	2	4	5	7	7	7	7	7
OBV	N	N	N	N	N	N	N	N	N	N	N	N	FG	BR	BR	BR	N	N	N	N	N

GFS MOS for Bradley Intl Airport, CT
00Z October 28

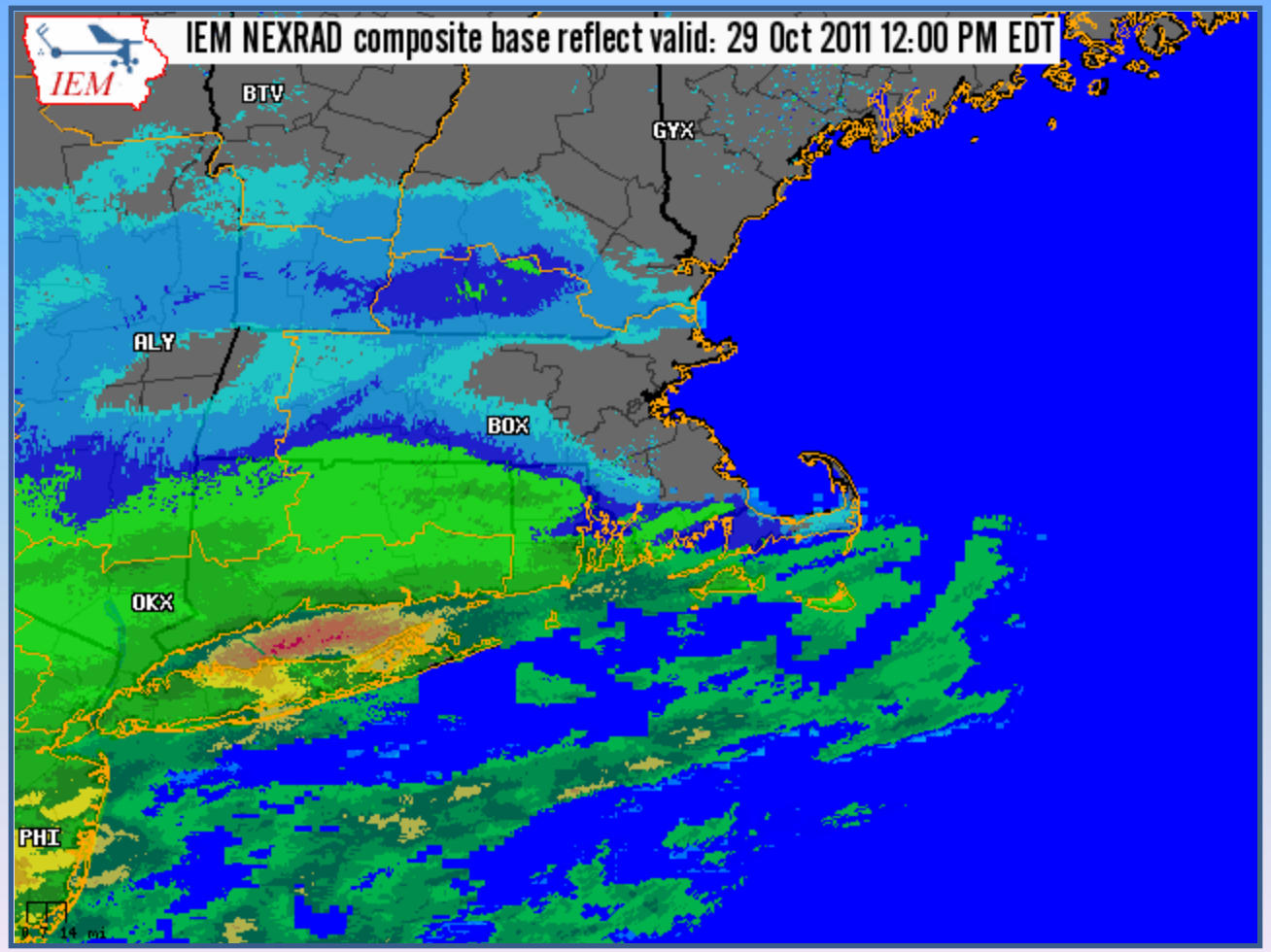
Consistent Snowfall Forecasts





Mesoscale Banding:

Where Does It Set Up?



Aviation Forecasts

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     FM300000 01015G25KT 2SM -SN BR OVC008
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     FM301100 33016G31KT P6SM OVC050=
```

Timing of onset was reasonable at BDL.

Forecast changeover was too slow - conditions lowered to LIFR much sooner than forecast

```
SPECI KBDL 291648Z 01007G16KT 7SM BKN029 OVC042 03/M03 A3010 RMK AO2=
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SPECI KBDL 291701Z 01009KT 2SM -SNRA SCT012 OVC020 03/M02 A3011 RMK AO2
SPECI KBDL 291707Z 02011KT 1SM -SN FEW008 BKN012 OVC020 02/M02 A3010 RMK
SPECI KBDL 291732Z 01009KT 1SM R06/5500VP6000FT -SN BR BKN007 OVC010
SPECI KBDL 291740Z 01009KT 1/4SM R06/4000VP6000FT SN FG VV006 01/M01
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Aviation Forecasts

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Timing of onset was reasonable at BOS.

Forecast changeover was also too slow - conditions lowered to LIFR much sooner than forecast

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METAR KBOS 291654Z 06016G23KT 10SM BKN040 OVC055 09/01 A3010 RMK AO2
METAR KBOS 291754Z 06018G24KT 7SM -RA BKN033 OVC043 08/02 A3009 RMK AO2
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SPECI KBOS 291813Z 07016G29KT 2SM R04R/6000VP6000FT RA BKN018 OVC030
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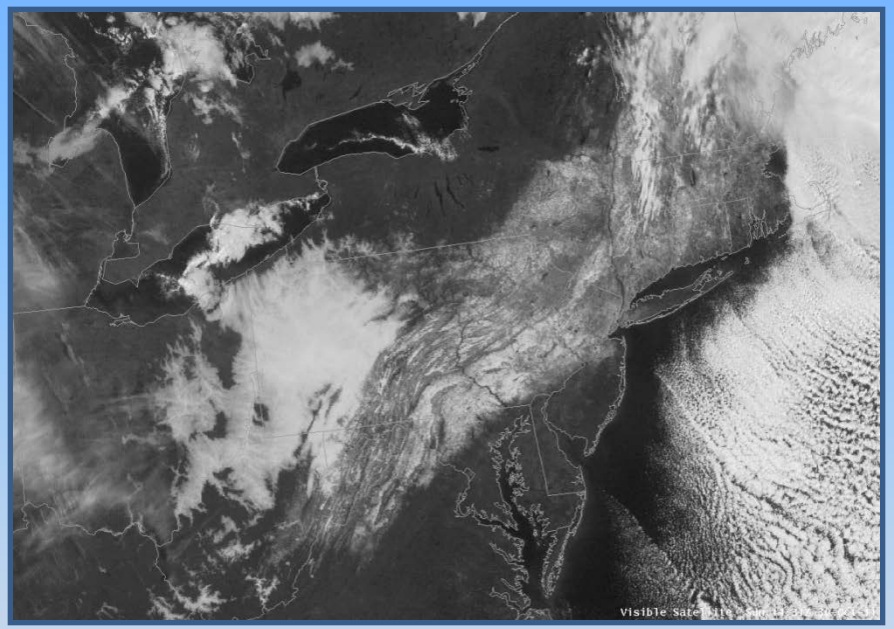
"Snowtober" Overview

October 29, 2011



Questions ?