NORTHEASTERN U.S. METEOROLOGICAL SUMMARY JULY 2004

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Meteorological Summary

- Upper air patterns
- Surface flow and fronts/troughs
- Temperatures vs. normals
- IOSN3 backward trajectories
- July 1 and Jul 22 conditions
- Alaska fire smoke plumes
- High frequency of coastal and sea fog

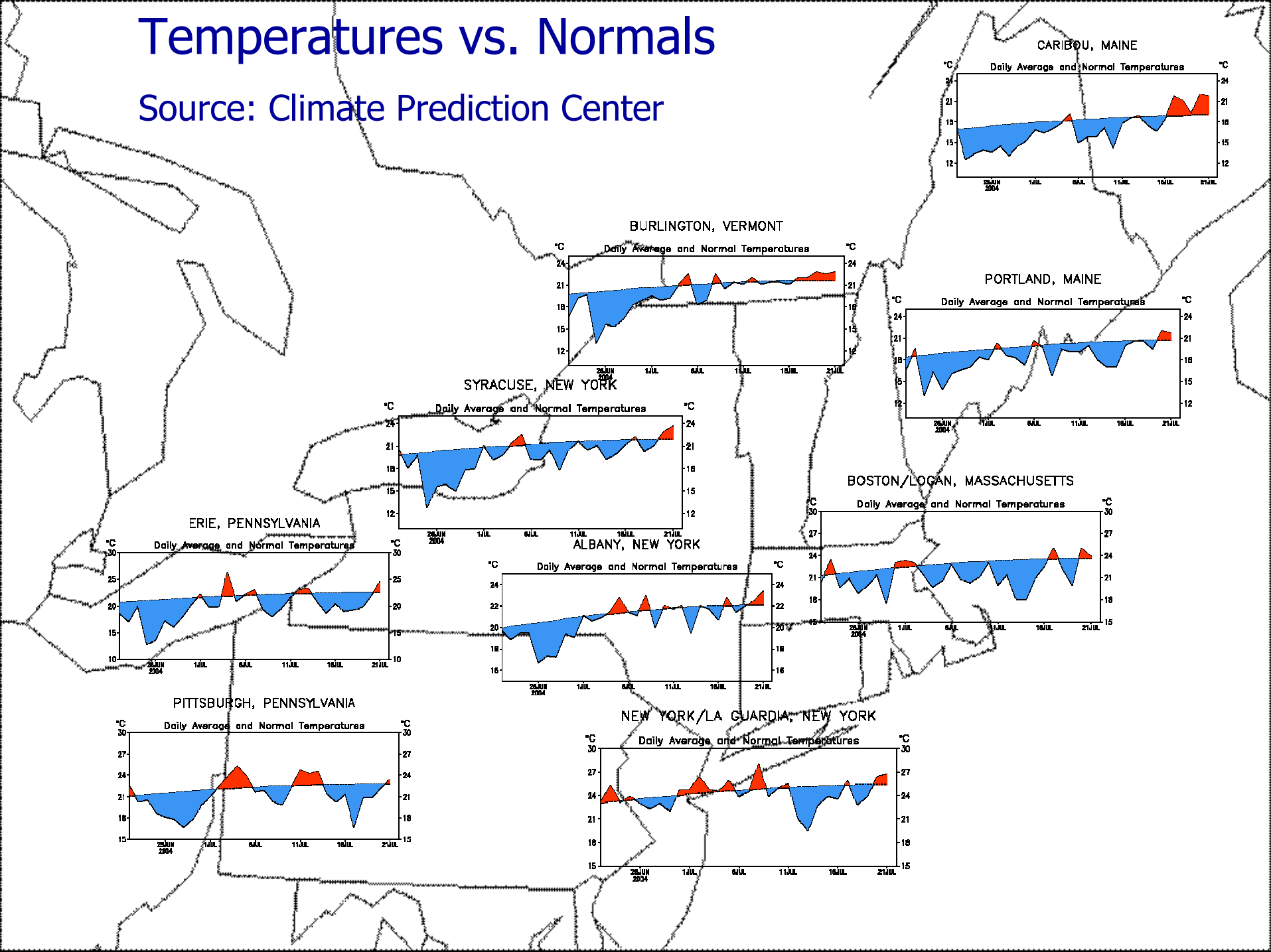
Temperatures vs. Normals

CPC: 30-Day Mean Departures from Normal

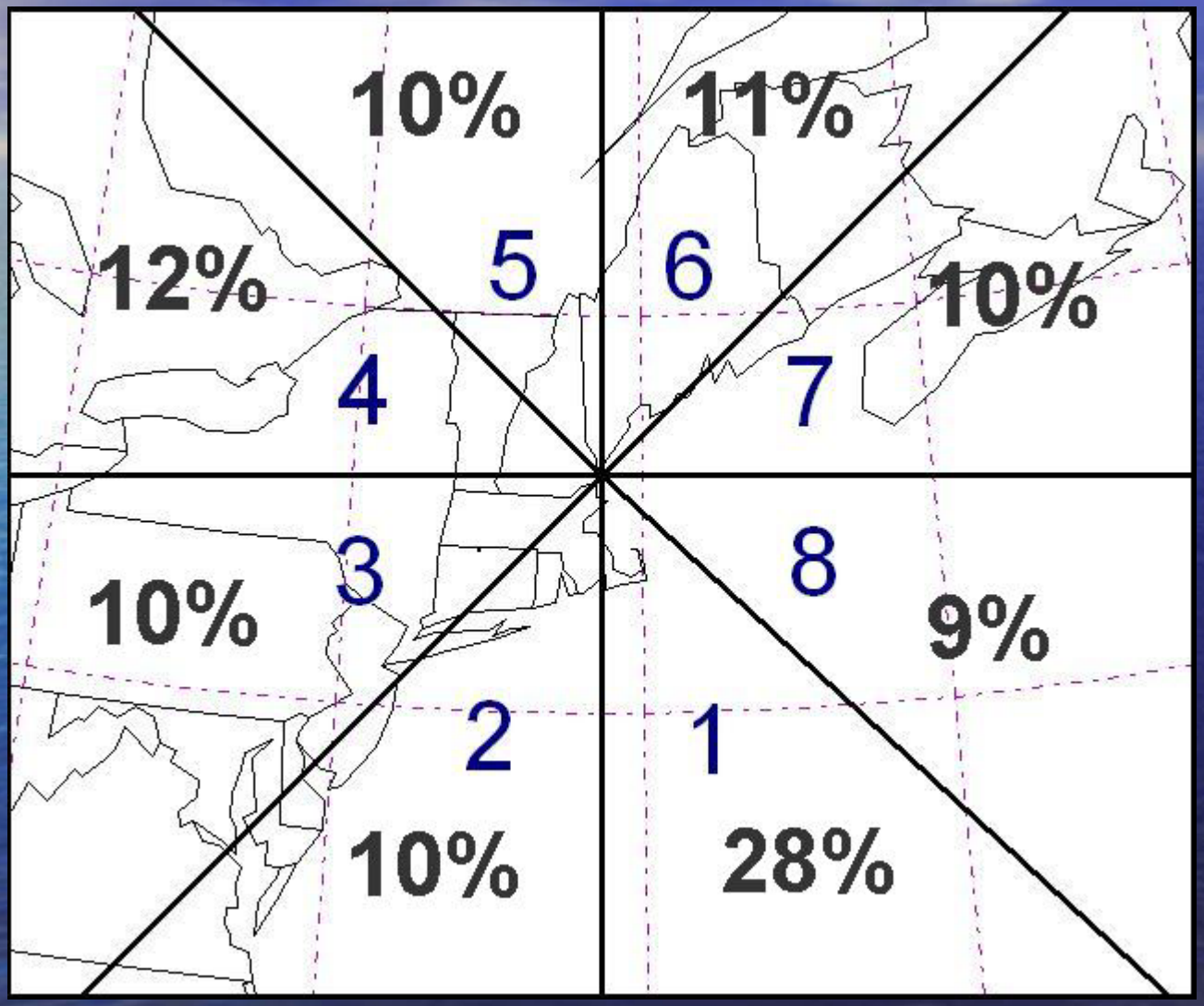
- -0.59 C: Albany, NY
- -0.36 C: Atlantic City, NJ
- -1.48 C: Boston, MA
- -1.65 C: Buffalo, NY
- -1.06 C: Burlington, VT
- -1.30 C: Caribou, ME
- -0.73 C: Cleveland, OH
- -0.76 C: Columbus, OH
- -1.15 C: Concord, NH
- -1.96 C: Erie, PA
- -1.46 C: Hartford, CT
- -0.67 C: Mt. Washington, NH
- -0.39 C: New York, NY
- -0.68 C: Philadelphia, PA
- -1.02 C: Pittsburgh, PA
- -1.46 C: Portland, ME
- -0.75 C: Providence, RI
- -1.69 C: Scranton, PA
- -1.49 C: Syracuse, NY

Temperatures vs. Normals

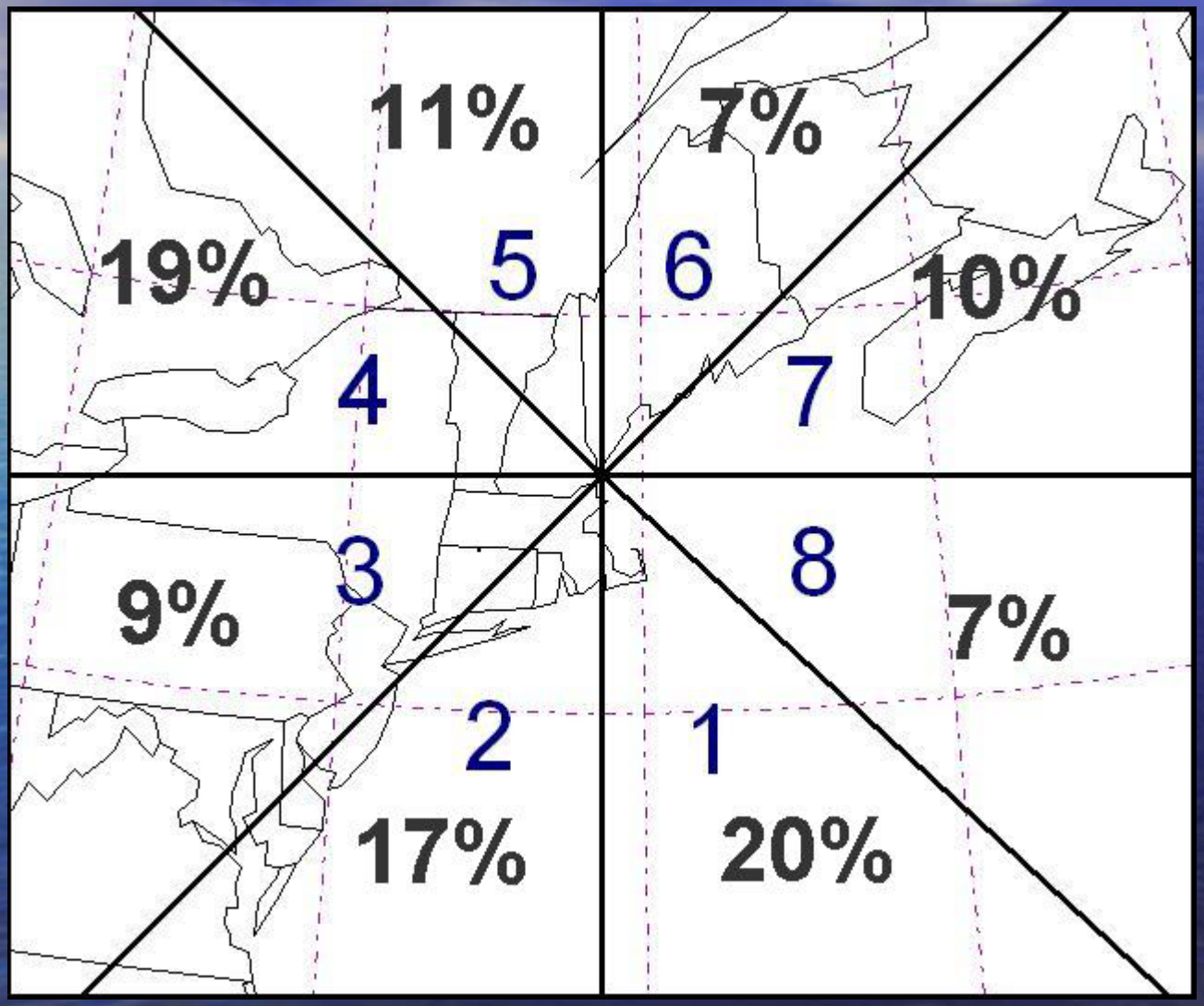
Source: Climate Prediction Center



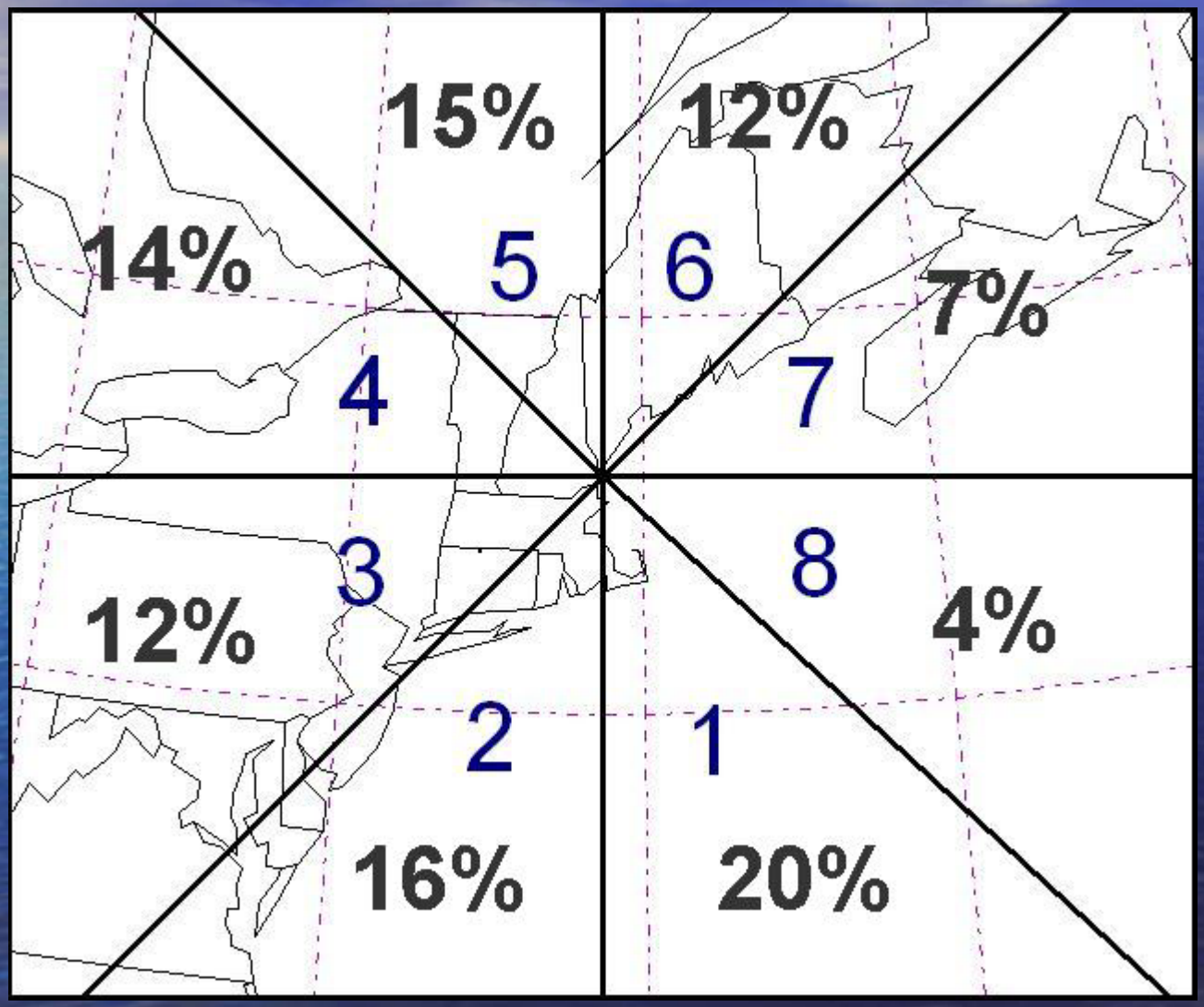
IOSN3 12-HR Backward Trajectory Summary – 10m (LP)



IOSN3 24-HR Backward Trajectory Summary – 10m (LP)



IOSN3 12-HR Backward Trajectory Summary – 200m (LP)



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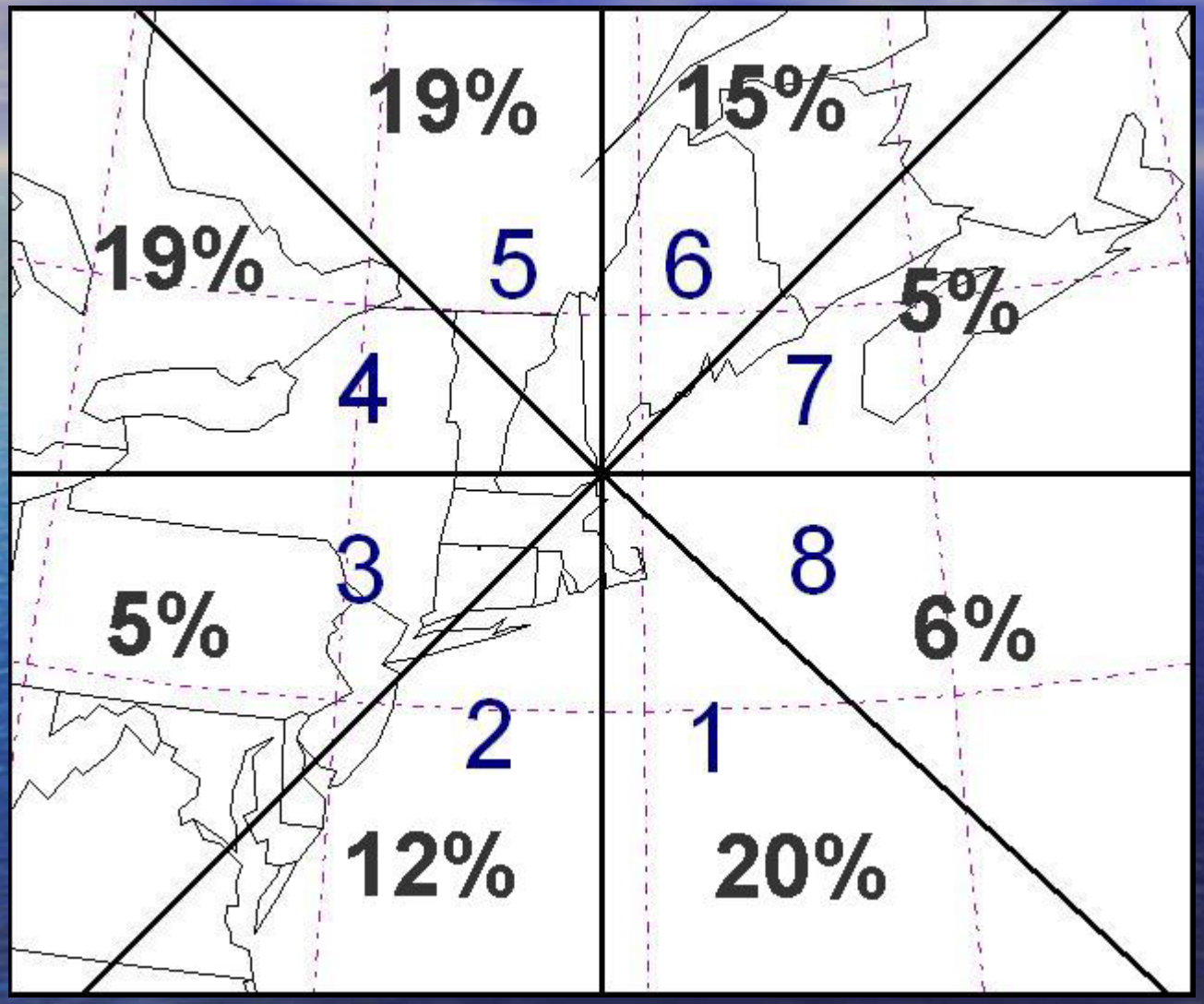
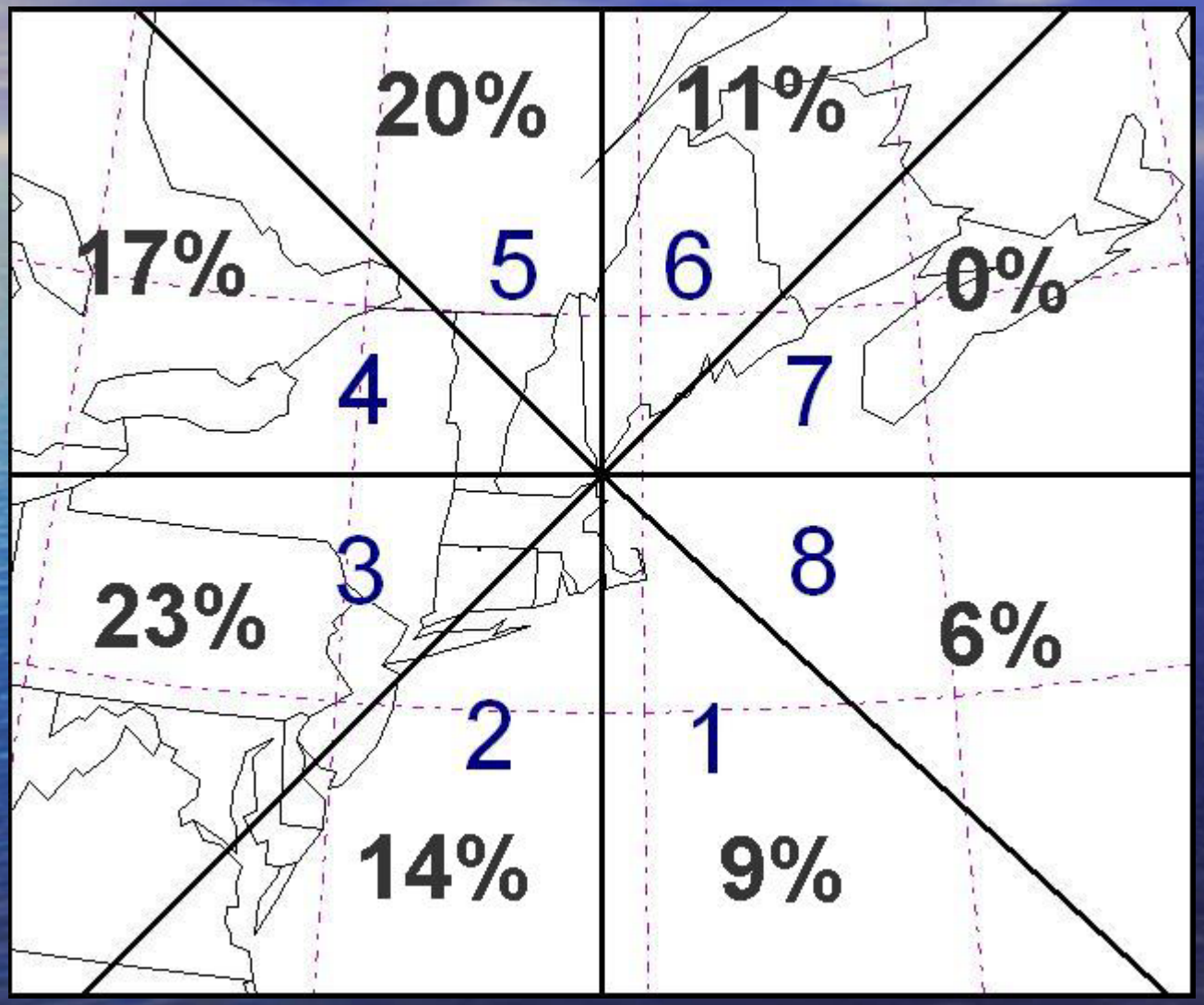


IOSN3 12HR Backward Trajectory Summary – 1000m (LP)



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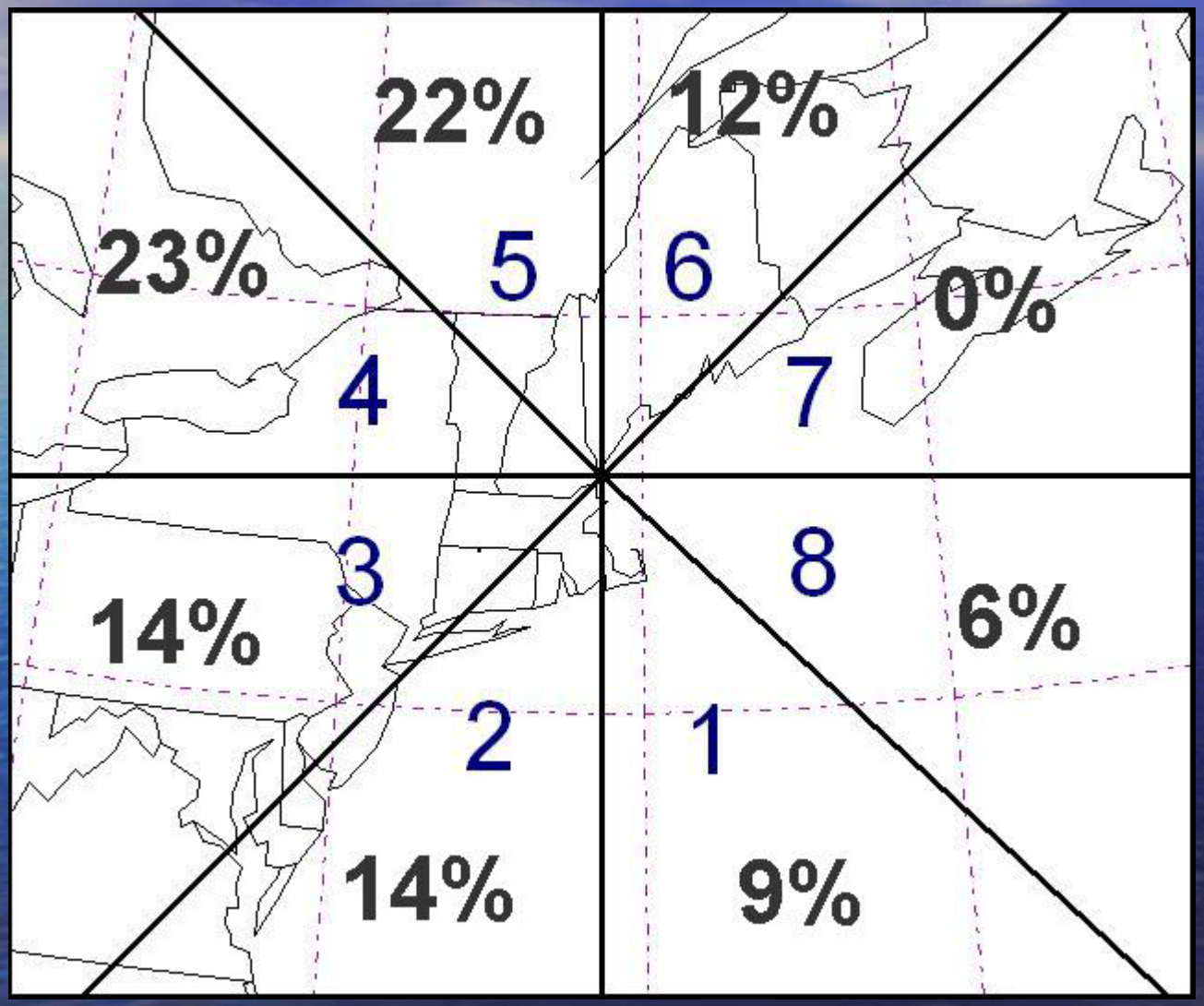
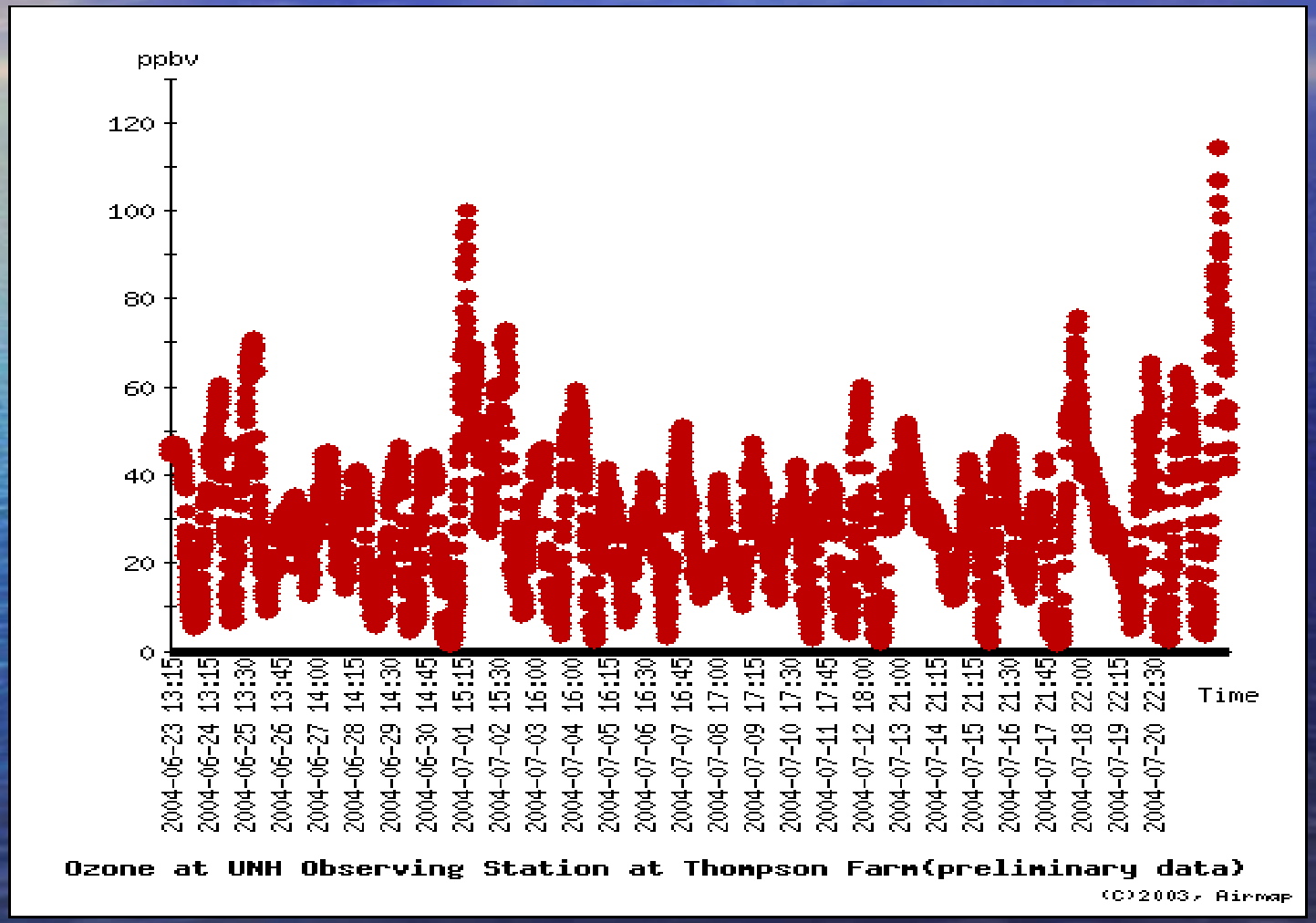


UNH Thompson Farm (TF) Ozone Time Series



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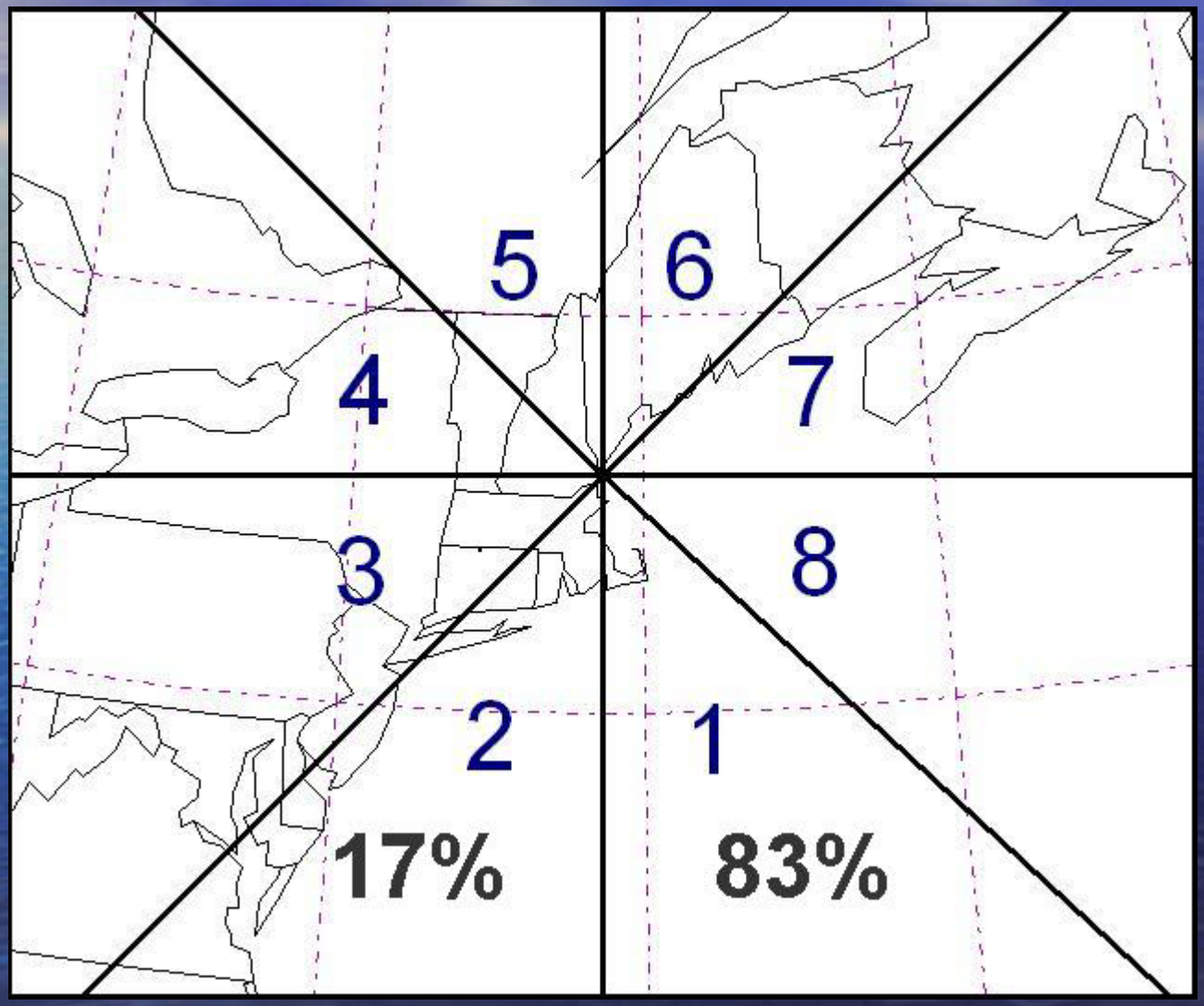

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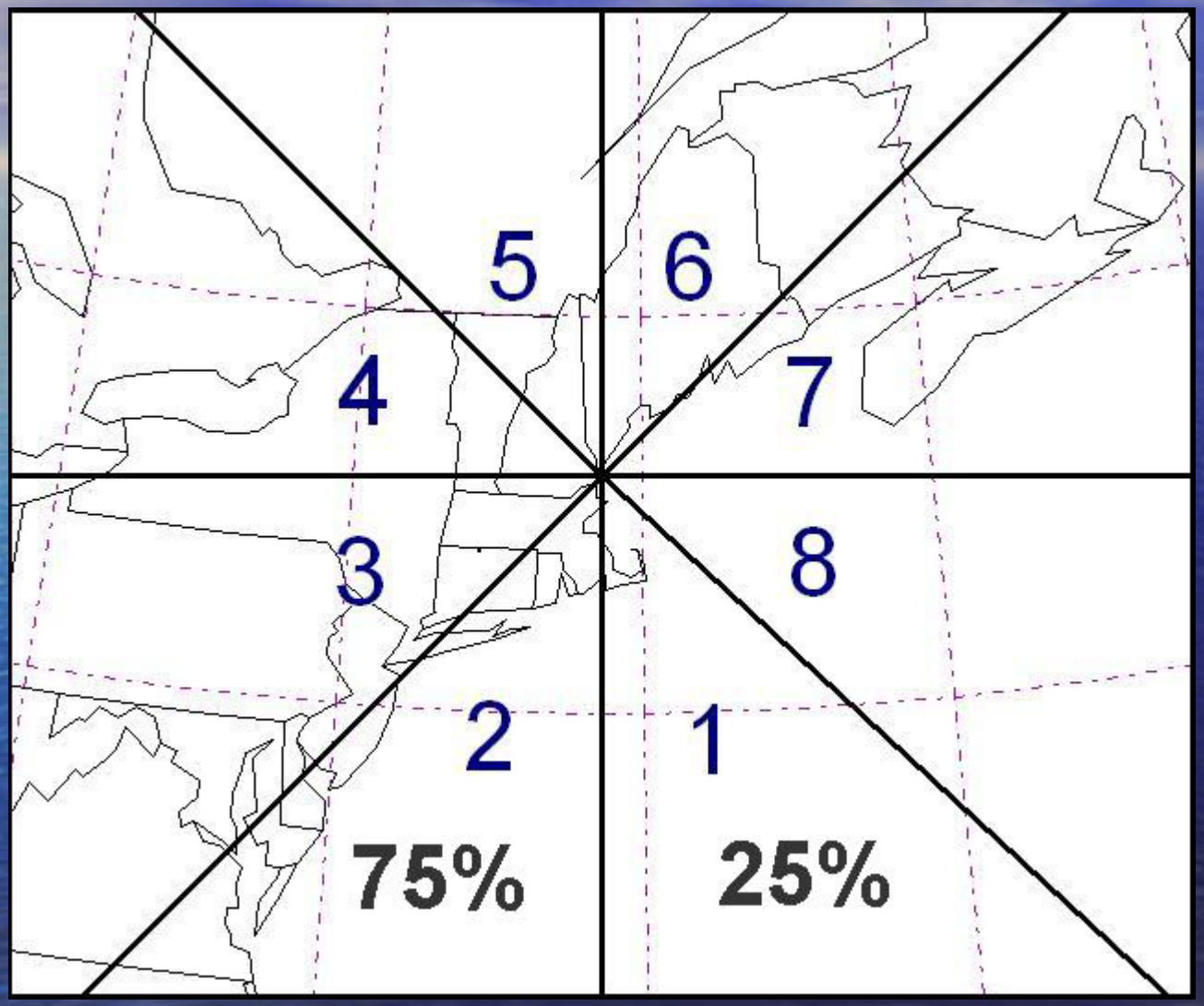
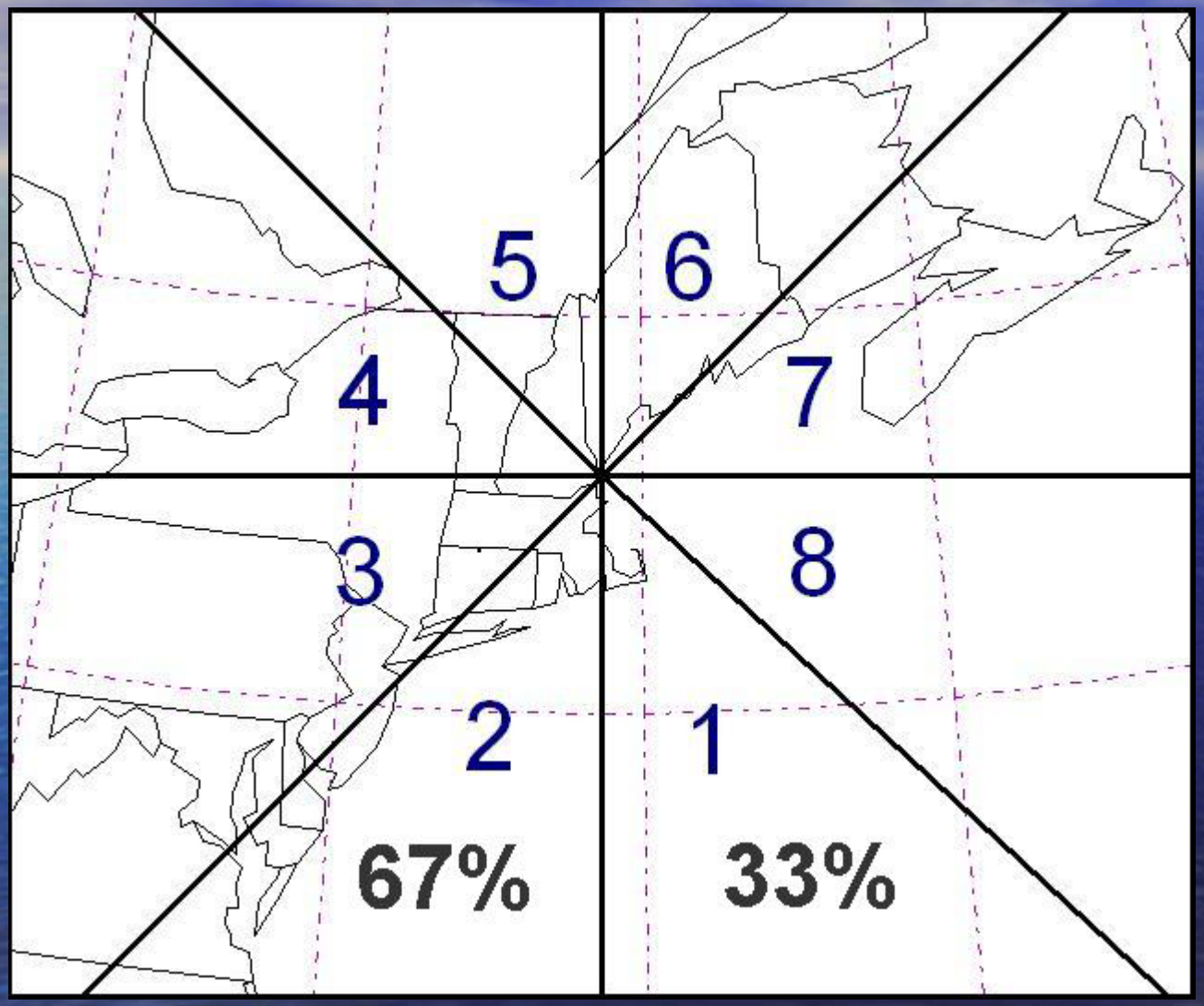


IOSN3 12HR Backward Trajectory Summary – 200m (HP)



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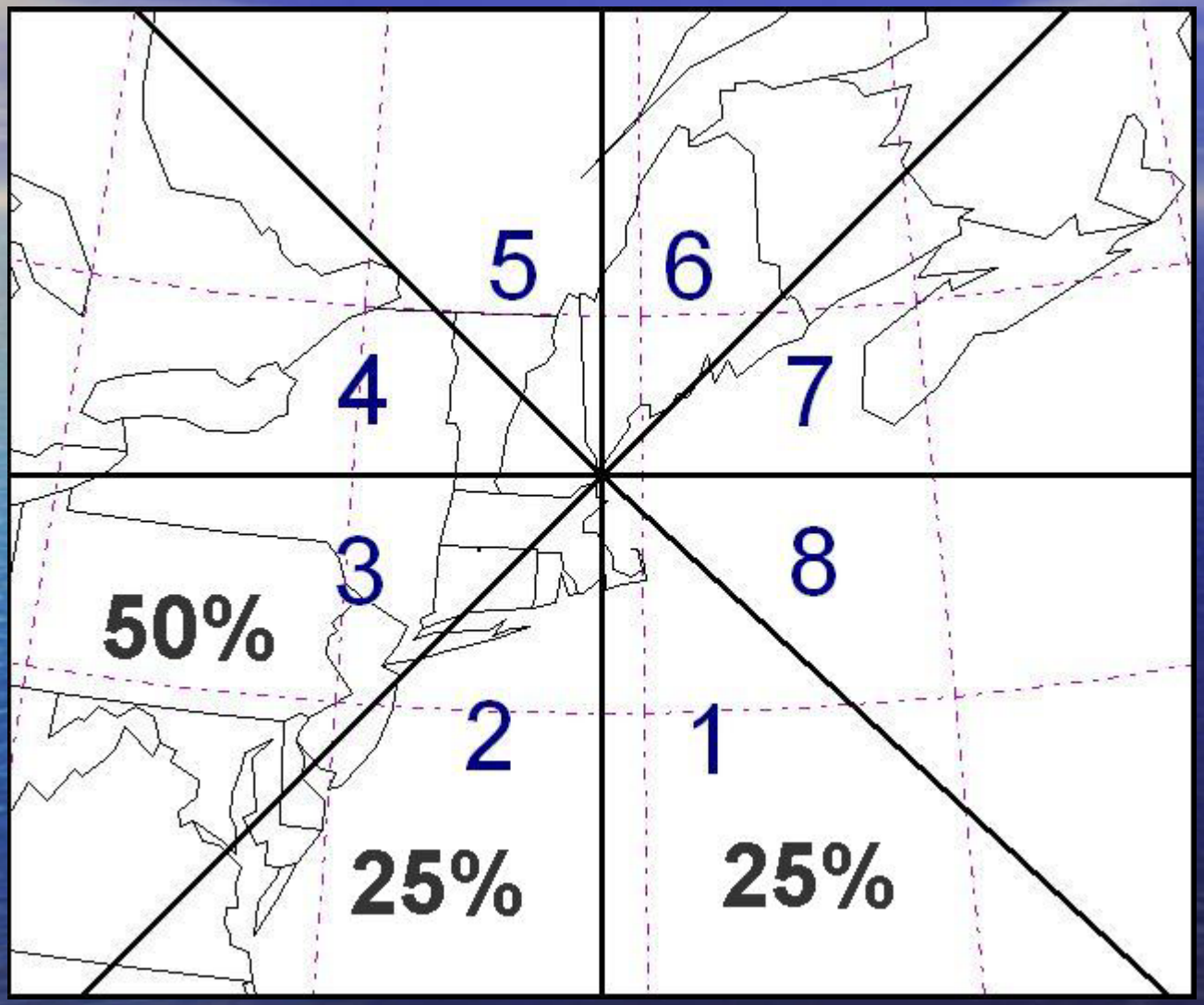

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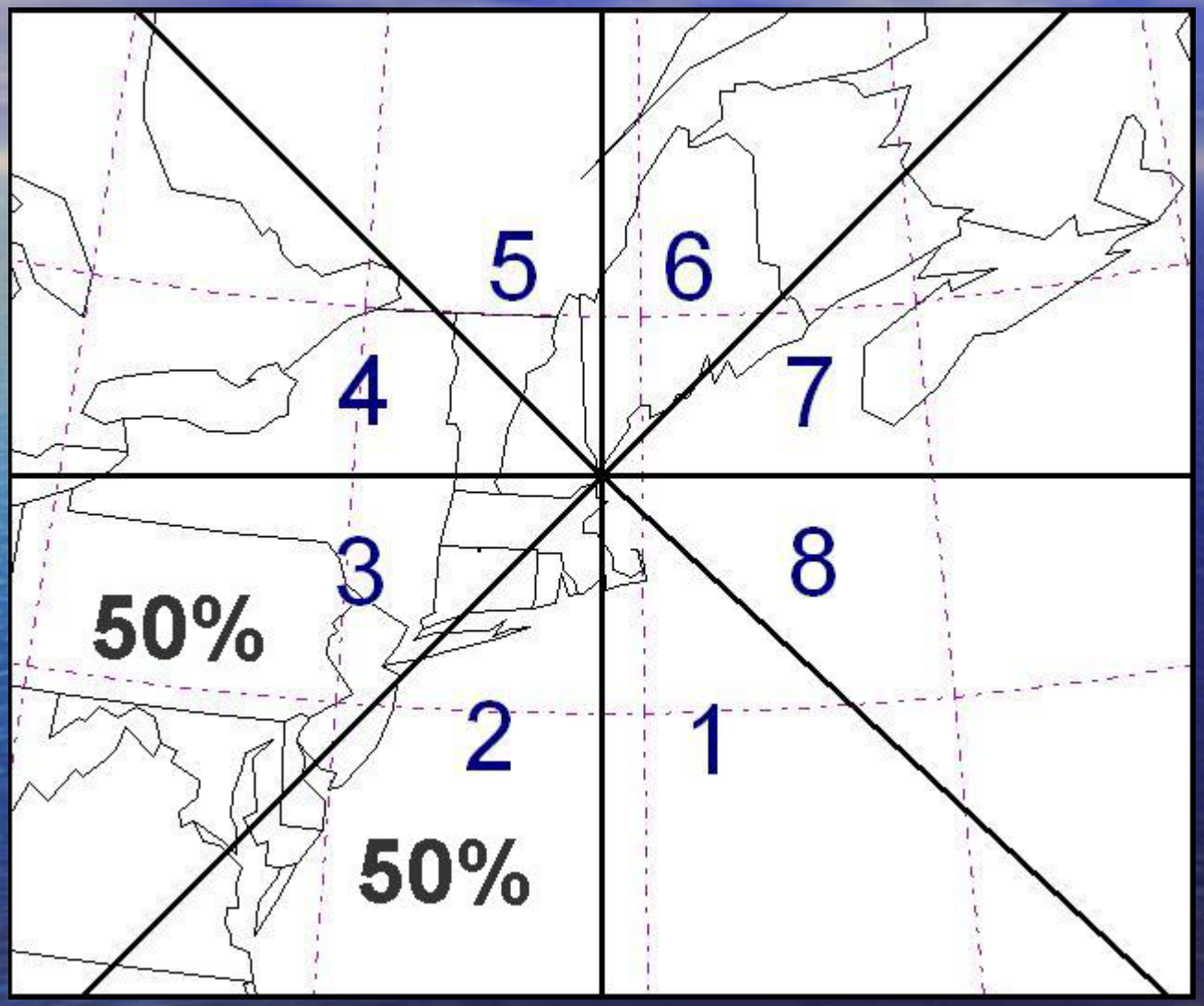

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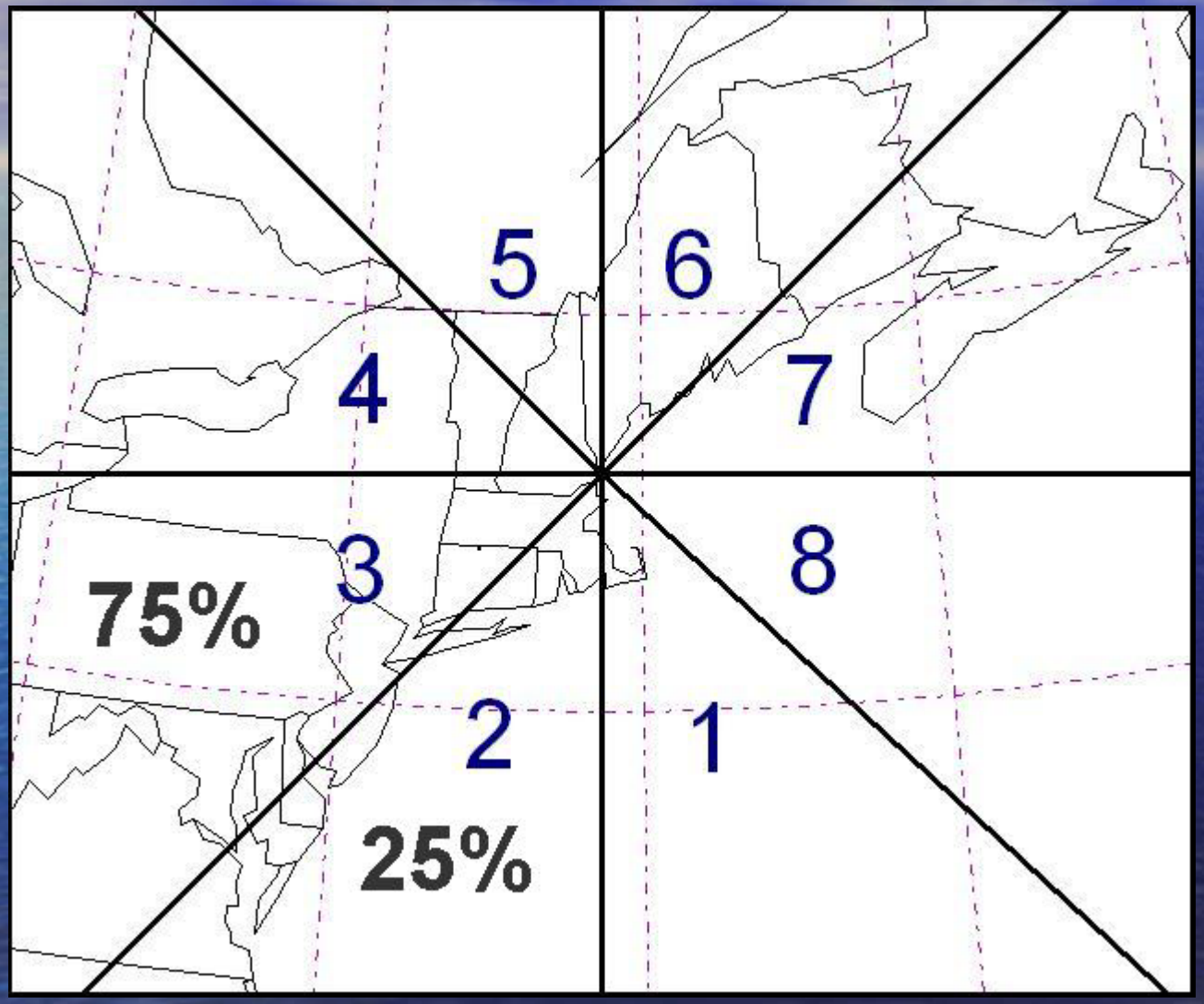
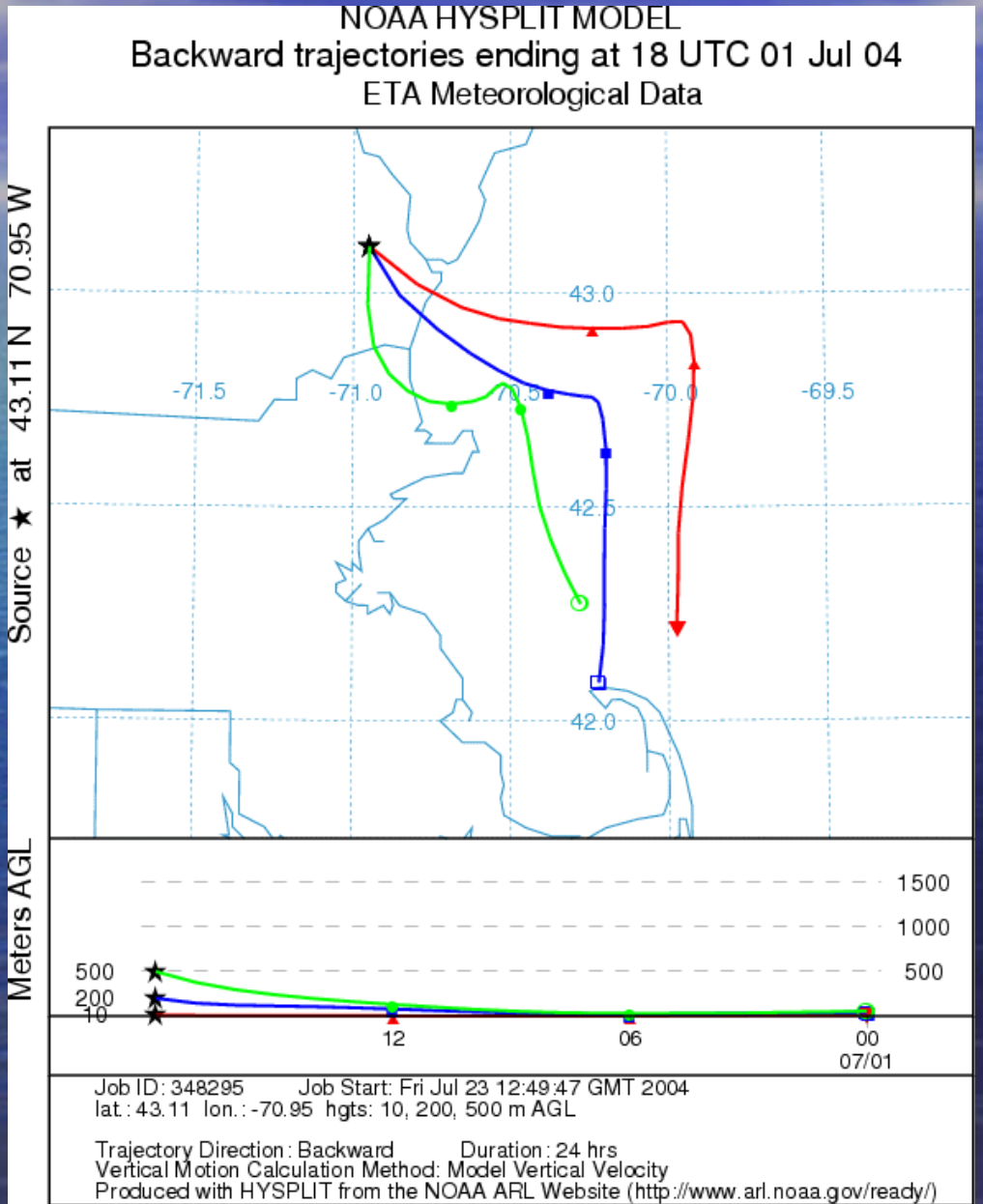
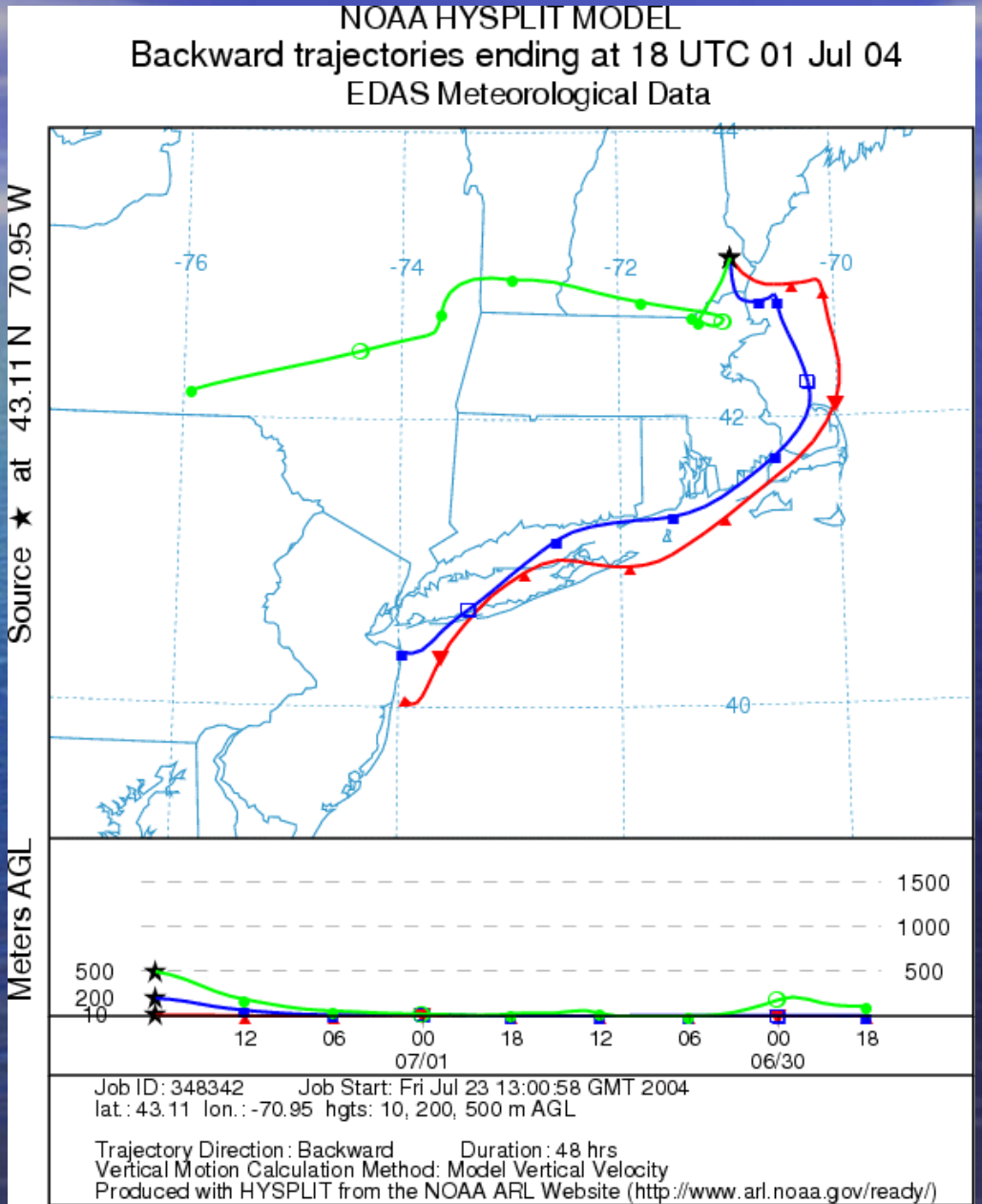


TF ETA(12km) 18-HR Backwards Trajectory – July 1 (18 UTC)

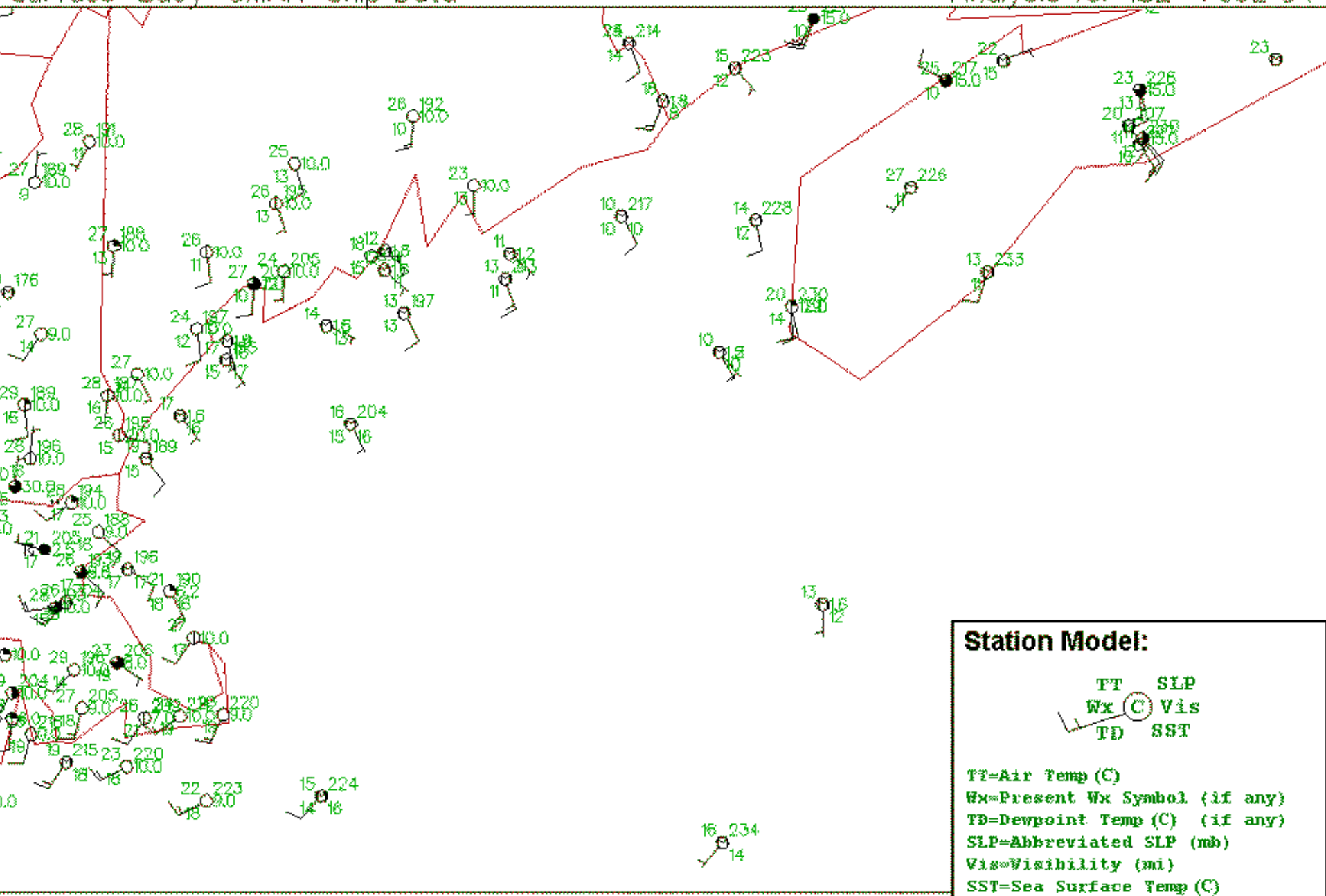


TF EDAS(40km) 48-HR Backwards Trajectory – July 1 (18 UTC)



Surface–Buoy–CMAN–Ship Data

Analysis for 18Z 1 JUL 04



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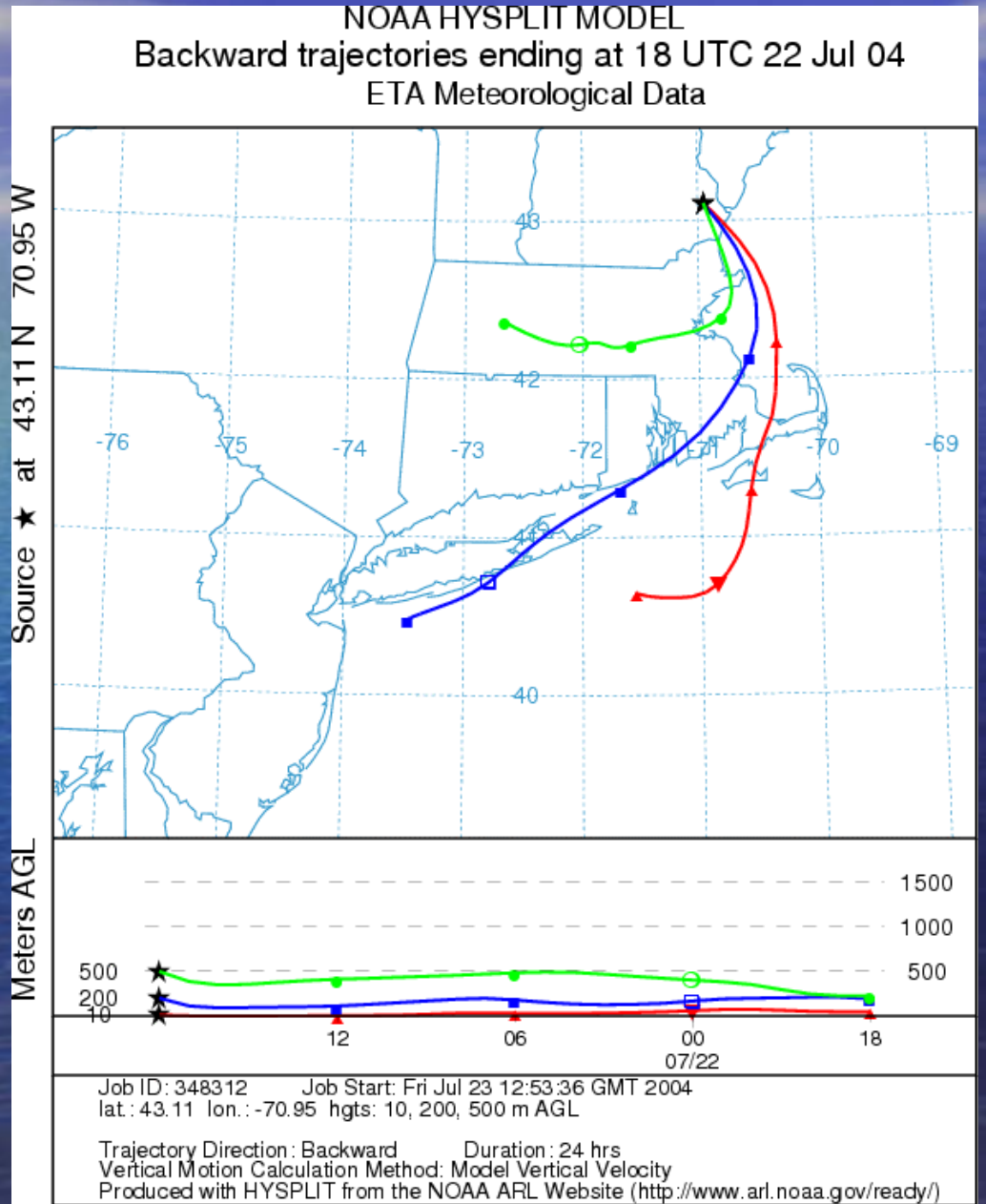
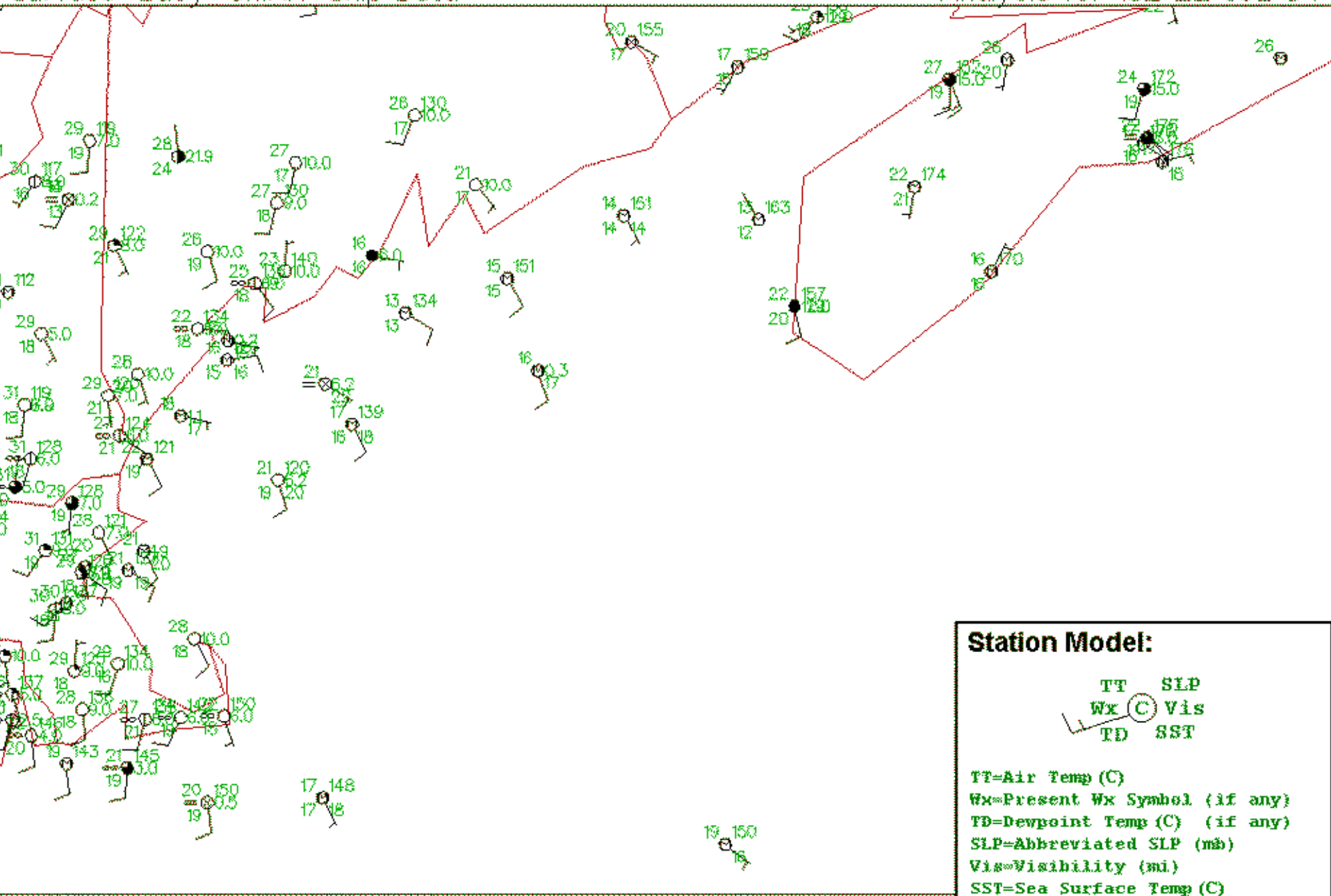
TF ETA(12km) 24-HR Backwards Trajectory – July 22 (18 UTC)



Surface–Buoy–CMAN–Ship Data

Analysis for 18Z 22 JUL 04



Station Model:

TT SLP
Wx C Vis
TD SST

TT=Air Temp (C)
Wx=Present Wx Symbol (if any)
TD=Dewpoint Temp (C) (if any)
SLP=Abbreviated SLP (mb)
Vis=Visibility (mi)
SST=Sea Surface Temp (C)
C=Cloud cover symbol (M=missing)
Wind Barb

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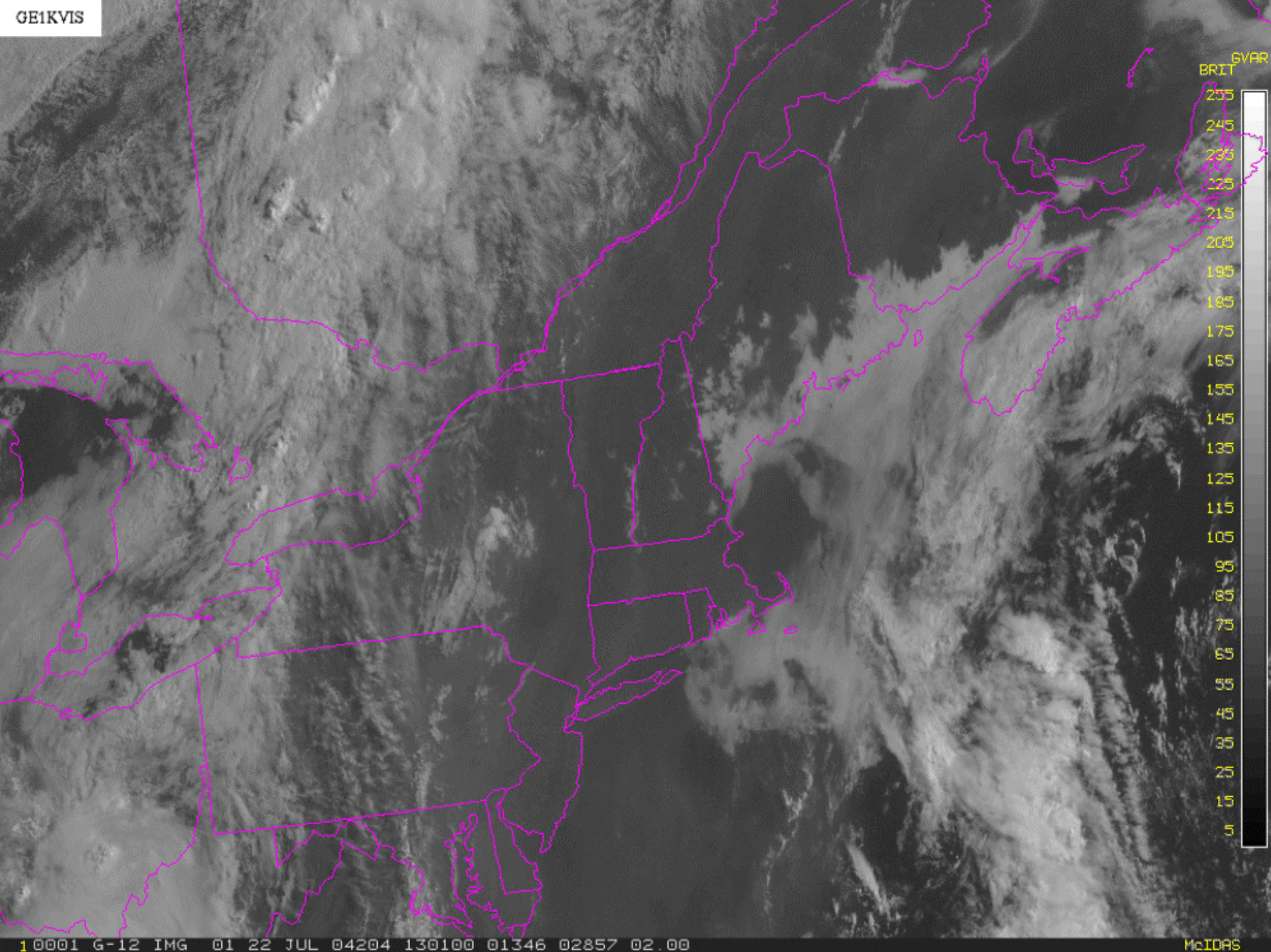
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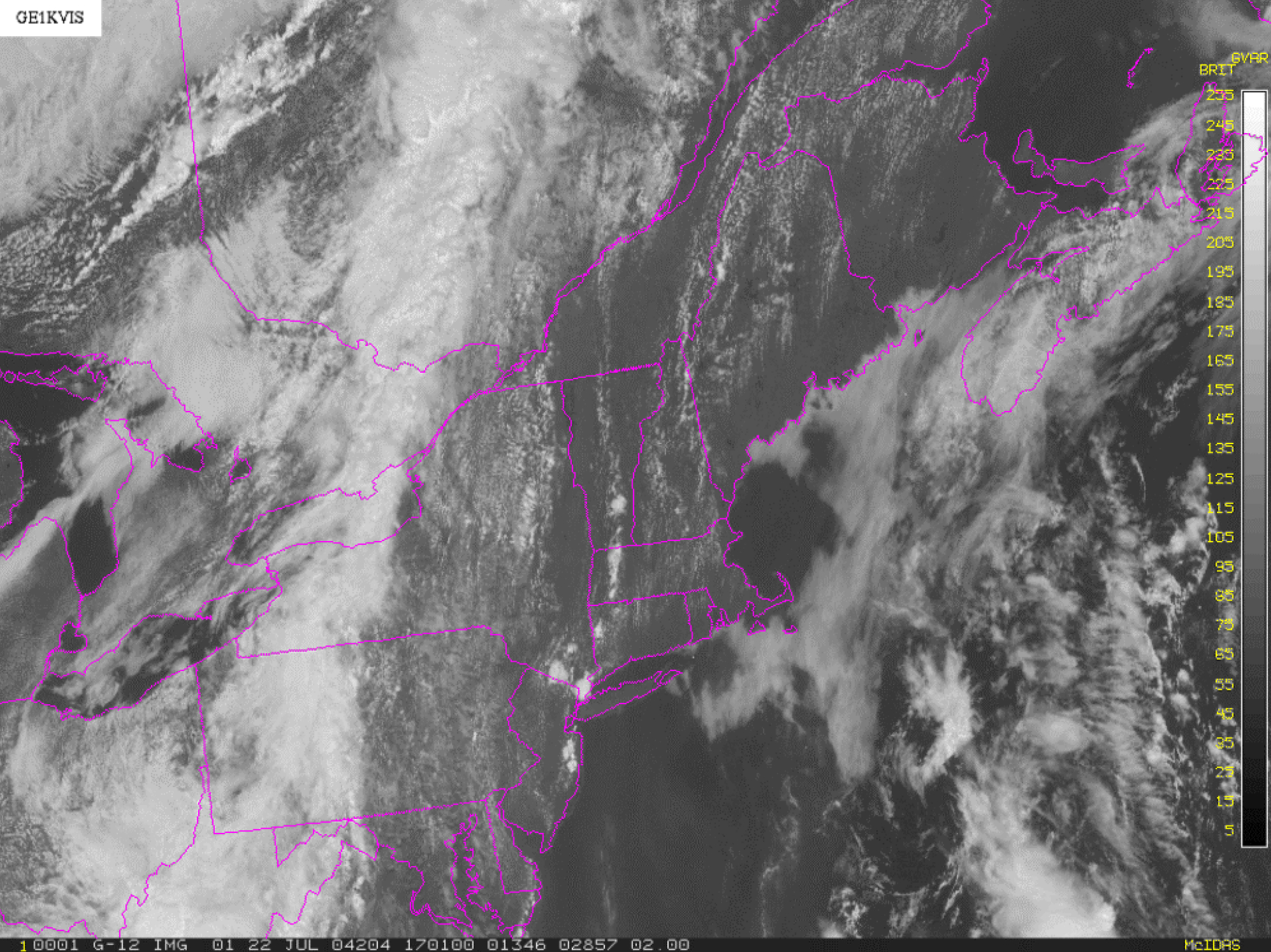
McIDAS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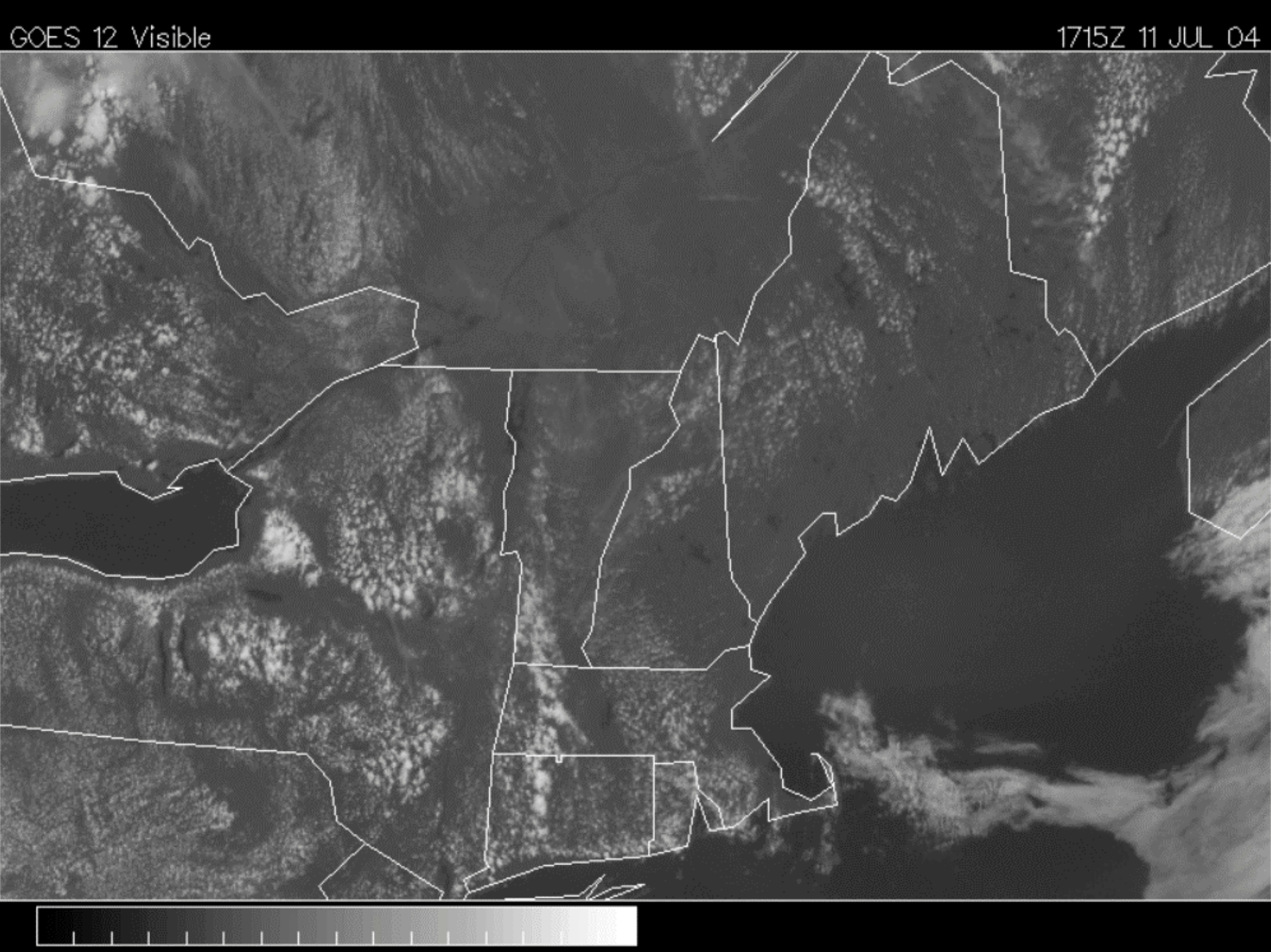
McIDAS


GOES 12 Visible
1715Z 11 JUL 04

Summary

- Upper air patterns
  - Zonal with frequent transient low pressure troughs
  - Deeper trough pattern over the Ohio Valley
- Surface patterns
  - Generally light winds throughout the Northeast
  - Series of fronts/troughs moving through
  - Infrequent SW flow
- Regional temperatures universally cooler than normal
- Air in the NEAQS region mostly from cleaner areas
- Prime exceptions were July 1 and July 22
- Higher frequency of coastal and sea fog than normal

Acknowledgements

Plymouth State University seniors, Jason Cordeira & Marissa DiProfio, contributed some of the graphics and analyses used in this presentation.

Plymouth State ICARTT Archive Page

http://pscwx.plymouth.edu/ICARTT/archive.html