BLIPMAPS

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Boundary **L**ayer **I**nformation **P**rediction **M**aps

Goals

- Utilize power of automated computer analysis (while recognizing its limitations)

- Provide the <u>average</u> pilot with <u>soaring-specific</u> forecasts on a <u>daily</u> basis (improve their overall soaring experience by enabling them flying on those good mid-week days)

- Analyze <u>wide-area</u> soaring conditions, not just conditions at a spot, to promote cross-country flying (and raise awareness of horizontal soaring variations)

- Promote greater interest and knowledge of meteorology in the average soaring pilot by involving them in making their own forecast and simplifying that task

Everything can be viewed on-line at www.drjack.info

BLIPMAP Parameters

- Predict parameters of importance to the <u>soaring pilot</u> (not simply meteorological parameters)

- Utilize valuable model information not available in a typical sounding analysis

- *Example:* Thermal strength forecast uses model-predicted surface heat flux

- *Example:* "Max. dry thermaling height" forecast estimates the level where thermal updraft drops to 1 m/s (not a forecast based simply on a temperature profile)

- *Example:* "Buoyancy/Shear" prediction of when thermals likely to be broken and unusable

- *Example:* "Convergence" forecast for terrain-produced upward motion lines

Thermal Updraft Velocity BLIPMAP

Thermal Updraft Velocity W* [fpm]   MON 07/04 18Z(14edt) 6hrFcst RUC
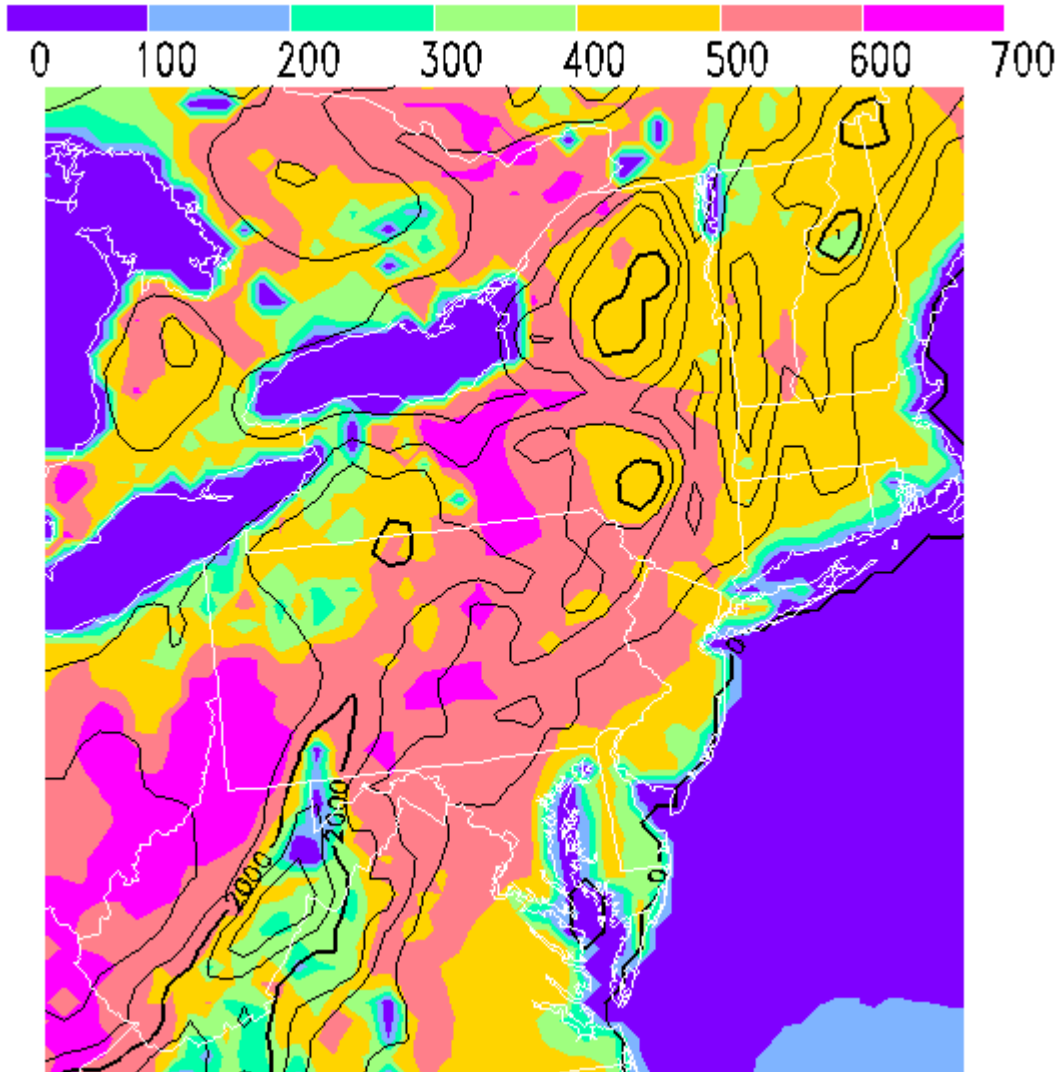
Terrain Contours: 500 ft

Current US BLIPMAP Forecasts

- Based on forecasts from NOAA 13km RUC model (24 hrs only) and 12km ETA model (out to 48 hrs)

- Updated 4-8 times daily for 9 regions (US + S. Canada)

- Plots and numerical data available via Internet

- Multiple tools developed: special viewers (map click displays forecast sounding at that spot), archives, etc.

- Central site operation for downloading model output, computing parameters, plotting, and website

- Currently ~2000 active users : ~1200 get free access to "basic" forecasts, ~800 pay for central computer upkeep and get access to all forecasts

- 850,000 RUC/ETA BLIPMAPs were downloaded in 2004

Next Step: RASP
(Regional Atmospheric Soaring Predictions)

- BLIPMAP parameters computed from a *locally* run meteorological model (WRF) instead of NCEP model

- Allows fine resolution forecasts where local effects such as terrain, land-use, etc. are important

- Can provide forecasts not available from "meteorological" sources, such as mt. wave

- Creating open-source ("free") program to be run by non-meteorological (but computer knowledgeable) user

- Currently under development and being run daily for test cases: California, South Africa, Great Britain

- "Distributed computing" concept since the RASP will be produced locally for each region by those flying in that region

RASP BLIPMAP
Mt. wave prediction for South Africa
(4km resolution)

Vertical Velocity & Wind (kt) at 700mb
Valid 1400 LST [1200Z] SAT 3 Sep 2005 (18hrFcst)
boxWmax=276@-33.57,19.73,2369m