

# BlipMap for Idiots

Get the best out of the forecast

Ramy Yanetz  
November 2004

# URLs (make sure to always refresh the maps)

- ETA - <http://www.drjack.info/BLIP/ETA/CANV/>
- RUC - <http://www.drjack.info/BLIP/RUC/CANV/>
- Multitime:  
<http://www.drjack.info/BLIP/RUC/CANV/multitime.html>
- Blipspot:  
<http://www.drjack.info/BLIP/RUC/SPOT/index.html>
- UniViewer:  
<http://www.drjack.info/BLIP/univiewer.html>

# Accessing BlipMaps

- First time Registration required (\$20 per year, some areas are free)
- Bookmark individual maps, navigating the site is daunting
- Alternatively you can use the blipmap UniViewer, which provides an interface to all maps and parameters.

# Disclaimer

- The following presentation is based on 3 years of blipmap use in the Diablo range (the mountain range west of Hwy 5). While I used it successfully in other places, it proved most accurate for the mountain ranges west of Hwy 5 (the Diablo range and the Mendocino's), which covers flights out of Hollister, Avenal, Williams, Crazy Creek and Byron

# Blipmap Results

- The results are amazing. In over 90% of the days the max altitude achieved is within couple of hundred feet from the predicted BLTop! What is even more amazing is that blipmap not only accurately predicts typical and good days, but also extreme days. It succeeded in predicting poor days even when the weather otherwise looked good (my only failed XC attempt out of Hollister this year, blipmap predicted less than 5000 ft at Panoche) as well as super days where blipmap predicted 2 days in advance lift to 14K over the mountains (twice the normal altitude!) in days which were otherwise hazy and poor looking. And indeed we got to 14K.

# Blip Map Results Continued

- It is also accurate in predicting the location of the best lift, and was successful in sending us to the coast over Big-Sur where we found lift to 13K, just as blipmap predicted. Most days there is no much lift over the beach!
- I owe many of my successful XC flights to blipmap, it saved me from failure attempts as well as alerted me to great days which warranted a day off from work!
- As much as it is accurate for the mountains, it is very inaccurate for the valley. Unless it is a post frontal unstable day, most days the lift in the central valley tops at 2000ft, while blipmap often predicts 4K and 5K, even more. Ignore it.

# Blipmap Products

- ETA Model
- RUC Model
- Blipspot
- TIP

# ETA model

- Available up to 3 days in advance
- Available the prior evening
- Higher resolution maps
- Two time predictions (18Z and 21Z)
- Map refreshes every 6 hours
- Last run is the 9hrs forecast (around 5AM local)
- Less accurate and overly optimistic for the longer range

# RUC model

- Available for the current day only
- Available only in the morning
- Multiple time predictions (5 times per day)
- Refreshes every 3 hours
- Last run is the 6hrs forecast (around 8AM local)
- More accurate.

# Blipspot

- Numerical representation in a table format for specific spots.
- Based on the RUC model only.
- Provides the whole picture (all the data is available in a table)
- Available for current day only.
- Available only in the morning
- Available only for specific areas (Hollister, Panoche, Hernandez, Black Mtn, Avenal etc)

# TIP (Thermal Index Prediction)

- Old model available by email subscription
- Based mostly on the soundings
- Available up to 3 days in advance
- Not as accurate as blipmap

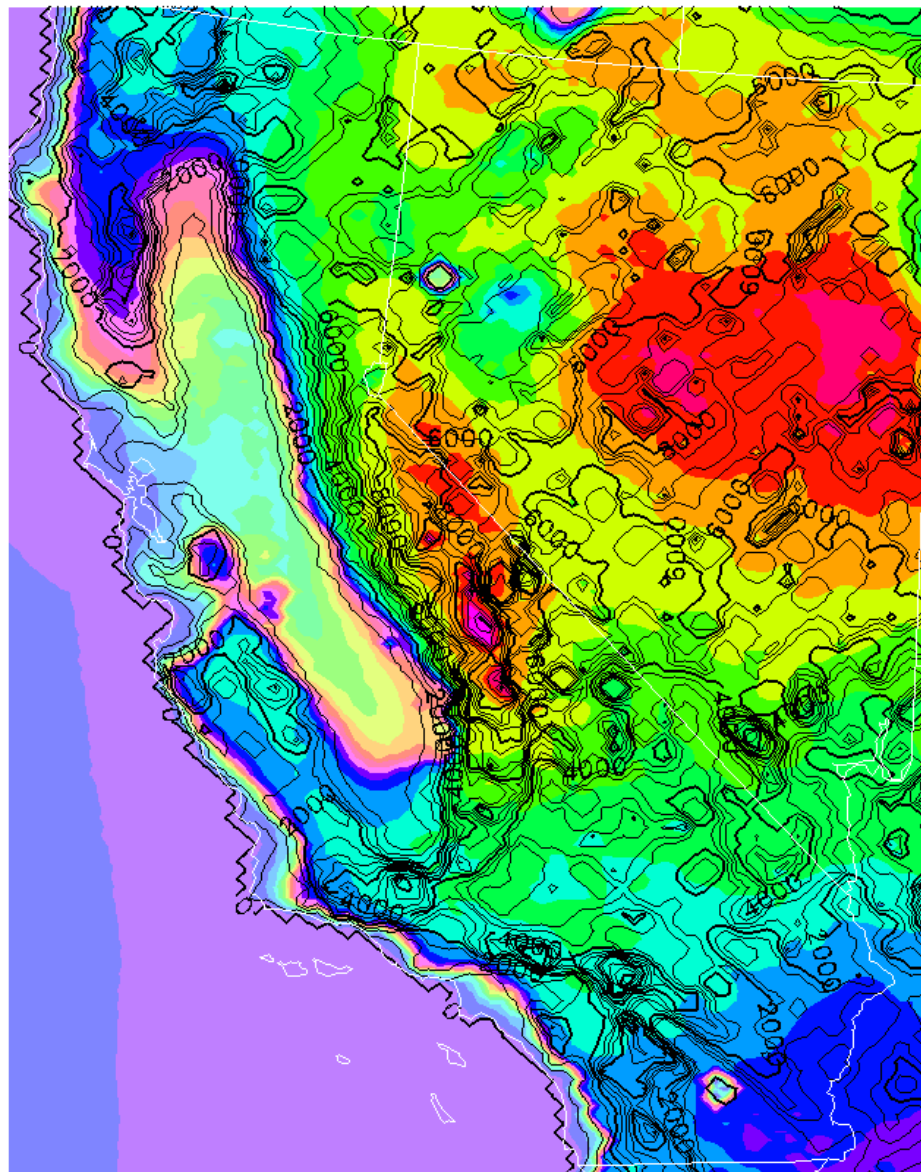
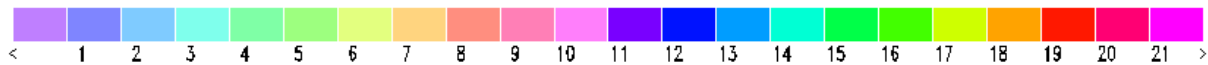
# Blipmap “life cycle”

- The blipmap life cycle starts 3 days prior to the flying day
- Start with checking the general weather forecast on Wednesday, using conventional tools, such as the NOAA forecast discussions. This will give you an idea how much weight to give to blipmap. For example, a very high BLTop wouldn't do you any good in a stormy day

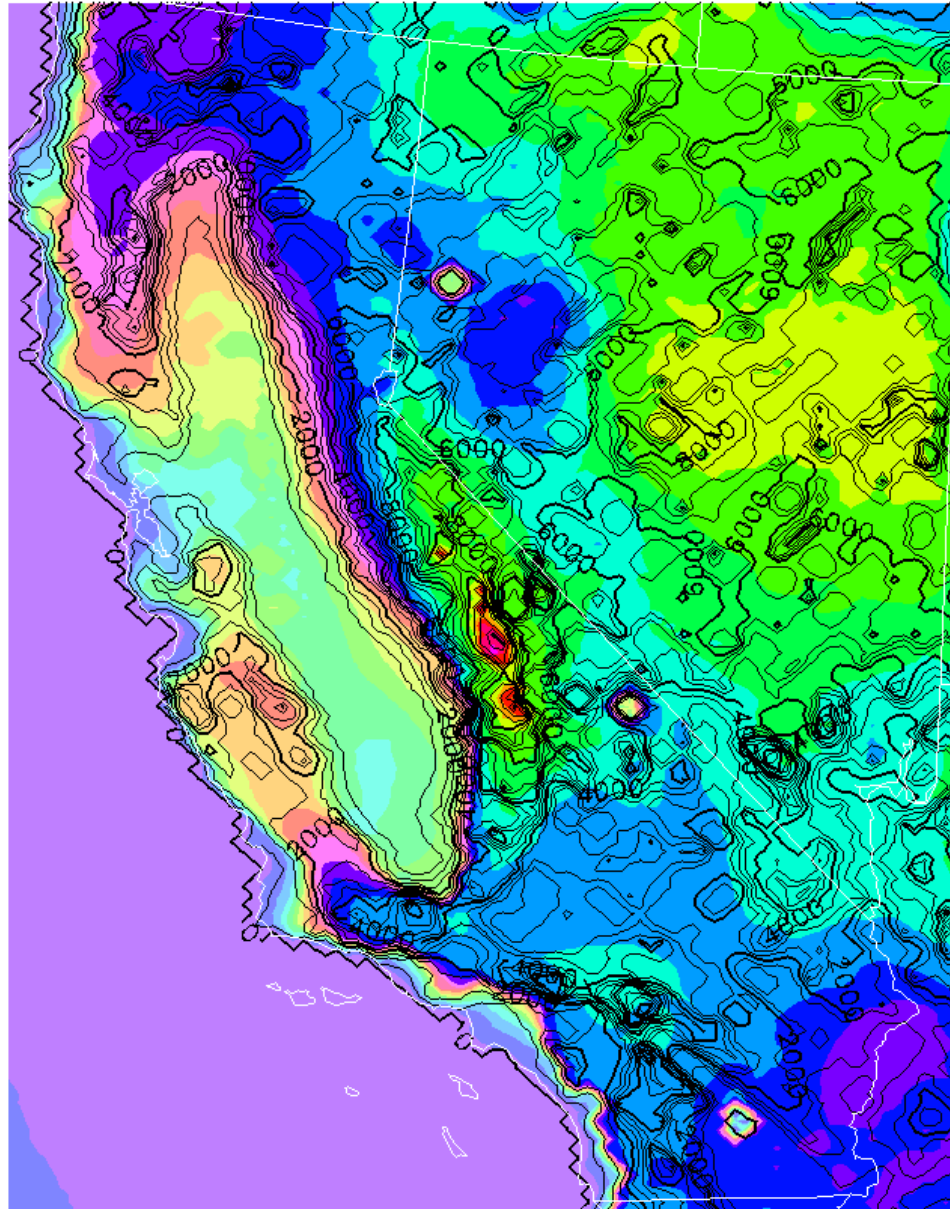
# Sequence...

- Check the Saturday ETA blipmap (Current + 2) on Wednesday (assuming you plan to fly on Saturday), to get a preliminary idea.
- Check the BLTop map (Height of Boundary Layer Top). This is the most important and accurate parameter. It indicates how high you can get in the best thermals.
- Altitude is color coded. Note that the legend is not constant, and can change from run to run.
- It is not very accurate so far in advance, probably too optimistic
- If it shows poor weather, it will most likely be true
- If it shows conditions which looks too good to be true, it most likely is. A rule of thumb is to subtract 2000 ft from BLTop.
- Repeat on Thursday and Friday.

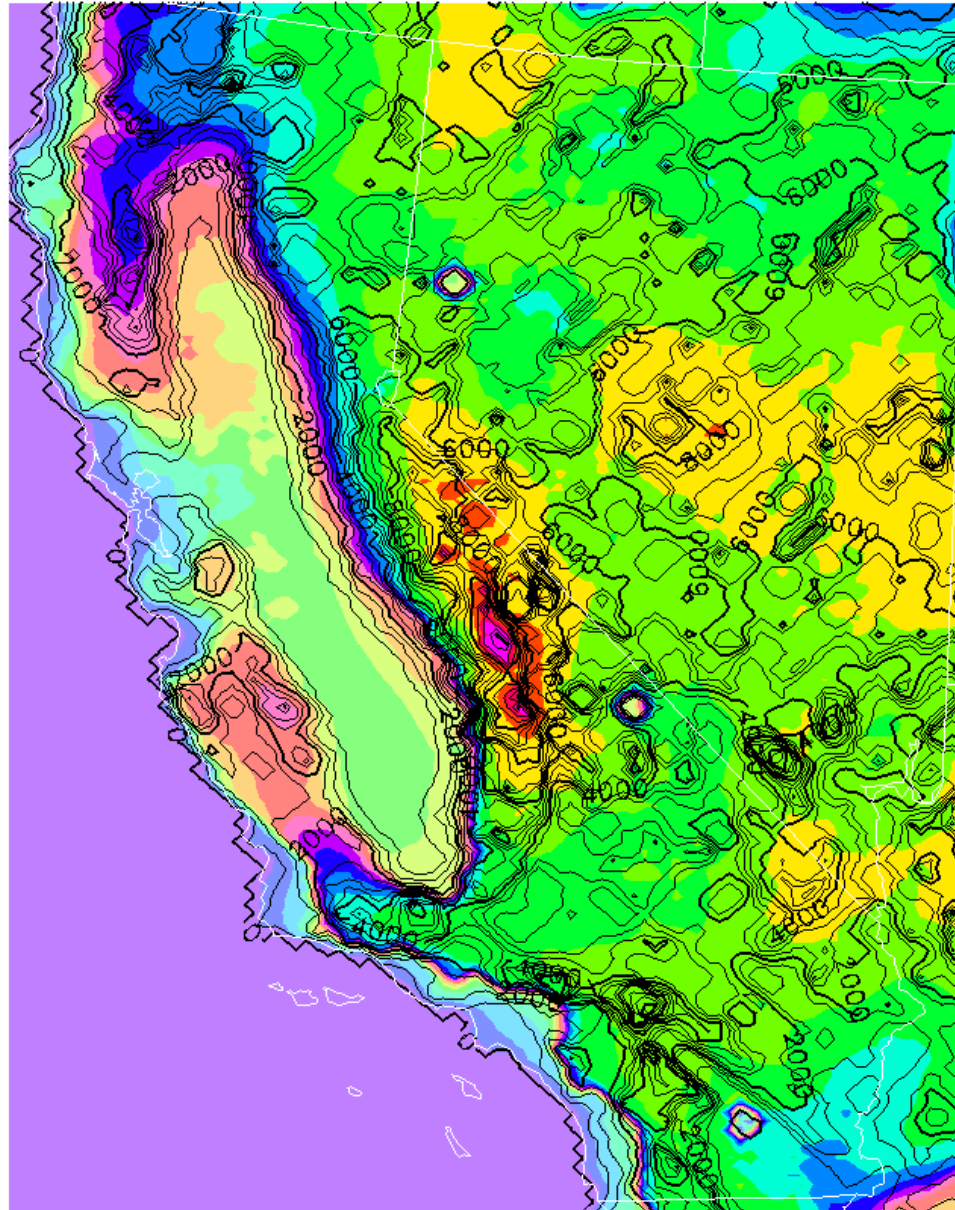
BL Top (TI=0) Height [x1000 ftMSL] MON 09/27 21Z(14pdt) 63hrFest ETA



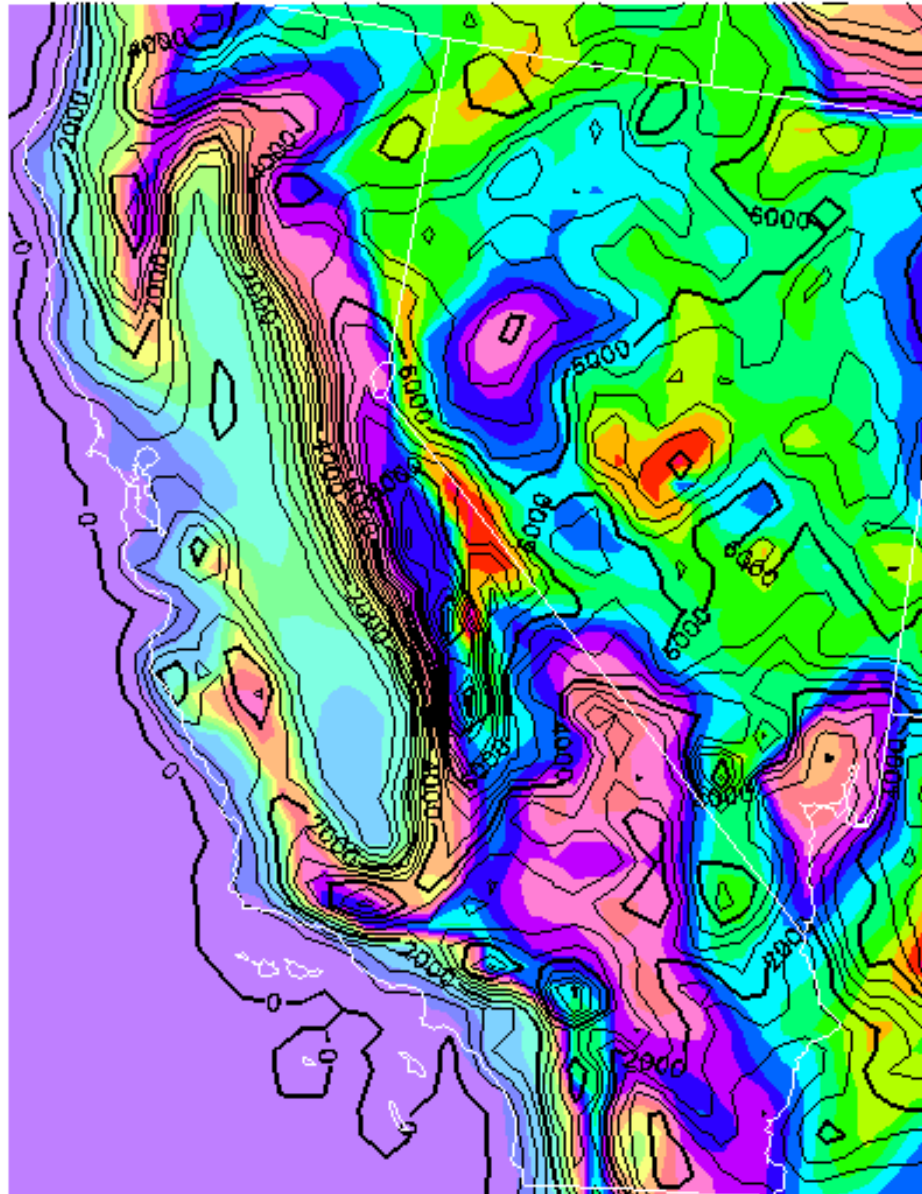
BL Top (TI=0) Height [x1000 ftMSL] SUN 09/26 21Z(14pdT) 33hrFcast ETA



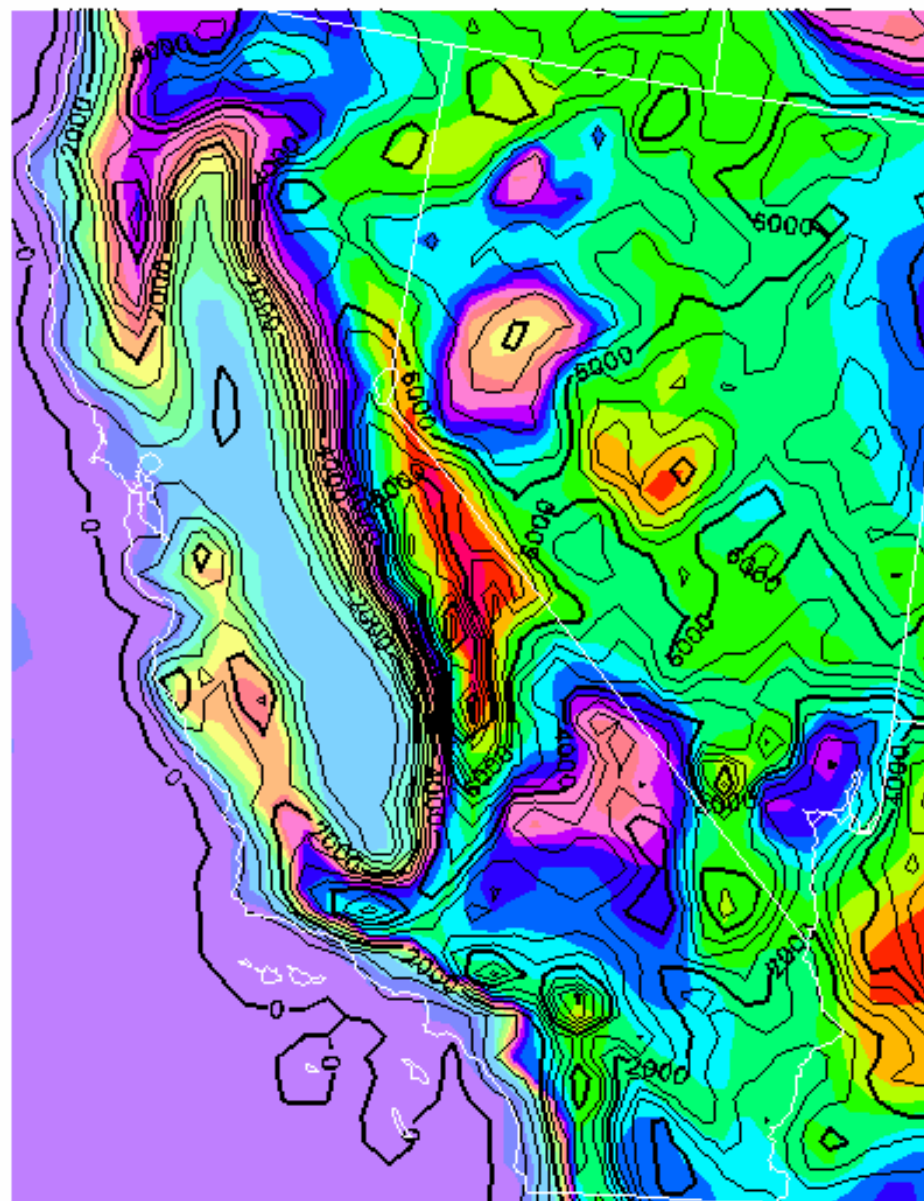
BL Top (TI=0) Height [x1000 ftMSL] SAT 09/25 21Z(14pdt) 9hrFcast ETA



BL Top (TI=0) Height [x1000 ftMSL] SAT 09/25 0Z(17pdt) 9hrFcast RUC



BL Top (TI=0) Height [x1000 ftMSL] SAT 09/25 21Z(14pdt) 6hrFcast RUC



- Check the “Current Day” BLTop ETA forecast for Saturday on Friday evening
- Usually available after 6:30PM
- Check BLTop again before you go to sleep, in case it was updated (hit refresh!)
- The forecast period is indicated on the top right, 9hrs being the latest .

- On Saturday morning, check both the ETA blipmap and the RUC 21Z blipmap. If they disagree, go with the RUC. If both predicting a great day – go fly!
- Check the Latest RUC BLTop. It is usually accurate within couple of hundred feet (especially the 6 hour forecast).

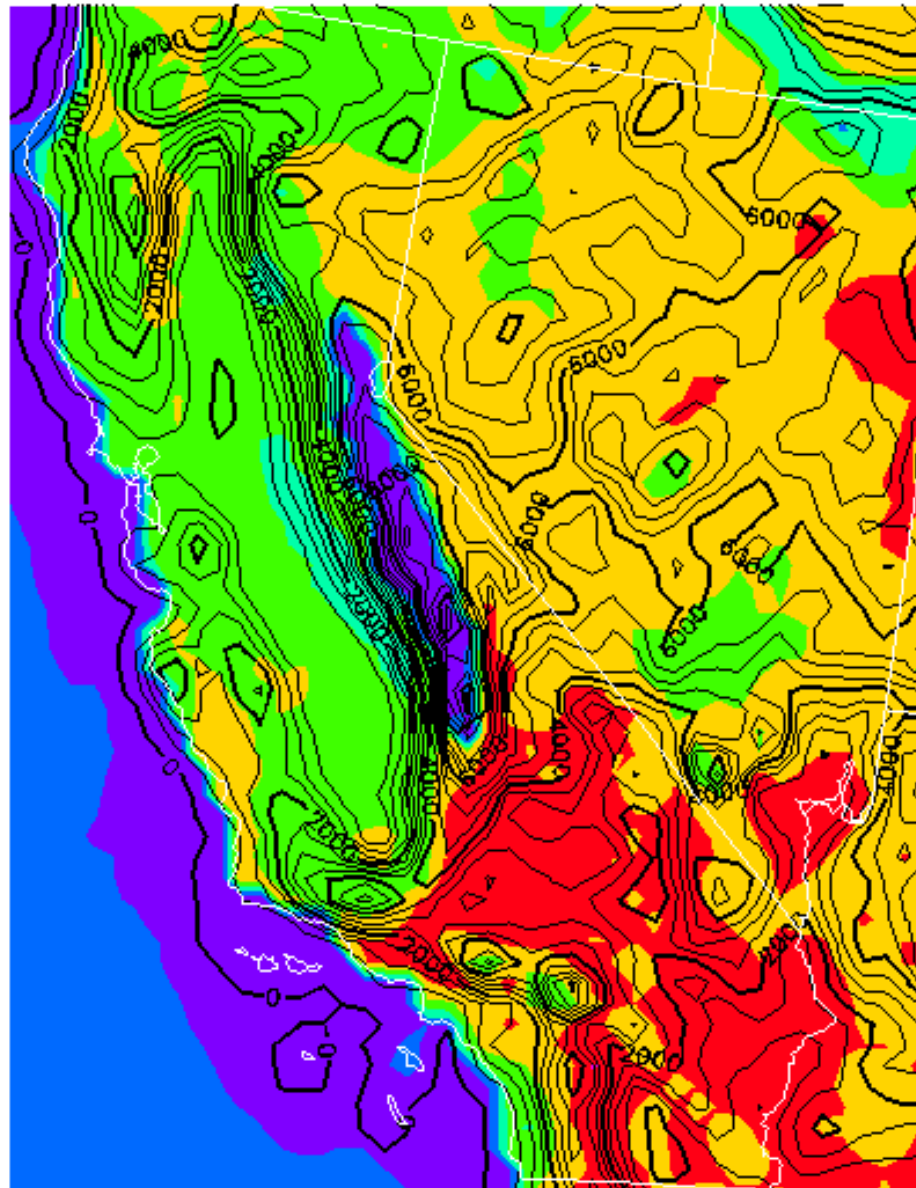
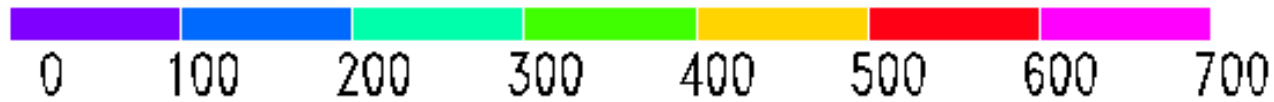
# Blipmap Parameters

- In addition to BLTop, you may want to check the following parameters:
- Hcrit – Max altitude - usually more accurate for flatlands, not for convergence induced thermals over the mountains.
- Thermal Updraft Velocity ( $W^*$ ) - while popular among many pilots in other areas, does not contribute much here. It can give you an idea of the expected average climb rate but it has significantly lower resolution and is less accurate.

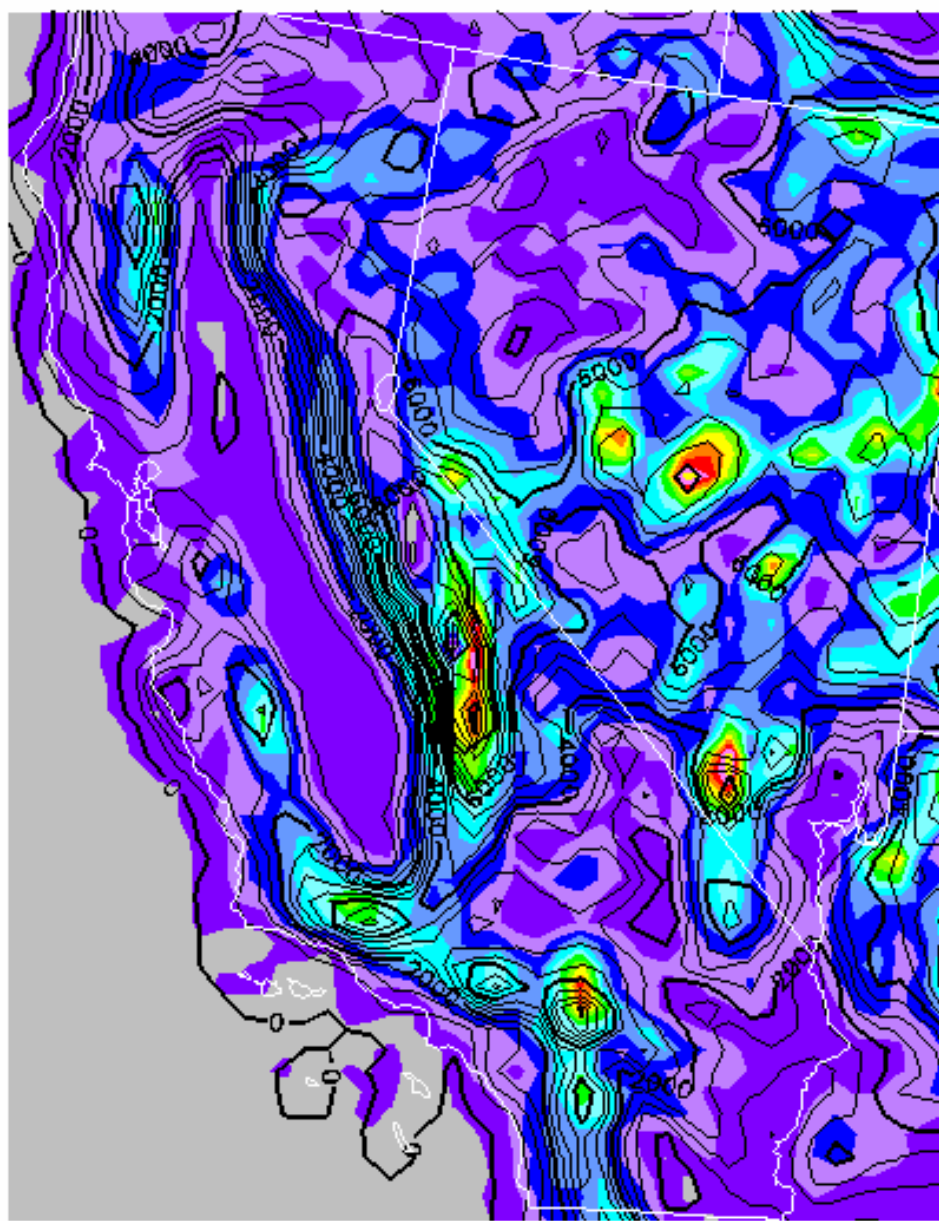
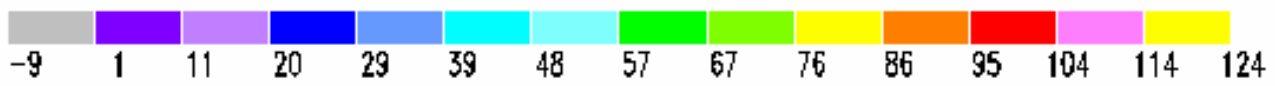
# Parameter (cont.)

- BLMax (convergence) – Indicates the area and strength of the convergence (50 and above indicates strong convergence). Usually it correlates with BLTop anyway, but can be used to determine how dominate the convergence will be, and if it moves during the day (using the multitime blipmap).
- Cumulus Potential – if the numbers are higher than -2, there is good chance for cu, the higher the number the higher the chances.
- OD potential – same as cumulus potential, but can indicate areas of potential OD.
- Cumulus Cloudbase – Cloudbase height, only meaningful if there is high potential for cumulus

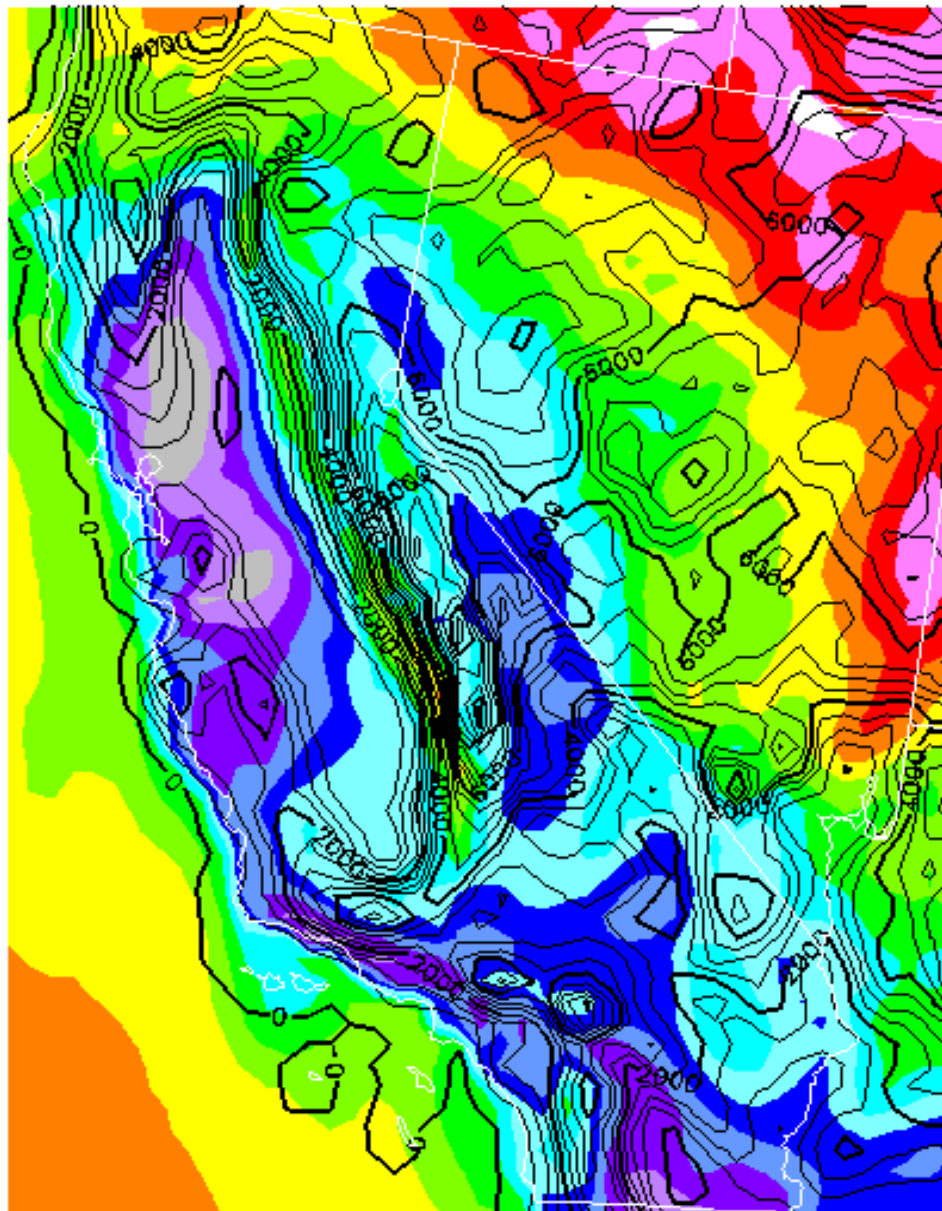
Thermal Updraft Velocity  $W^*$  [fpm] SUN 10/31 21Z(13pst) 6hrFest RUC



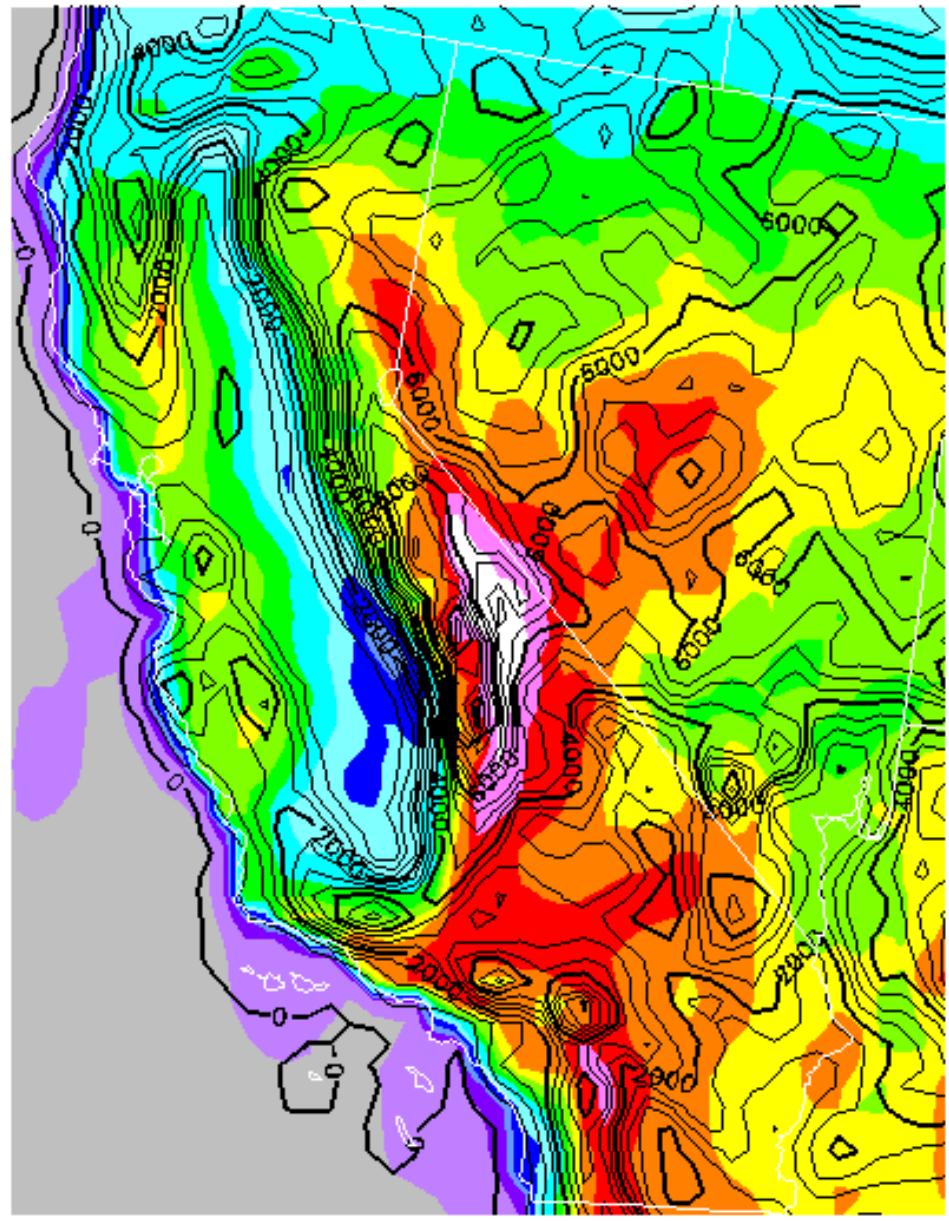
Max. Upward BL Motion [ $\times 10^{-2}$ kt] 23 DAY CLIMATOLOGY FOR 21Z MAY 2002



Cumulus Potential [ $\times 1000$  ft] SUN 10/31 21Z(13pst) 6hrFcst RUC



Cumulus Cloudbase [x1000 ftMSL] SUN 10/31 21Z(13pst) 6hrFest RUC



# MultiTime Blipmaps

- Check the RUC 18Z and 0Z maps. They can be used to see how soon the day starts (18Z) and how late the lift will work (0Z). They can also be used to detect convergence lines (BLMax) movement during the day.
- Often the 0Z will indicate higher BLTop than 21Z, it doesn't mean that the best lift will be around 5PM, but is a good indication for the max altitude potential.
- In addition to the Latest map, you can check the "First Today" and "Previous Day" maps. They can indicate if conditions are getting better or worst than initially forecasted as well as for comparison with actual flights.

# Blipspots

- For more accurate numbers, check the blipspot for your area.
- Each column represent different time of day (Zulu)
- The shorter the Forecast Period the more reliable it is, 6 hrs being the last update.
- Parameters are the same as blipmap.

# More BlipSpots...

- In addition to the parameters already mentioned, the following parameters are also useful:
- Hgt variable – Thermal height variability – indicating how sensitive BLTop is to surface temperature. The higher the number the bigger deviation in BLTop is expected with temperature changes. So high numbers means the day may be much better or much worse.
- B/S – Buoyancy/shear ratio. Low numbers (below 5) indicates potential choppy thermals. Usually not significant when cu's are presented.

# Even More Blipspots...

- Check again RUC blipspot and blipmap before you leave or in the airport.
- the last run, the 6hrs forecast which is the most accurate, is usually available after 9:30AM.
- Go fly, and compare your flight with the forecast.
- Keep checking blipmaps also when you don't plan to fly. This will help you evaluating different types of weather.