

## Weather for Hang Gliding – A Belief in Big Trends

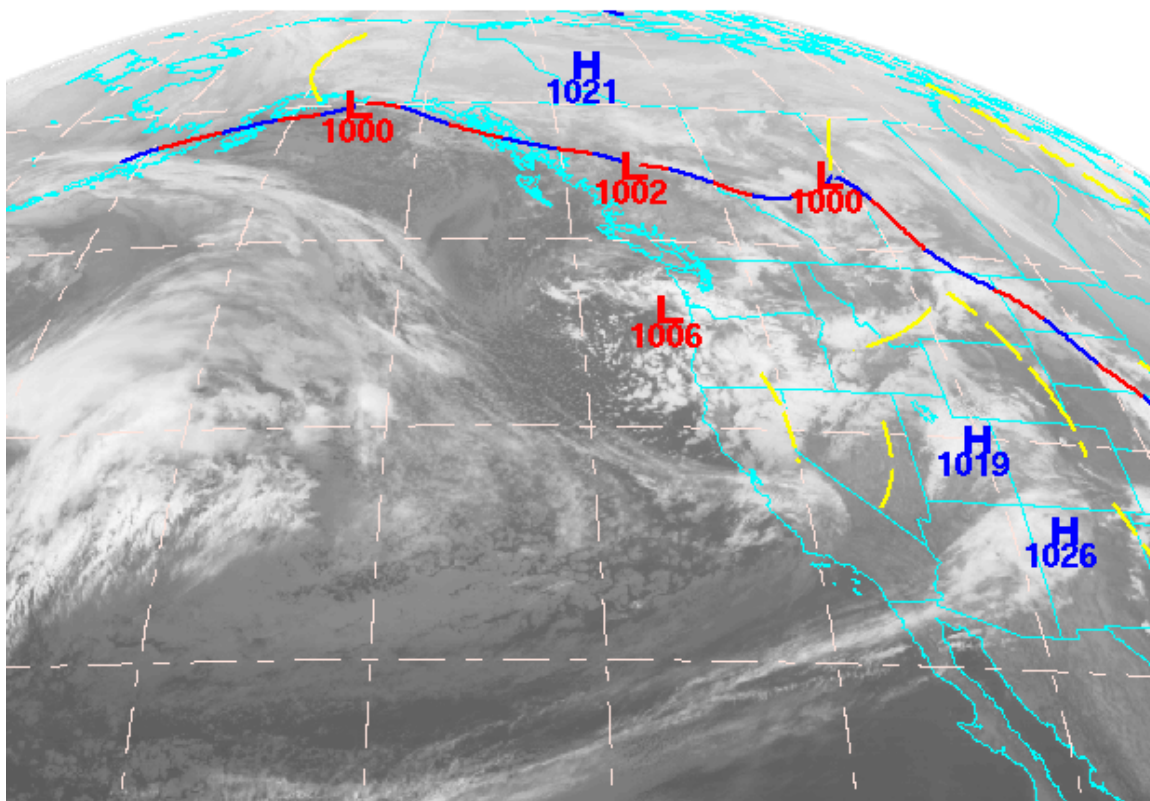
Today is a perfect example of a marginal hang gliding day that could be soar-able at Petersen's. Let us follow the day's weather events and see what happens.

General advice: Look at the wider regional perspective and determine the complexity of the situation. Determine if a definite trend will occur. The simpler the system (less competing factors) the easier it should be to predict. Look at a forecast, if it is promising; corroborate that with real time observations.

### Site Requirements for Petersen's

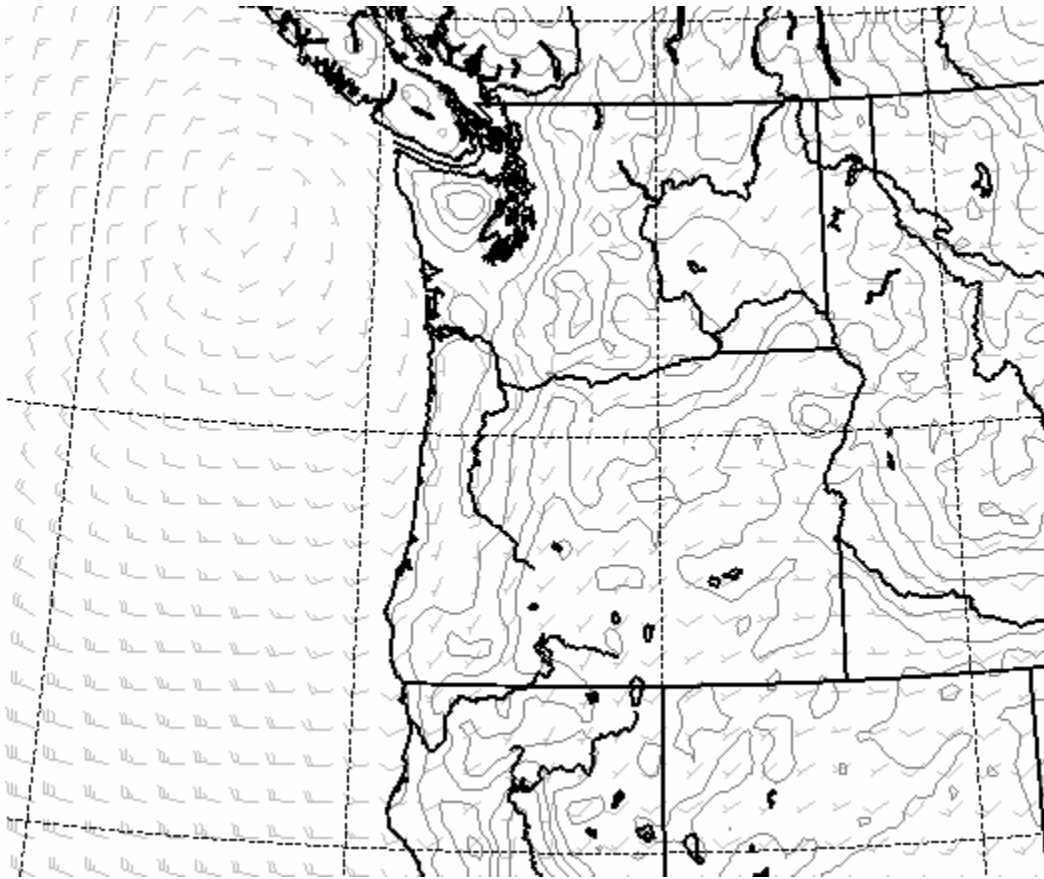
When there is a .03 pressure difference (.04 is too strong, .02 is too light) between Eugene and Salem and the wind is S-SW, and the Corvallis and Salem Airports are showing at least 7 kts but not more than 12 kts, and there are no major rain blobs on radar coming that way, then it will probably be soar-able.

Here is the big picture

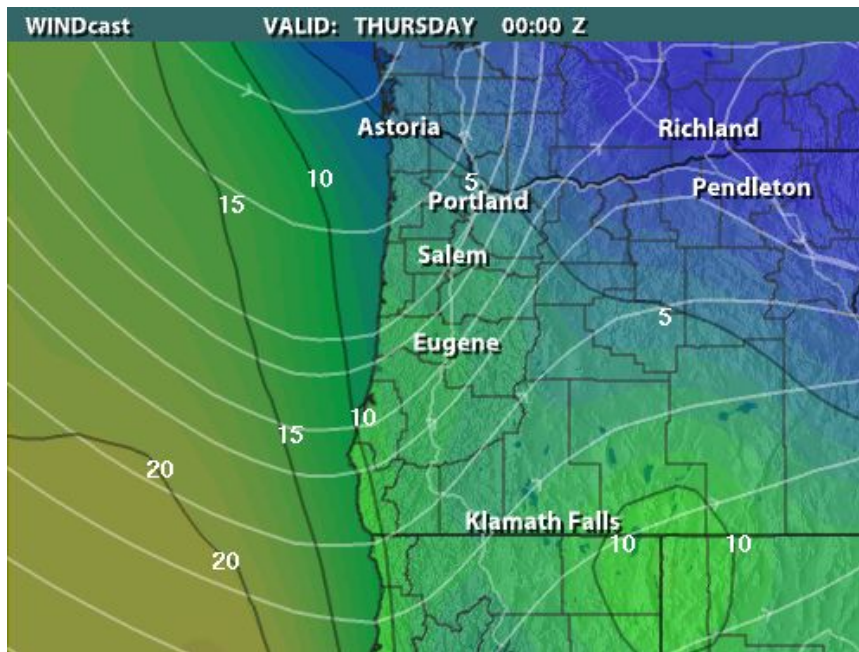


Note that there are closely scattered clouds out in the Pacific with some very clear areas to the west. This is always a good sign that rain may abate enough for flying. Are they scattered enough and will be they dropping rain is the question. Also, note how close the center of the low is. This is the dominant factor of the weather on this day. There are no competing systems. So this a simple system that should not have too many widely variable wind directions during the day for Petersen's

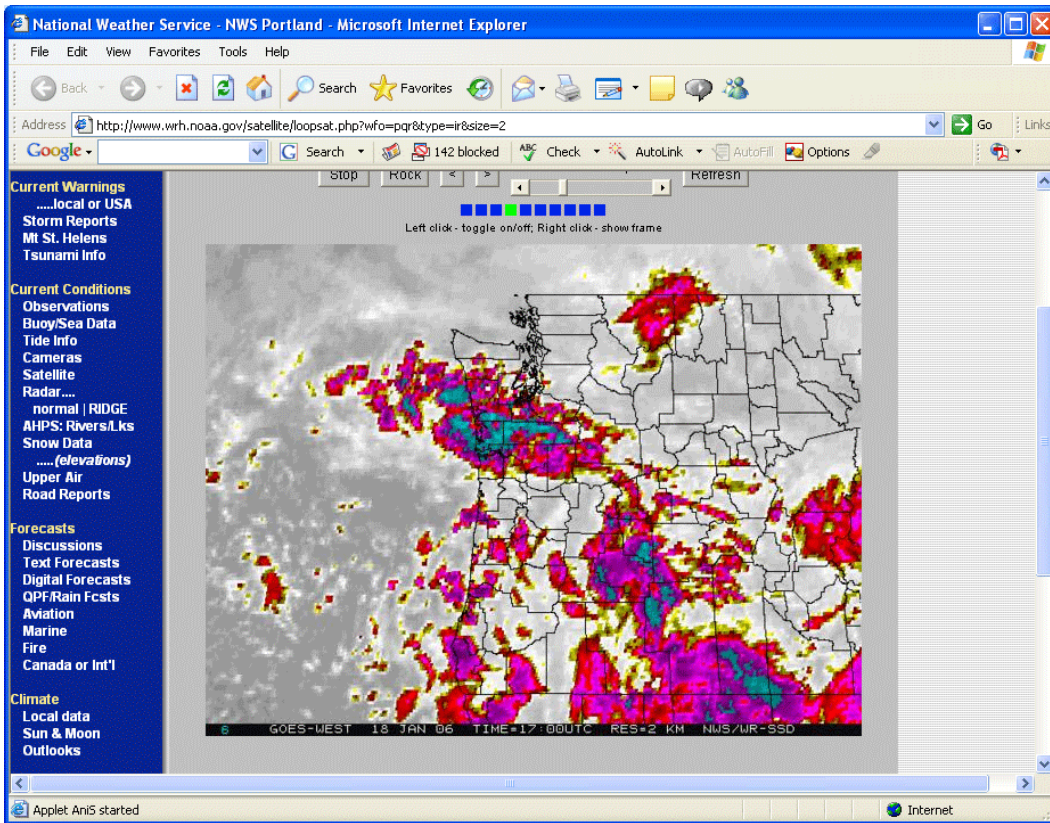
10:00 am - Here is the MM5 wind forecast for today. Note that wind is rotating counterclockwise around the low with a more westerly component the further south you go. Note wind-barbs at 5-10 kts on each staff near Petersen's



10:00 am - Here is the Intellicast graphical forecast with isobars (black lines trending north south) and wind lines with speed in kts. Note the wind-speed will be between 10 and 5 during the day. Also, note that the isobars will follow the center of the low so that will be wider apart over Petersen's later in the day

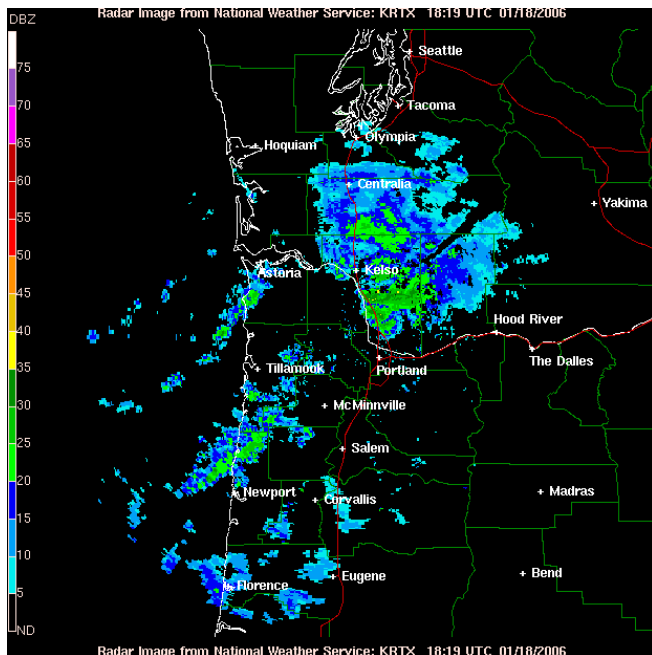


This next information is from an infrared satellite movie loop over a 3.5 hour period. In this time, a blob on the coast near Florence took 3 hours to get over to Corvallis. Overall there are lots of high cold clouds that could be dropping rain to the Southwest and will be headed toward Corvallis.



There are still lots of rain clouds on the horizon in the radar but things are moving very quickly. Perhaps it will blow over for the late afternoon. Always note the timing of the system. Subtract 7 from UTC time (military time) to get the current time.

Checking the radar for actual precipitation shows a line of clouds from Corvallis to Florence in the line from which the weather is coming, although there is a window of opportunity right now, if the wind is not too strong.



Checking the airport wind, note that wind is too strong now, though the pressure gradient is light - a .02 difference between Salem and Corvallis and Newport. The isobars are trending North-South. The thing that's keeping from going to the site is the possibility of rain. But also note that the barometer is rising, meaning that rain and wind will probably back off some.

**11:00 am airports observations**

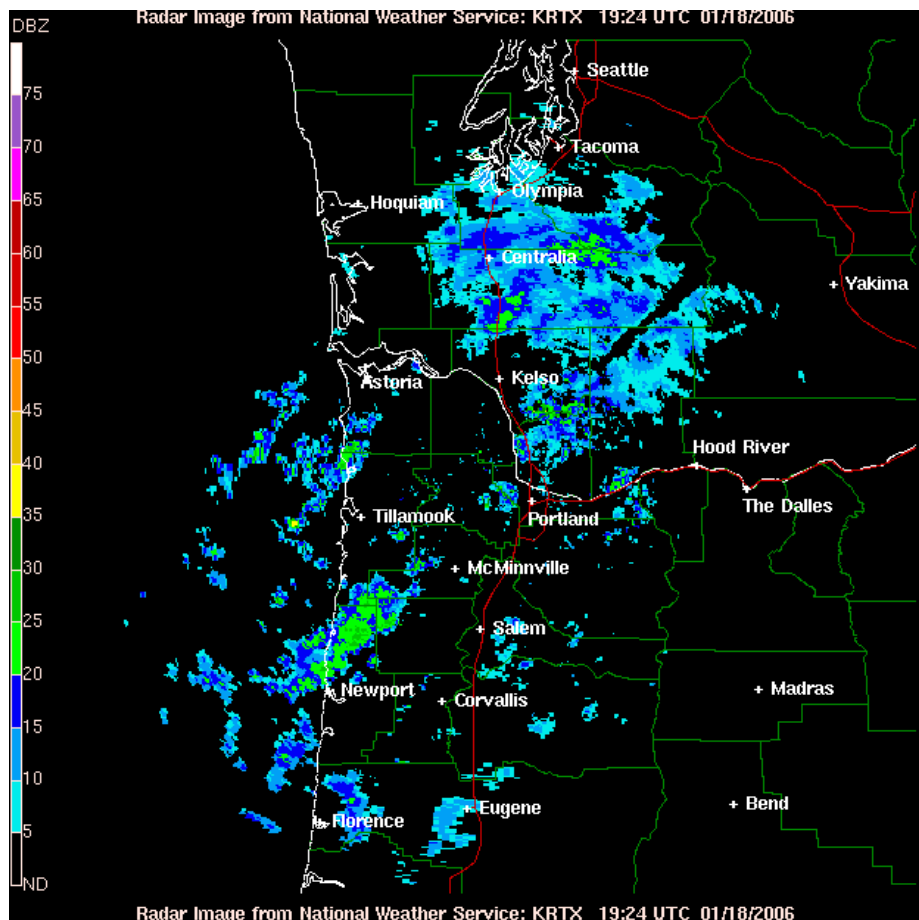
SALEM	PTSUNNY	43	39	86	S14	29.87R
CORVALLIS	PTSUNNY	45	39	81	S13	29.87R
EUGENE	CLOUDY	41	39	93	SE6	29.89R

**11:30 am airport observations**

SALEM	PTSUNNY	44	39	82	S14	29.90R
CORVALLIS	PTSUNNY	48	41	76	S12	29.90R
EUGENE	LGT RAIN	42	40	92	SE6	29.92R
NEWPORT	CLOUDY	45	41	87	S7	29.92R

Looking outside my window toward the south, I see some sun piercing through some low clouds however it is mostly cloudy skies and no rain. My yard 'indicator trees' show limbs shaking all the way to the ground. This corroborates the strong airport wind.

Checking Radar again shows the rainless window widening even though there could be a rain shower later coming from the southwest. The window is large though and the rain is light (not green)







Now its 12:00 noon and the airport AWOS reports:

KCVO 181935Z 19011G14KT 10SM SCT010 09/05 A2990 AO1

This means at on the 18<sup>th</sup> at 11:35 am the wind was SW (190 deg) at 11 Kts gusting to 14 Kts with 10 mile visibility. Scattered clouds at 1000 feet. The wind is decreasing quickly and so is the rain possibility. Perhaps, I should have left already and have been set-up as wind diminishes into the soar-able zone?

Here is what the weather channel hourly forecast says. However, sky looks too bright to the south using the I-5 Salem webcam. Too bad this forecast has such a high probability for showers because it isn't accurate. Note the diminishing wind trend though. I believe this more.

2pm	 Light Rain 46°F	41°F	80%	41°F	86%	From SSW 9 mph
3pm	 Showers 47°F	43°F	80%	40°F	80%	From SSW 8 mph
4pm	 Showers 46°F	42°F	80%	40°F	83%	From SW 7 mph
5pm	 Showers 45°F	42°F	70%	40°F	86%	From SW 6 mph

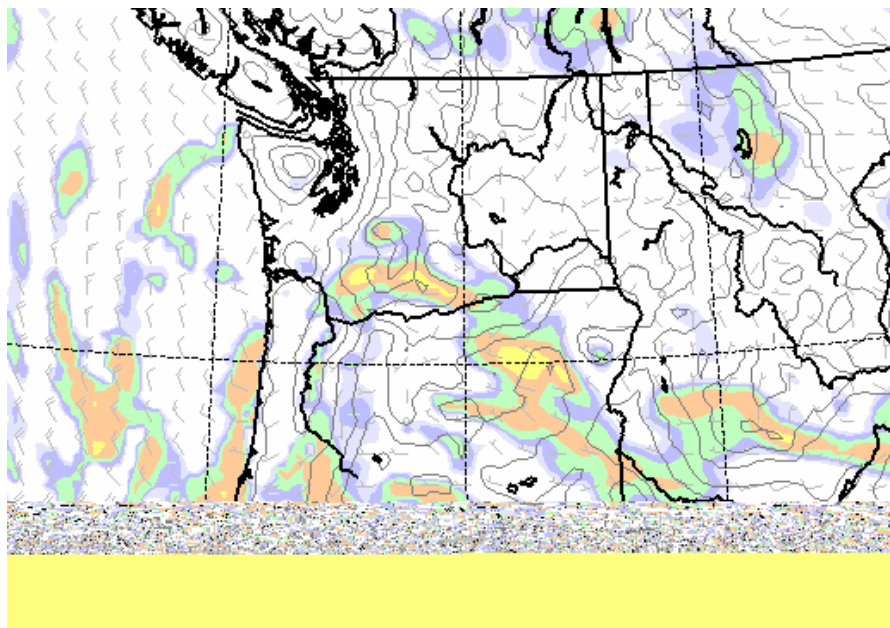
Still not committed, I feed the dog, cat, horses and birds. Walking out the barn at 12:30, I call the AWOS on my telephone (get those airport AWOS telephone numbers!). It is SW at 10 Kts.

Okay let us go to Petersen's! I know I won't get rained on, but the pressure gradient is light.

At Petersen's at 1:30 pm - wind is 10-15 mph SW. It is soar-able. It is mostly cloudy with sun breaks here and there. No showers at all. By the time a pilot was setup at 2:15 pm the wind diminished. He was able to scratch on the western most part of launch slope for about 10 minutes and then had to land in the fields.

Checking the current weather at 4:48 pm the pressure gradient has decreased to a .01 difference and the wind had lightened up considerably.

SALEM	LGT RAIN	46	41	82	S8	29.97R
CORVALLIS	MOCLDY	50	41	71	SE6	29.96R
EUGENE	MOCLDY	45	41	87	S3	29.98R



The MM5 above for 7:00 pm shows the Low further inland in Washington, the wind barbs at 5kts or less at Corvallis and light misting showers over the mountains mostly. On the way back from Petersen's I was lightly misted. Note, since the low is traveling eastward, the higher pressure with wider spaced isobars, diminishing wind and rain all are consistent.

## **Conclusion**

In the end, the pressure gradient was the most accurate indicator of what would happen at Petersen's. Earlier, the wind was greater and maybe even blown out but this was due to earlier momentum in the system. But there also showers to contend with. A very optimistic person would have been at Petersen's in the late morning, set-up and at the first sign of a break in the showers, launched. They would have probably gotten up to the adjacent butte and be able to soar in the diminishing winds since they would have been higher, where winds are greater. This is easier said than done however, because it requires some faith that scattered showers were indeed going to diminish. In retrospect, a simple low receding from the area may have assured a person with a **belief in big trends** to do just that.