



Local Yokel Weather's Winter Crystal Ball

We need to lay down the notion that forecasting out more than one month can come back to bite you in "the you know where". With this in mind please take this forecast as a projected assumption utilizing climatic records and available resources at hand to forecast for the Winter of 2011–2012. And to add to this uncertainty we lean heavily on Nature's signals to guide our prediction for this winter and slightly use the long range parameters found in most scientific long range forecast.

For those not accustomed to Jackson County you will soon understand why weather is a relative term. Those in the high country will say the winter months are dangerous and sometimes stifling, while those in the valley are screaming for more! The valley locations average 8 - 11" a year while the ridgetops pick up between 60 – 120" depending upon proximity to the TN line. For instance, the Plott Balsams or even more so the Cataloochee Divide can see snow totals near 100" while those in the southern part of the county only saw around 60".

Last year Cullowhee saw 22.6" of snow and as you climbed in elevation snow totals for the 2010 – 2011 Winter season increased about 10 – 15" for every 1000' in elevation. Last year was mainly an elevation dependent season meaning those in the higher elevations saw more snow than the valley; however this is not our typical setup as we primarily receive snow from NW Flow events. NW Flow has become a staple for many of ski resorts as they are in prime locations for this scenario due to exposure (NW facing) and proximity to the TN line. Proximity to the TN line is related to the fact that the moisture is coming all the way from the Great Lakes and as it reaches the Appalachians we see the moisture dwindle greatly once past the state line. As moisture is brought in from the Great Lakes it is not able to produce any precip due to the limited amount found within the "fetch". As it reaches the mountains it is literally forced upward from the flatlands of TN to the peaks of our mountains. As it rides up the mountain temps cool and this allows the limited moisture to fall out of the atmosphere and fall as snow. One rule of physics that apply is that warmer air can hold more moisture than colder air, hence why moisture is released as temps cool from the elevation climb. Also, adding another effect is the way in which the winds interact with mountain chain to produce a seeder effect of sorts, enhancing the snow rates and snow crystal strength and size. The explanation provided is a dumbed down version and to learn more about NW flow [check out these amazing case studies from Meteorologist within our region.](#) Last year we saw more southerly storms bringing in more moisture that affected all parts of the county while in years past we have mainly seen the northern fringe of the county rake in the higher totals due to NW flow. For those who have been in Jackson County for some time understand that when we have snow storms from the south they tend to have higher snow totals than ones from the northwest.

So with the past explained what will the future hold? Looking at the various parameters long range forecasting is built around, NOAA/AO/PDO, ENSO Phase (La Nina, Neutral or El Nino), Solar Activity and of course climatic analogs, **we believe this upcoming winter will be another cold one with above average snowfall.** The past few years have been great for snow lovers; however the past 15 years on average have not been much warmer with less snowfall for many regions, with some calling this period a snow drought. Talking with climatologist many are thinking we are dropping this pattern of a snow drought and entering into a cycle of more cold and higher snow amounts when compared to the averages. Years

that might represent a similar connection are the late 60's and even the late 1880's. Of course, with every long range forecast we can bust terribly and this was evident last year as about 90% of Winter Outlooks called for a mild and somewhat normal amount of snow. Boy were they wrong, as we had one of our better winters in about 5 - 8 years! The majority, if not all, of the long range forecast (or winter outlooks) based their mild and somewhat dry forecast around the La Nina present in the Pacific. Using climatic analogs this backed up their assumption of dry and mild weather as it was the typical result from a La Nina setup. However, many unforeseen phenomenon came into play including the infamous Greenland Blocking which is very difficult to predict one month or more in advance. So what's to say this winter outlook will hold true? Honestly nothing, as we are currently entering into a new pattern and with new patterns we find factors and various ways of analyzing such parameters that are slightly different from the past. This is the sole reason why we prefer to base our outlook around Nature and also due to the fact that we have an amazing natural setting within our region and to simply ignore such is foolish in our opinion.

So what are these signs from nature we keep alluding to? Below is a list of nature's tell tale signs used to predict winter and whether or not it will be harsh or not. One issue with using this method is the fact that it becomes very difficult to suggest particular changes (swings of cold and warmth from month to month, etc.), instead we discuss the overall theme for this winter...

- The Infamous Woolly Worm:** Used by many to predict the upcoming winter, the woolly worm or also known as *Pyrharctia Isabella*, has 13 distinct rings which hold the color of brown or black. Each ring is believed to represent one week of winter with black representing cold and snow while brown portrays the opposite, mild and dry. Here is our Woolly Worm prediction based off our collection samples (total of 22 sampled throughout the county; valley and high country):

Ring Number (weeks)	Result
Week 1	Light Snow and Cold
Week 2	Cold and Snowy
Week 3	Cold and Snowy
Week 4	Cold and Snowy
Week 5	Light Snow and Cold
Week 6 through Week 10	Normal and Cold
Week 11	Cold and Snowy
Week 12	Cold and Snowy
Week 13	Light Snow and Cold

- Gathering Activities:** This aspect covers a larger number of animals and their gathering activities point toward their perception of winter.
 - Squirrels:** From our conversations with our viewers we have come to coin the phrase of squirrel activity this Fall as the "Fall of the Kamikaze Squirrel". This phrase seems fitting as many squirrels have been found gathering nuts and various food sources with what seems to be no fear; many have been seen lying on the road after trying to collect nuts with cars driving by all around them. *This fanatic gathering observation leads us to think*

we will have a harsh winter, perhaps colder than snowier. A second observation is the bushy tale the squirrels seem to have this winter which indicates another cold winter for most in our region.

- **Bears:** This season we have seen more sightings and interactions with the all popular Black Bear and this is due to more than just the fast approaching winter. Last year we saw an amazing nut and associated berry production from the various producers keeping many bears up in the higher elevations, away from the populated town centers. This lead to a small explosion of sorts in the bear population. Now this year, the nut and berry availability is scarce so they began to migrate down into the lower elevations looking for other sources of food before hibernation begins. *Sure, the aggressiveness of the bear population looking for food is something to consider as a sign toward a harsh winter however taking into account the over population, we believe this sign points toward a normal winter, pertaining to both snow and cold.*
- **Spiders:** Now most would agree that spiders don't gather however there mechanism for collecting food is still a sign. When spiders make larger webs than normal and have an explosion of sorts during the fall months this leads to the notion that winter will be a harsh one, both in terms of cold and snow. Another sign is there aggressiveness in trying to enter homes to find a suitable habitat to carry through the winter. Through many conversations with our viewers *an increase in spider activity leads us to think we will see above average snow along with colder temps this winter.*
- **Bees/Wasps:** A small indication is the how the bee/wasp prepares for winter when it comes to the selection of above and below ground nest. Many have noticed for the first time in several years that wasp are actually setting up shop underground indicating a colder winter as they search and setup better insulating environments. *With this in mind we believe a colder winter is in store (on average) based on this observation.* A second sign is the location or height of the nest. The saying goes, *"See how high the hornet's nest, 'twill tell how high the snow will rest"*. This is more for the locations that get buried by large snows, but still interesting none the less.
- **Plants:** Working with several farmers around the region the use of plants as an indicator is a fascinating one as it tends to be correct more than it is wrong.
 - **Corn Husk:** A thicker husk during fall harvest indicates a harsher winter for the region, pertaining more to the cold than the snow. This year's harvest indicated an above average husk thickness *leading us to think this winter will average out slightly colder than our normal winters.*
- **Fall Weather**
 - **Foggy mornings in August:** We counted 8 good quality (dense and long lasting) foggy mornings this year and this translates into a nice snowy winter for many as the folklore says for every foggy morning in August you can expect that many snows in winter.

We could go on all day about the many signs nature gives us and I'm sure many feel some should have been mentioned such as the ring around the moon or the migration timing of certain bird species.

However, to keep sanity afloat we will dive right into our analytical predictions for the 2011 - 2012 Winter. Below is our snowfall prediction for the various towns and areas within the county...

Town/Area	Snowfall Prediction (ending 4/1/12)
Cherokee	14 – 19"
Whittier	14 – 19"
Dillsboro	11 – 15"
Balsam	21 – 25"
Sylva	15 – 19"
Cullowhee	11 – 15"
Tuckaseegee	10 – 14"
Cullowhee Mountain	22 – 26"
Caney Fork (lower then upper)	11 – 15" / 23 – 27"
Glenville	24 – 28"
Big Ridge	32 – 36"
Little Canada	33 – 37"
Cashiers	20 – 24"
Highlands	23 – 27"

Looking at the above trend we foresee snowfall totals to be slightly less than last year but still above average when compared to the 30 year records for this region. As for the temperatures we believe we will have a slightly below normal average once we get into April, after everything is said and done. Overall, we will have a harsh winter from November into January leading into a mild break around February into early March with a last hoorah come mid-March into early April. A few large snow storms are likely as the upper level storm track favors more southerly storms, however don't be surprised to see the ski resorts raking in small amounts of snow every week or so as NW flow will still be around in full force!

We at Local Yokel Weather (LYW) welcome all criticism and comments and if would like to do such then please email us at localyokelweather@yahoo.com. Remember this forecast should not be used to make life threatening decisions nor should blame be applied to LYW in the instance this outlook were not to verify in any manner. As always, LYW is *"local weather for local people"*. Be sure to follow us this winter at localyokelweather.com or lywjackson.com!