Avalanche Advisory for Saturday, 1-11-2013

Expires tonight at 12:00 midnight

Tuckerman Ravine has HIGH, CONSIDERABLE, MODERATE and LOW avalanche danger today. The Sluice, Lip, Center Bowl, Chute, Left Gully and Hillman's Highway have High avalanche danger. Natural avalanches are likely and human triggered avalanches are very likely. Little Headwall has Considerable avalanche danger. Natural avalanches are possible and human triggered avalanches are possible. The main concern here is a large ice dam rupture. Right Gully has Moderate avalanche danger. Natural avalanches are unlikely and human triggered avalanches are possible. Lobster Claw and Lower Snowfields have Low avalanche danger. Natural and human triggered avalanches are unlikely. The timing of avalanches and ice dam bursts due to rain on snow events are impossible to predict. Be conservative today.
Huntington Ravine has CONSIDERABLE avalanche danger today. All areas have Considerable avalanche danger today. Natural avalanches are possible and human triggered avalanches are likely. Running water under ice will create significant potential for ice dams to burst and old wind slabs to avalanche.

AVALANCHE PROBLEM: Today's main problem will be WET SLABS followed by WET LOOSE avalanches. Today's rain, with periods of high intensity this afternoon, will stress new snow that is sitting on Monday's rain crust first. These areas of dry slab were formed from the +/- 4" (10cm) that fell over 4 days from Tuesday through Friday. Today's rain will stress these areas of wind slab and persistent slab, causing wet slabs to develop and be stressed making natural avalanches likely. Although less likely to occur wet loose sluffing are also a concern, especially in thin slabs, on the steepest terrain. These areas will lose tensile strength quickly, as well as their slab properties, becoming a weak layer of wet rounds not bonded well to their neighbors.

WEATHER: Bring your rain gear and rubber boots today if venturing into the mountains. A life jacket and survival suit for stream crossings may be necessary as well. A passing warm front will dump 1-2″ (2.5-5 cm) of RAIN in our forecast area today. Those unlucky souls driving valley roads this morning dealt with freezing rain while higher terrain received all rain since 4am. The passage of the warm front will drive temperatures up through the day to 40F (4.5C) as winds from the SW in the 75 mph range increase to around 85 mph with higher gusts. Later tonight, cold temperatures will return and lock up our snowpack and rain will transition to snow showers.

SNOWPACK: Before this rain event we had a mix of old rain crust at the surface, newer wind slabs, and persistent slabs. These slabs can be found mostly in Tuckerman Ravine at the mid to upper elevations ranging from 30 to 100cm deep. These deeper slabs are high in the Center Bowl, under the main Headwall, and over to the Lip. These slabs are discontinuous and broken up by the terrain so failures that occur today will not be Bowl clearing events. However, the destructive impact on humans will be substantial. You will also find newer slab high in the Left Gully and Hillman's start zones.

Rain on dry slabs generally do 3 things. First rain adds load but not strength. Second, rain as it enters the snowpack, brings in heat melting bonds that have been contributing to slab strength. And third it can lubricate semi-permeable or permeable layers, such as Monday's crust, contributing to the weakness of the shear strength at that level. Rain falling directly on the old rain crust will be much less of a problem, although the possibility of a natural avalanche is still possible. Rain may over run this surface in places concentrating water to other locations, it may also percolate through the crust in porous areas and as it decomposes with warm air and rain.

There are a lot of details to consider today, but a good general rule of thumb in avalanche terrain is if it's raining on newer slabs, it's a good time to avoid steep terrain and their run outs. Our terrain also funnels rain into numerous steep stream/river beds. There is some concern for blow outs in concentrated locations. A good example of this problem is the main river at the Lip, posted at High today, and the Little Headwall posted at Considerable.

Please Remember:

- Safe travel in avalanche terrain requires training and experience. This advisory is just one tool to help you make your own decisions in avalanche terrain. You control your own risk by choosing where, when, and how you travel.
- Anticipate a changing avalanche danger when actual weather differs from the higher summits forecast.
- For more information contact the Forest Service Snow Rangers, the AMC at the Pinkham Notch Visitor Center, or the caretakers at Hermit Lake Shelters or the Harvard Cabin.

Posted 8:45 a.m. Saturday, January 11, 2014. A new advisory will be issued tomorrow.

Chris Joosen/Frank Carus, Snow Ranger
USDA Forest Service