About a model that recommends Nordic kick waxes and klisters

January 11, 2026

This is a new project that is a bit more than the title implies. It's a model specifically for the Cabin Creek Nordic ski trails that takes the NWS Point Forecast, the Seattle Forecast Discussion, the latest groomer's report and data about temperature, snow depth, hourly precipitation including type, and daily precipitation including type at Cabin Creek and produces a report containing a fairly detailed analysis of expected snow conditions and waxing recommendations based on the user's collection of hard kick waxes and klisters. The output can be projected forward to the time one expects to ski that day.

 In addition the model can adjust the output based on a snowpack check list field card that can be filled in at the site, photographed and then Emailed back and entered into the model. The outputs are simple files that can be emailed to the skier at the site. At present the model is localized to Cabin Creek, but it should be possible to allow most parts of it to work almost anywhere in the US if the field card is used. To my knowledge, nothing like this has been done before. It would not have been possible 6 months ago.

The purpose is not to replace waxing experts but to give recreational skiers and racers with good waxing choices without having to have years and years of experience. In addition, people often accumulate a large collection of waxes, many of which have been used only a few times. Choosing among all these waxes sometimes seems like flipping a coin. The model chooses waxes not by just looking at temperature ranges or what's printed on the label or the seller's website but by using 8 different properties, some from the web and some inferred. The model uses what might be called soft logic or biases rather than a series of strict if > then statements. Needless to say, the model needs the assistance of and AI agent to run. Here's a sample output:

This analysis was done on Sunday, Jan 11, 2026 at 9:00 am

Grooming Status

The most recent groomer's note is from 6:56 am, about 2 hours old.

It reports warm temperatures and standing water at Erling Stordahl, so that area was not groomed this morning.

A note from 6:27 am indicates that the lower trails and Amabilis were groomed earlier. Those areas are treated as the active grooming event for today.

Weather Page

The weather page was updated at 8:20 am.

Temperatures at that time were:

- Lower Trails: 32°F
- Amabilis Y: 33°F
- Amabilis Top: 32°F

Snow depth on the lower trails is 20 inches.

Recent precipitation has been dominated by rain and mixed precipitation.

Area Forecast Discussion

The AFD was issued at 3:22 am, about 5.6 hours old.

It describes an atmospheric river with moderate to heavy rain, high snow levels, and a stable pattern after Monday.

Overall confidence in the predictions for this analysis is medium.

Point Forecast

The point forecast was updated at 4:25 am, about 4.6 hours old.

Today's high is near 37°F with rain likely.

Tonight's low is around 36°F, also with rain.

Temperatures remain above freezing through Monday and Tuesday.

Snowpack and Surface

Temperatures at all elevations are near freezing, with rain and standing water reported.

Grooming on the lower trails and Amabilis occurred about 2–3 hours before the 9:00 am analysis time.

The surface is moist to wet, with rounded, saturated snow and likely polishing under traffic.

No cold snow signals are present.

Given the recent heavy snow followed by rain and warming, ice bombs may be present on portions of The Road, which could reduce kick in those areas.

Near Freezing Precipitation Note

Because temperatures are hovering around freezing, precipitation type may vary locally. Snow surface structure may differ from place to place. This recommendation should be treated as a starting point and adjusted based on testing on the snow. If there is new snow or graupel on the track, hardwax may be preferred over klister.

Wax Category

Conditions point toward wet, transformed snow:

- Temperatures: 32–37°F
- Rain at all elevations
- Standing water
- Rounded, saturated snow
- Grooming several hours old

Hardwax is not a good match for these conditions.

Klister Recommendation

The snow is wet and rain affected, with temperatures in the mid 30s.

A warm, wet snow klister is the best fit.

Primary: Swix Quick Red

Alternate: Rode K76 Multigrade

Fallback: Swix K21S Universal Silver

Klister may pick up debris or feel grabby in places, especially where standing water is present.

Skin Ski Comparison

Skin skis are a reasonable option today. They tend to offer predictable kick in wet, near freezing snow and require no preparation.

They may feel slippery on the Viking and Berg courses because of the steeper terrain and saturated surface, but they should work adequately on The Road.

If you want to leave a comment, here's a link to my re-purposed blog: https://larobinson22.wordpress.com/