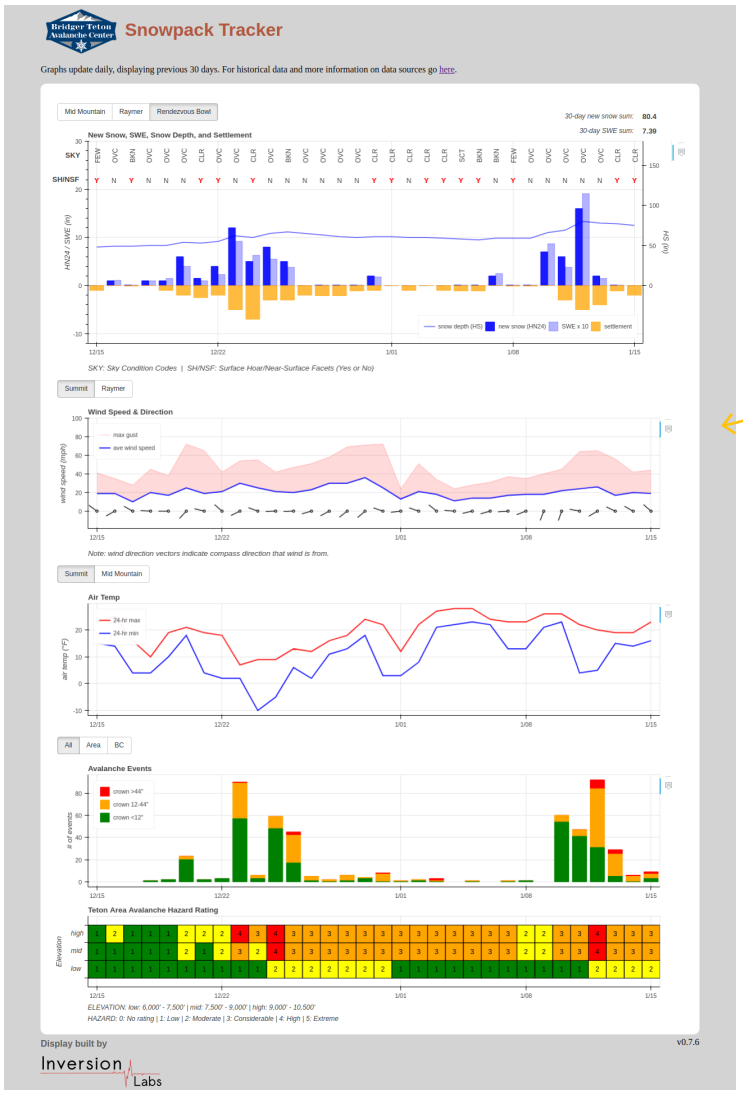
NEW DATA VISUALIZATION TOOL FOR THE BRIDGER-TETON AVALANCHE CENTER

BY PATRICK WRIGHT & TOBEY CARMAN



New for the 2017-18 season, the Bridger-Teton Avalanche Center (BTAC) website includes tools for interactive display of weather and avalanche data. Developed by Inversion Labs for BTAC, these tools include two products for display of 24-hr data. The "Snowpack Tracker" is intended for routine daily use, providing a view of primary weather and avalanche data for the previous 30 days. For the research-oriented user, the "Historical Graphs" leverage the BTAC's unique historic database, providing graphs of daily data for any season back to 1974. Both tools update daily and are available to the public via the BTAC website under "Weather & Snow Data."

These tools fill the need for visualization of data beyond raw weather variables, and provide display using a modern, interactive visual platform. Features include:

- Graphs of derived weather variables, including snow settlement, new snow density, cumulative multi-day precipitation totals, and 24-hr wind totals.
- Display of non-weather variables, including avalanche events and daily hazard rating.
- Interactive features, including a hover tool to display data values, zoom/pan tools, and a date-range selection tool.
- Desktop and mobile displays

Although developed with forecasting in mind, these tools have received regular use by avalanche education providers, highway avalanche technicians, and the public, with traffic around 40-50 visits per day during the 2017-18 season. Building on the popularity of previously developed tools, the Snowpack Tracker layout incorporates elements from an Excel sheet originally developed by Ian McCammon, Bill Nalli, and Craig Patterson.

The world of avalanche data visualization is evolving rapidly, with many centers in the U.S. now providing tools either customized for their operation, or utilizing standardized products (the Sawtooth, Flathead, and Sierra Avalanche Centers are actively collaborating on a similar product provided by Snowbound Solutions and the NAC). Based on community and forecaster input, the BTAC tools will continue to see improvement, so check back soon for new features.
Contact Patrick Wright at pwright@inversionlabs.com for more details. ▲

After spending four summers completing graduate research on the Greenland Ice Sheet, **Patrick Wright** is currently co-owner of Inversion Labs, working on projects spanning from avalanche studies to air quality. When not writing computer code or doing field work, Patrick can be found on skis or foot exploring the mountains of northwest Wyoming. Patrick holds M.S. degrees in Atmospheric Science (2012) and Glaciology (2015).

Tobey Carman lives in Anchorage, Alaska and works as a software engineer for the Institute of Arctic Biology. In his free time he is usually skiing with his wife Cortney or working on new approaches to merge earth and data science. Tobey received a Masters in Software Engineering in 2012 from the University of Alaska Fairbanks.