

## **H08: Snow Level and Precipitation: Trends, Extremes and Impacts**

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### **Session Description**

Snow Level is closely tied to Precipitation Intensity, and both factors change dramatically with individual weather systems and climate change. Modeling of the melting snow transition layer, through which precipitation melts from snow into rain is critical for accurate snow level forecasting. Also, the heavier the precipitation rate, the greater the cooling required in the atmosphere to melt the snow, and the lower the snow level. A series of interrelated processes occur in the melting snow transition layer that can be observed with a variety of instruments, and can be tracked with time. The intensity of precipitation is expected to increase with global warming, and there already is some suggestion that convective precipitation is increasing on earth. In recent years we have been experiencing repeated record breaking precipitation events, and impactful snow level changes. How more frequent will extreme events now occur? The impacts caused by more intense precipitation with or without rapidly varying snow levels, can be extreme. The current trends are for the snow level to rise, however with more intense precipitation it is possible deep snow will still accumulate at the highest elevations. All papers related to snow level and precipitation, from observations to modeling, past present and future are invited. Studies that provide new insight into remote sensing of melting snow layer properties and the physics controlling precipitation and snow level variations are invited. Innovative new methods are welcome, including isotopic applications. Studies that focus on precipitation intensity and detection of shifts and extremes are also welcome. Investigations on the impacts of past snow level and precipitation intensity changes are needed, to improve our understanding of current trends and extremes, so we can accurately warn and effectively prepare for change. In addition, related regional impact studies such as flooding, avalanche and water supply changes are welcome.

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