



## **The Juneau Ice Field Research and education program**

Jakob Abermann (1,2), Jay Fleisher (3), and William Dittrich (4)

(1) Austrian Academy of Sciences, Vienna, Austria (jakob.abermann@uibk.ac.at), (2) University of Innsbruck, Institute of Meteorology and Geophysics, Innsbruck, Austria, (3) SUNY-Oneonta, Oneonta, N Y, USA, (4) Portland Community College, Portland, Oregon, USA

The Juneau Icefield is situated in the Coast Range of Southeast Alaska. With 3900 km<sup>2</sup> it is the fifth largest icefield in the Western Hemisphere. In 1946 Maynard M. Miller started a monitoring project investigating glaciers, their variations and their sensitivity to climate change. Since then, every year a group of selected students and professional scientists participate in an interdisciplinary 8-weeks field study that traverses (250 km) the entire icefield, which is at the core of the program. Many different aspects of education and science are combined:

Students receive safety training in order to be able to meet the challenges that come up during the traverse. Students learn to collect the necessary data for the monitoring program and get involved with individual research tasks supervised by faculty staff. Lectures are given in permanent field camps that are equipped with modern teaching facilities. Topics like climatology, glaciology, geodesy, snow physics, geology, and meteorology are covered. Every participant takes their turn with logistic duties such as cleaning, cooking or maintaining gear. The scientific results are compiled in annual reports and published in international journals. Monitoring data series of the Juneau Icefield research program on mass balance, elevation changes and flow velocity are among the longest in the world. After each field season, a new well-trained group of youngsters with a strong background in Earth system science, both in the theoretical but also in the practical sense is available for the scientific community. The student's awareness for climate change has been sharpened by personally witnessing it in a spectacular environment.