

**Georges, C.** (2004): The 20th century glacier fluctuations in the Cordillera Blanca (Perú). Arctic, Antarctic, and Alpine Research., 36(1), 100-107.

### **Abstract**

The value of glacier fluctuations as indicators for climate change detection has been increasingly accounted for in recent years. Tropical glaciers are of particular concern. The Cordillera Blanca in Perú (77° 30' W, 9° S) is the largest glaciated area within the tropics. Its 20th century glacier fluctuations have been analysed. The total ice coverage around 1990 was obtained using optical satellite data SPOT XS. Based on the 1990 results, inventories and estimates on the glaciation during the 20th century had to be corrected. Finally, the following data show the general ice retreat in the tropical Cordillera Blanca: 620 km<sup>2</sup> in 1990, 660 - 680 km<sup>2</sup> in 1970 and 800 - 850 km<sup>2</sup> in 1930. The last documents the extent shortly after a strong advance in the 1920s. The Little Ice Age extent is estimated to 850 - 900 km<sup>2</sup>. The ice recession during the 20th century was not constant, but concentrated to two periods. Strong ice retreat was found in the 1930s and 1940s, intermediate strong retreat from the mid-1970s until the end of the century. The ice coverage at the end of the 20th century was slightly below 600 km<sup>2</sup> according to observations after 1990.