



Extraordinary snow accumulations over parts of central Europe during the winter of 2005/06 and weather-related hazards

J.G. Pinto, T. Brücher, A.H. Fink, A. Krüger

Institut für Geophysik und Meteorologie, Universität zu Köln, Kerpener Str. 13, 50923 Köln, Germany (Email: jpinto@meteo.uni-koeln.de)

During the winter of 2005/06, record-breaking snow accumulations were observed in many locations in south-east Germany, large parts of Austria, and in the low mountain ranges along the Czech/German as well as Czech/Austrian border. The snow mantle reached its maximum depth in early to mid-March. This winter was not only notable in terms of the snow depth at the end of the winter season, but also in terms of snow cover duration and intermittent heavy snowfall events in the low lying areas of the study region. Among the most relevant weather-related hazards there were the collapses of several roofs under the heavy weight of the snow, e.g. in Bad Reichenhall, Germany on January 2nd, where 15 people were killed and over 50 were injured. The ensuing snowmelt led to extensive floods in Danube and Elbe rivers (late February to early April). In the perception of the public, the winter of 2005/06 was snowy, cold, and long. This view does not, however, withstand a climatological assessment. In fact, the winter was notable only in terms of the scarcity of significant thawing episodes. The recurrent blocking situation west of Central Europe gave rise to synoptic patterns that kept the temperatures somewhat below freezing and caused average precipitation mostly in the form of snow. The snow accumulation was extraordinary only on the lower regions examined (below 1000 m a.s.l.), and accumulated snow at alpine peaks was at or below average throughout the winter. As a substantial winter warming of up to 3-4 deg C may be expected by the end of the 21st century for the Alpine foreland, leading to a significant reduction of days with maximum temperatures below 0 deg C, winters like 2005/06 belong to the type of extreme events that may occur less frequently in a warming climate.