

## **Floods at the Northern Foothills of the Tatra Mountains – A Polish–Swiss Research Project**

Zbigniew W. KUNDZEWICZ<sup>1</sup>, Markus STOFFEL<sup>2</sup>, Ryszard J. KACZKA<sup>3</sup>,  
Bartłomiej WYŻGA<sup>3,4</sup>, Tadeusz NIEDŹWIEDŹ<sup>3</sup>, Iwona PIŃSKWAR<sup>1</sup>,  
Virginia RUIZ-VILLANUEVA<sup>2</sup>, Ewa ŁUPIKASZA<sup>3</sup>, Barbara CZAJKA<sup>3</sup>,  
Juan Antonio BALLESTEROS-CANOVAS<sup>2</sup>, Łukasz MAŁARZEWSKI<sup>3</sup>,  
Adam CHORYŃSKI<sup>1</sup>, Karolina JANECKA<sup>3</sup>, and Paweł MIKUŚ<sup>3,4</sup>

<sup>1</sup>Institute for Agricultural and Forest Environment, Polish Academy of Sciences,  
Poznań, Poland; e-mail: kundzewicz@yahoo.com

<sup>2</sup>Institute of Geological Sciences, University of Berne, Berne, Switzerland

<sup>3</sup>University of Silesia, Faculty of Earth Sciences, Sosnowiec, Poland

<sup>4</sup>Institute of Nature Conservation, Polish Academy of Sciences, Kraków, Poland

### **Abstract**

The present paper introduces the topical area of the Polish–Swiss research project FLORIST (Flood risk on the northern foothills of the Tatra Mountains), informs on its objectives, and reports on initial results. The Tatra Mountains are the area of the highest precipitation in Poland and largely contribute to flood generation. The project is focused around four competence clusters: observation-based climatology, model-based climate change projections and impact assessment, dendrogeomorphology, and impact of large wood debris on fluvial processes. The knowledge generated in the FLORIST project is likely to have impact on understanding and interpretation of flood risk on the northern foothills of the Tatra Mountains, in the past, present, and future. It can help solving important practical problems related to flood risk reduction strategies and flood preparedness.

**Key words:** floods, dendrogeomorphology, wood debris transport, climate impact, Tatra Mountains.