

## **Flood Risk in the Upper Vistula Basin**

Author: Witold Krajewski

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## Flood Risk in the Upper Vistula Basin

Edited by Zbigniew W. Kundzewicz, Markus Stoffel, Tadeusz Niedźwiedź, and Bartłomiej Wyźga. Cham, Switzerland: Springer, 2016. xix + 418 pp. Hardcover: US\$ 179.00, ISBN 978-3-319-41922-0. E-book: US\$ 139.00, ISBN 978-3-319-41923-7.

I enjoyed reading *Flood Risk in the Upper Vistula Basin*. As director of the Iowa Flood Center, a state-funded academic research unit, it addresses the topic of my research interest and my major professional activity over the past 10 years: floods. The book covers the region where I spent a lot of time in my youth: long summers in a forester's lodge in Poręba Wielka, sports camps in the Tatra Mountains, and visiting my grandmother who lived in Krynica. It also happens that I speak fluent English as well as Polish, my native language. The book has been written for me and other people with a similar profile—but who else? The answer is not very clear for me. The book is not a comprehensive treatment of flood risk, as the title seems to suggest. Some topics are entirely absent, for example, real-time flood forecasting systems, and their benefits and limitations. Communicating flood risk to the general public gets only cursory treatment. Certainly, people living in the region, in particular, the authorities and officials who have a degree of responsibility for public safety, would benefit from reading the book, but the fact that it is written in English limits its outreach. Another limiting factor for these potential readers is the technical level of many chapters. Their authors use plenty of technical jargon and assume a high level of specialized knowledge in river mechanics, hydrology, and climate science. There is nothing wrong with that if the target audience is comprised of fellow flood experts.

One could ask if the lessons learned from the studies documented in the book can be translated to other similar regions of the world? In some general sense, yes. However, many chapters of the book are site-specific, and their generalized applications to other locations are not obvious. This is nothing new in hydrology, but the added social and cultural context makes it more unique.

The answer to the question of the intended audience becomes clearer when we learn that the book is an outcome of Polish–Swiss collaboration and joint workshops. The book is simply a volume of proceedings from the collaborative project “Flood risk on the northern foothills of the Tatra Mountains (FLORIST).” However, the editors made a strong effort to organize the 4 major sections into coherent themes that cover a range of flood-relevant issues. The themes cover factors affecting flood risk, observational records, and hydroclimatological projections of future flood hazard and risk. There is also a comprehensive and well-written introduction to the region, describing its history, culture, and geography.

What else have I learned? While, as we know, rainfall—only briefly discussed in the book—is the main trigger of flooding, debris flow is an important consequence. I also found the discussion of land-use changes very interesting. Over a relatively short period of time, the region experienced deforestation and reforestation, construction of multiple multipurpose reservoirs, increased population, reduction in floodplain function, and changes in the geomorphology of streams and rivers. Also, the book makes it clear that the future is uncertain: Models differ on the direction of climate changes and their interactions with other factors involved in flood genesis.

Regarding the scientific merit of the book, the standard measure is passing a peer review. In the preface, the editors do not address this issue,

but my guess is that the individual chapters were not blind peer-reviewed. This is not a criticism, since some of them had clearly a different purpose, namely, to provide a broad overview of the issues and concepts. Some chapters could probably withstand the challenge of peer evaluation. Yet, while all the chapters are presented at a competent technical level with sound and well-established methods of analysis, the book lacks new theories and innovative methodologies, which the field of flood risk assessment desperately needs. This is forgivable if the purpose was a science-based overview of flood risk issues in the Upper Vistula River basin.

The level of English is certainly adequate considering that for most, if not all, contributing authors, English is not their mother tongue. Only occasionally did I spot awkward expressions that have escaped the scrutiny of editing. However, a major complaint about the final production of the book is the poor quality of the figures. Although I am rather familiar with the geography of the region, my memory of it is 40 years old, and I wanted to refer to the maps while reading the book—but I found them to be of no help. For a book that addresses a regional problem, maps are of paramount importance in communicating geographic setup, issues, and findings. Maps that cannot be read are of little use. For this sad situation, I blame not the authors, but the publisher's production department. I understand that reproducing color in print is still more expensive than simple gray shades, but a straightforward solution would have been to place original photos and high-resolution maps on the publisher's website, a standard procedure these days.

So, what is the bottom line? The availability of this book in English will enable comparative studies with floods in other mountainous regions. The same factor will limit the benefits of the treatise to educate the local Polish administrators and

policy-makers. Taking a selfish position, I am glad I got to read the book because it brought back memories, but at the same time, I doubt I will be citing it frequently in my own research.

**AUTHOR****Witold Krajewski**

witold-krajewski@uiowa.edu  
Department of Civil and Environmental  
Engineering, The University of Iowa, Iowa City,  
IA 52242-1585, USA

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