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PREFACE

# Use of 21st century satellite remote sensing technology in natural hazard analysis

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Floods and landslides are among the most widespread natural hazards on Earth. The impact of these disasters is often felt most acutely in parts of the world without ground observation networks. Today, satellite remote sensing information, acquired and processed in real-time, can provide a global view of four-dimensional geophysical variables needed to monitor/predict severe hazards, which is particularly significant for developing countries and inaccessible regions. For these reasons, a special session on the "Use of Satellite Remote Sensing Data in Flood and Landslide Analysis" was convened at the 2006 American Geophysical Union (AGU) Spring Meeting in Baltimore, Maryland. This special session served as a venue for discussion of satellite remote sensing research related to case studies, conceptual frameworks, and modeling of natural hazards, in particular floods and landslides, on local, regional, and global scales. Jointly sponsored by AGU and the NASA Public Affairs Office, a press briefing for highlights of this special session was held on May 24 at Baltimore (http://www.nasa.gov/vision/earth/lookingatearth/springagu_2006.html). Through an agreement with Springer, the session organizers also acted as guest editors for a Special Issue (SI) of the *Journal of the International Society for the Prevention and Mitigation Natural Hazards*.

The SI aims to improve the communication between data producers and application groups and further foster the development of cost-effective frameworks for incorporating operational satellite observations into research and applications related to floods, landslides, and other natural disasters triggered by heavy rainfall, including those triggered by tropical cyclones. The nine papers in this SI summarize a range of satellite remote sensing

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data types and their use for the testing and development of parameterizations and models for disaster monitoring and prediction activities across a range of spatio-temporal scales. We hope that the readers will enjoy the papers, which we believe will be an important archive of progress on these topics.

Contributions to this SI confirm that satellite observations are of value for improving our understanding of processes associated with hazardous events and for lessening their economic and human impact. As an initial step in addressing opportunities and challenges in this regard, the guest editors and participants of the SI call for expanded use of new satellite technology to improve local, regional, and even global early monitoring/warning systems for use in disaster preparedness and risk management around the world.

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