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Geodesy Serving Society: Geodetic Applications in Natural Hazards and Climate Change Research

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Resume of the lecture:
Rapid improvements in measurement technology, satellite platforms and computing power have greatly enhanced the ability of Geodesy to forecast and mitigate a variety of natural and human-caused hazards, including earthquakes, volcanic eruptions, and subsidence, as well as flooding associated with storm surge and high rainfall events. Climate change and associated sea level rise are already exacerbating flood-related disasters, and the costs to society will increase in the future. Geodesy is becoming increasingly important in climate change research, and can also contribute to public outreach and education in this area through its ability to provide compelling visualizations of natural processes. In this lecture, I will review some of these contributions, using examples from GRACE, GPS, InSAR, Structure from Motion, and Terrestrial Radar Interferometry, and discuss future improvements.

For the contents of the lecture see the pdf file.