Earth Surface Dynamics Seminar Series

GFZ Helmholtz-Zentrum Potsdam

Including Societal Adaptation Dynamics in Risk Assessment Models

Jeroen Aerts, *Vrije Universiteit Amsterdam, The Institute for Environmental Studies (IVM)*

March 3, 2021, 10:30

This presentation discusses recent advancements in natural hazard risk assessment models. Most risk models use scenario-based methods to simulate changes in hazard and exposure. However, they assume that vulnerability remains constant across time and space, as though individuals and other stakeholders do not adapt, learn from hazard experiences, or prepare for an event based on risk information or early warning. Therefore, vulnerability in risk assessment is often addressed as an external variable. This presentation shows, however, that there is a constant dynamic between the natural system (hydrology, climate, geology) and society, and how people adapt to hazards over time, and thus how behavior influences vulnerability, and vice versa. The perspective of integrating societal and behavioural dynamics with quantitative risk assessment methods has sparked novel socio-hydrological research linking methods from the domain of behavioural sciences to natural sciences modelling.

Dr. Jeroen Aerts *is the head of the Water and Climate Risk department at IVM-VU University Amsterdam. With an M.Sc. in physical geography and a Ph.D. in hydrology and operations research, Dr. Aerts has been active in water- and climate-related risk for almost 30 years. He pioneered modeling approaches coupling physical climate–water models with human behavioral methods, integrating multidisciplinary methods from hydrology and (behavioral) economics. Dr. Aerts co-initiated the first large-scale climate adaptation research program in the Netherlands (Klimaat voor Ruimte, 110 million euros). He was the scientific coordinator of the Connecting Delta Cities initiative under the Clinton C40 global cities network and a member of the evaluation committee of the National Flood Insurance Program of the U.S.*

Zoom link: http://bit.ly/2Ypg4Qy
password: 65054244

HELMHOLTZ
RESEARCH FOR GRAND CHALLENGES