

CURRICULUM VITAE

Markus Zimmermann



Synopsis of experience

Thirty years of experience in the field of disaster risk reduction, climate change adaptation and resilience building, of which 25 years in the private sector. More than 20 years of experience in teaching disaster-related issues at university and technical levels.

Personal information

Name Markus Zimmermann
Date of birth 6 December 1956
Present position: Independent consultant, owner of NDR Consulting GmbH
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Professional qualifications: 1989: Diploma in Business Administration (BPIH, Bern, Switzerland)
1988: Dr. phil.nat. (PhD); Geomorphology; University of Bern, Switzerland
1984: Lic phil.nat. (MSc), Geography and Physics; University of Bern, Switzerland

Languages German (mother tongue); English, French: speaking, reading, writing
Russian, Spanish: minor knowledge

Membership of professional associations PLANAT: National Platform for Natural Hazards; member; www.planat.ch/en/home/
KOHS: Commission for Flood Protection, member; <http://www.swv.ch/kohs>
SHA: Swiss Humanitarian Aid Unit, Dpty Head of expert group DRR & Environment
www.deza.admin.ch/en/Home/Activities/Humanitarian_Aid/Swiss_Humanitarian_Aid_Unit
FAN: Experts on natural hazards; member; www.fan-info.ch

Professional activities

Domains **Research** (1984 – 1998; 2011 onwards)

- Sediment budget in a mountain watershed (PhD thesis, University of Bern)
- Debris flows, floods (triggering events, climate change issues, scenario development, hydraulic parameters) at University of Bern, Swiss Federal Institute of Technology (ETH Zurich), Public Works Research Institute (Tsukuba, Japan)
- Research projects on debris flows, funded by Swiss Science Foundation and EU (EC Environment Research Programme)
- Modelling of torrent processes using GIS techniques (Geo7 company)
- Risk related studies (University of Bern), since 2011

Practical work (since 2003 NDR Consulting GmbH; 1991-2003 Geo7 company Bern)

- Assessment and mapping of geomorphologic features, of natural hazards and risks: debris flows, mountain torrents, floods, landslides; scenario development, vulnerability and risk analysis.
- Assessment of sediment balance in major river systems
- Risk management and resilience building: development of disaster risk reduction strategies and concepts; integration of climate change issues;
- Mainstreaming DRR into development and assessment of DRR effectiveness
- Evaluation of programmes and projects in the field of disaster risk reduction
- Capacity development (institution and capacity building, network development, knowledge management) and backstopping of government agencies and NGOs
- Disaster management and humanitarian aid: member of the Swiss Humanitarian Aid Unit; UNDAC trained (United Nations Disaster Assessment and Coordination)

Teaching (since 1992)

- Courses and workshops at various universities
- Practical training on DRR within mandates from various organisations
- Lecturer and senior researcher at Bern University (Institute of Geography) for geomorphology, risk management and related fields <http://www.geomorphrisk.unibe.ch>, for geomorphology and disaster risk reduction (part-time; since 2011)
- Lecturer at CERAH (www.cerahgeneve.ch/formations/cas/catastrophescas.html) for the CAS Disaster Risk Management (part-time; since 2013).

Selected assignments and projects in Switzerland

- 1992-97 Research project: Climate change and debris flow activity in Swiss mountains (NFP31). Swiss National Science Foundation. Principal researcher.
- 1998 (on-going); various mandates Risk management projects for several cantons, municipalities and private sector: hazard and risk assessment and mapping; risk management strategies and concepts; cost-benefit analysis; capacity building of local authorities in DRM. Project manager.
- 2000 Flood risk analysis for the Canton of Bern. Building Insurance Bern. Project manager.
- 2001-2003 Member of the working group for a national DRR strategy "Protection against Natural Hazards - vision and strategy" www.planat.ch/en/planat/activities/2000-2003/projects/
- 2002-2013 Study of the sediment budget of various river systems in Switzerland (Thur, Töss, Vispa, Simme). Project manager. Dpty. project manager.
- since 2002, several mandates Backstopping for SDC's disaster risk reduction team at HQ (strategy development, policy dialogue, technical assistance, courses and trainings, knowledge management). Swiss Agency for Development and Cooperation, Govt. of Switzerland.
- 2006-2007 Editing the Handbook on good practices for flood mapping in Europe (European Exchange Circle on Flood Mapping, EXCIMAP). Federal Office for the Environment, Bern. http://ec.europa.eu/environment/water/flood_risk/flood_atlas/index.htm
- 2006-2007 Development of SDC Guidelines on Disaster Risk Reduction: mainstreaming, targeted DRR, international DRR system. Swiss Agency for Development and Cooperation. Project manager.
- 2010-2015 Development of an integrated flood protection concept for Vitznau Municipality. Canton of Lucerne, Dept. of Traffic and Infrastructure. Dpty. project manager.
- 2014-2016 Establishing a watershed and river development concept and plan for the Hasli-Aare and its tributaries. Climate change, sediment management and ecological issues. Canton of Bern. Dpty. project manager.

Selected assignments and projects (international and overseas)

- 1990-1991 Post-doc at the Public Works Research Institute, Ministry of Construction, Tsukuba, Japan: Studies on debris flows, mud flows, volcanic hazards and earthquakes. Govt. of Japan.
- 1993-1998 Consulting for the Mt. Pinatubo flood and lahar problems, Philippines (permanent stay 1994 - 1995). Govt. of the Philippines and Louis Berger Engineering.
- 1998 Northern Afghanistan: earthquake relief operation (member of UNDAC mission).
- 2002 Evaluation of UNDP's Emergency Management System following the April 2002 earthquake, Georgia. UNDP Georgia.
- since 2003 several mandates Technical support for and backstopping of an integral disaster reduction programme in Central Asia; targeted DRR, mainstreaming. Swiss Agency for Development and Cooperation.
- 2006-2009 Technical consultant for capacity building and support for DIPECHO risk mapping and risk management projects in the Northern Areas of Pakistan. FOCUS Humanitarian Assistance, Pakistan.
- 2007-2008 Technical consultant for the integration of disaster risk reduction issues into the "Multi-Input Earthquake Rehabilitation" Programme in Kashmir. Aga Khan Development Network, Pakistan.
- 2008-2009 Chief technical advisor of the DRM programme of ERRA (Earthquake Reconstruction and Rehabilitation Authority, Pakistan). UNDP Pakistan.
- 2009-2012 ADB Community-based flood management and climate resilience project in Southern Tajikistan. Risk assessments and overall backstopping of the consortium. ACTED Tajikistan.
- 2010-2012 Capacity Development at CCDR: Programme development, business plan, capacity building of staff. CCDR (Centre for Climate Change and Disaster Reduction), Tajikistan
- 2010 Technical consultant for the evaluation of DRR capacities in the Seychelles and development of a DRR programme for the COI area. Commission de l'Océan Indien.
- 2010-2011 Development of the effectiveness report of SDC's DRR commitments (evaluation of DRR effectiveness in 7 countries/regions). Swiss Agency for Development and Cooperation.
- 2012 Technical consultant for a Feasibility Study and Business Plan for a Centre of Excellence for Earthquake Risk Reduction in Istanbul, Turkey. The World Bank.
- 2012-2013 Development and editing of the APFM Flood Mapping tool (www.apfm.info/?page_id=3206). World Meteorological Organisation, Geneva.
- 2013-2015 Policy support for SDC in the discussions for the Sendai Framework for DRR. Swiss Agency for Development and Cooperation and PLANAT, Govt. of Switzerland.
- 2014-2016 Team leader for the project: Integrated disaster risk management for the Gannan Mountains, Jiangxi Province, China; Development of a community-based approach and policy development. Asian Development Bank.

Overseas work experience

Afghanistan, Bangladesh, China, Georgia, Japan, Jordan, Kosovo, Kyrgyzstan, Nepal, Nicaragua, Pakistan, Philippines, Seychelles, Tajikistan, Turkey, Ukraine, Uzbekistan

Selected publications

- Zimmermann, M., Bichsel, M., Kienholz, H., 1986: A prototype mountain hazards map, scale 1:50,000, of the Khumbu Himal, Nepal. In: *Mountain Res. & Dev.*, Vol. 6, No.1, p. 29-40.
- Vuichard, D., Zimmermann, M., 1987: The 1985 catastrophic drainage of a moraine-dammed lake, Khumbu Himal, Nepal: cause and consequences. *Mountain Res. & Dev.*, Vol. 7, No 2, p. 91-110.
- Zimmermann, M., Haeberli, W., 1992: Climatic change and debris flow activity in high-mountain areas. A case study in the Swiss Alps. *Catena Suppl.* Vol. 22, p. 59-72.
- Zimmermann, M. et al., 1997: Murganggefahr und Klimaänderung - ein GIS-basierter Ansatz. NFP31 Schlussbericht. Vdf Verlag, Zürich.
- Zimmermann, M., Rickenmann, D., 1997: Erosion and sedimentation in Mt. Pinatubo Rivers. Proc. ASCE Conference on Debris Flows, San Francisco.
- Zimmermann, M., Mani, P., Romang, H., 1997: Magnitude-frequency aspects of Alpine debris flows. *Eclo. Geol. Helv.*, vol 90, 415-420.
- Blancher, P., Masagca, E., Zimmermann, M., 1999: Experts et société civile: un dialogue nécessaire, mais difficile. Expérience d'acteurs concernés par l'explosion du volcan Pinatubo (Philippines). *Risques naturels en montagne, colloque IDNDR*, p. 226-230. CEMAGREF Editions.
- Zimmermann, M., 2002: An Integrated Approach for the Management of Debris Flow Risks: A Case Study from Switzerland. In: *Proc. First Int. Conf. on Debris Flow Disaster Mitigation Strategy, Taiwan*, p. 129-150.
- Loat, R., Zimmermann, M., 2004: La gestion des risques en Suisse. In: Veyret, Y., et al. (eds): *Risques naturels et aménagement en Europe*. Armand Colin, Paris, p. 108-120.
- Zimmermann, M., 2005: UN-Konferenz in Kobe: Von der Gefahrenabwehr zur Risikokultur. In: *Zeitschrift Entwicklungspolitik*, 5/2005.
- Zimmermann, M., Pozzi, A., Stössel, F., 2005: Vademecum. Hazard Maps and Related Instruments - Experiences with the Swiss System and its Adaptation Abroad. SDC.
http://www.planat.ch/fileadmin/PLANAT/planat_pdf/alle/R0580e.pdf
- Stössel, F., Zimmermann, M., Zollinger, U., 2007: SDC Guidelines on Disaster Risk Reduction.
<http://www.preventionweb.net/english/professional/publications/v.php?id=21328>
- Zimmermann, M., Issa, S., 2009: Risk-conscious Reconstruction in Pakistan-administered Kashmir. A Case Study of the Chakhama Valley: In: *Mountain Research and Development*, Vol 29, No 3: 202-210
<http://dx.doi.org/doi:10.1659/mrd.1074>
- Zimmermann, M., Stössel, F., 2011: Disaster Risk Reduction in International Cooperation: Switzerland's Contribution to the Protection of Lives and Livelihoods. Published by Swiss Federal Department of Foreign Affairs, Swiss Agency for Development and Cooperation.
www.preventionweb.net/english/professional/publications/v.php?id=17901
- Zimmermann, M., 2012: Hazard Assessment. In: *Dating Torrential Processes on Fans and Cones*; M. Schneuwli, M. Stoffel, F.R. Miklau (eds). *Advances in Global Change Research 47*, Springer; pages: 343-353
<http://www.springer.com/environment/book/978-94-007-4335-9>
- Horton, P., M. Jaboyedoff, B. Rudaz, and M. Zimmermann, 2013: Flow-R, a model for susceptibility mapping of debris flows and other gravitational hazards at a regional scale. *Nat. Hazards Earth Syst. Sci.*, 13, 869-885, 2013.
<http://www.nat-hazards-earth-syst-sci.net/13/869/2013/nhess-13-869-2013.html>
doi:10.5194/nhess-13-869-2013
- Zimmermann, M. Krueger, J.M. (ed.), 2013: APFM Flood Mapping tool (www.apfm.info/?page_id=3206). World Meteorological Organisation, Geneva
- Nussle, D., M. Zimmermann, R. Hollenstein, S. Ritler, 2014: Integrales Schutzkonzept Vitznauer Bäche. In: *Tagungsband Wasser- und Flussbau im Alpenraum*, Mitt. VAW ETHZ Nr. 228: 463-472
- Zimmermann, M. M. Keiler, 2015: International Frameworks for Disaster Risk Reduction: Useful Guidance for Sustainable Mountain Development? In: *Mountain Research and Development*, Vol 35, No 2, 195-202.
<http://www.bioone.org/doi/abs/10.1659/0276-4741-35.2.102>
- Zimmermann, M., 2015: Von wilden Bächen in der Stadt Thun. *Mitteilungen der Naturwissenschaftlichen Gesellschaft Thun*. Heft 16, 7-24.