

Résumé of dr. C.J. (Cees) van Westen

Dr. Cees van Westen graduated in 1988 for his MSc (doctoraal) in Physical Geography from the University of Amsterdam. After working with the University of Amsterdam for one year on landslide related problems in Austria and Switzerland, he joined the Division of Applied Geomorphology of ITC in 1988, and specialized in the use of Remote Sensing and Geographic Information Systems for natural hazard and risk assessment. He obtained his PhD in Engineering Geology from the Technical University of Delft in 1993, with a research on "[Geographic Information Systems for Landslide Hazard Zonation](#)".

He is working in the Department of Earth Systems Analysis, and contributes to the research theme 4D-Earth, specifically to Natural Hazards and Disaster Risk Management. Dr. Van Westen has worked on research projects, training courses and consulting projects related to natural hazard and risk assessment in many different countries.

From 2005- 2015 he was Director of the United Nations University - ITC Centre on Geoinformation for Disaster Risk Management. The overview of activities of the UNU-DGIM can be [downloaded here](#).

Links to external sources:

- [LinkedIn Profile](#),
- [LinkedIn Group Landslide Researchers](#),
- [LinkedIn Group Natural Hazards and Disaster Risk Management](#).
- [FaceBook](#)
- [ResearchGate](#)
- [Academia.edu](#)
- [Google Scholar](#)



Country and place of birth: 2 November 1962, Terneuzen, Netherlands

Nationality: Dutch

Civil Status: Married, 5 children

Education

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1993: Technical University Delft, Faculty of Mining, Department Engineering Geology. PhD (Dr.) degree.

1980 - 1987: University of Amsterdam, the Netherlands. Degree in Physical Geography (Drs. Cum laude). Additional topics in Sedimentology (University Of Utrecht), Hydrology (Free University of Amsterdam), Engineering Geology (Technical University Delft), education certificate for secondary school (onderwijsbevoegdheid).

1974 - 1980: Secondary School, VWO, Terneuzen, the Netherlands

Employment Record

2010-date: Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente. Enschede, the Netherlands. Associate Professor in the use of Geoinformation for Natural Hazard Studies.

From 2005 – 2015: United Nations University – ITC School on Disaster Geoinformation Management, changed to UNU-ITC Center for Spatial Analysis and Disaster Risk Management. Director.

From 2000 – 2010 : International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, the Netherlands. Associate Professor in the use of Geoinformation for Natural Hazard Studies.



From 1998 - to 2000: International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, the Netherlands. Programme Director.

From 1998 - to 2000: International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, the Netherlands. Assistant Professor in Applied Geomorphology.

1997 (8 months): International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, the Netherlands. User Group coordinator of ILWIS.

From 1993 - 1998: International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, the Netherlands. Lecturer in Applied Geomorphology and Engineering Geology.

1988 – 1993: International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, the Netherlands. Researcher in application of Geographic Information Systems in landslide hazard zonation.

1987 – 1988: University of Amsterdam, Amsterdam, the Netherlands. Part-time co-worker in consultancy projects in Austria and Switzerland.

1985 – 1987: University of Amsterdam, Amsterdam, the Netherlands. Student assistant at the Department of Geography

Language	Speaking	Reading	Writing
Dutch	Mother tongue		
English	Good	Good	Good
German	Fair	Good	Fair
French	Poor	Fair	Poor
Spanish	Good	Good	Fair

Languages

Expertise

Expertise in research in the following topics: use of spatial information for landslide hazard and risk assessment, Participatory GIS for flood risk assessment, volcanic hazard assessment, seismic hazard and risk assessment, technological risk assessment, and multi-hazard risk assessment.

Most of the research is in the field of landslides, dealing with topics such as: generation of event-based landslide inventories using remote sensing (e.g. LiDAR, object oriented image classification), historical records and field mapping; earthquake-induced landslides; combination of heuristic and statistical models for landslide susceptibility analysis; dynamic modelling of landslide initiation; landslide run out analysis, and different approaches for landslides risk assessment.



Management Experience

- 2010 to 2015: Project coordinator EU FP7 Marie Curie Initial Training Network “CHANGES”
- 2005 to 2015: Director United Nations University – ITC School for disaster Geoformation Management
- 2002 to 2008: Member of Management Team, Department of Earth Systems Analysis
- 2002 to 2008: Portfolio management Project Services, Department of Earth Systems Analysis
- 1998 - to 2002: Vice-head of the Division of Applied Geomorphological Surveys.
- 2002 - to 2007: Project supervisor GEONEDIS project. Institutional strengthening of the Indian Institute of Remote Sensing, IIRS, Dehra Dun, India. Overall coordination of the project, planning, quality control, monitoring
- 1998 - to 2002: Student advisor, EREG educational programme, Natural Hazard Studies specialisation. Coordination of the specialisation on Natural Hazard Studies, student selections, MSc supervision.
- 1998 - to 2000: Programme Director, EREG educational programme. Overall coordination of the course preparation, student selections, marketing, course execution
- 1998 – 2002: Coordinator of Education Committee of the Division of Applied Geomorphological Surveys.
- 1997 : Training material co-ordinator, and user group co-ordinator for the development of ILWIS 2.1
- 1990 – 1993: Project co-ordinator for the UNESCO and EC projects on landslide hazards in Colombia.

Training courses followed

- 2012: Management course (Ben Verheijden)
- 2005: Management course follow up (Bureau Eva Wiltingh, Keerderdom)
- 2004 : Course first Aid in tropical countries.
- 2004 : Course ArcGIS
- 2002 : Course on Blackboard
- 2001 : International project management (Prof. Dr. Bernd Madauss, Project Management Team PMT)
- 2000 : Management course for Professors and UHDs (Bureau Eva Wiltingh, Keerderdom)
- 1998 : Course on ERDAS held at ITC.
- 1994 :Course on "Supervising MSc students" held at the Technical University Twente
- 1993 : Course on "Teaching and Learning in Higher Education" held at the Technical University Twente.
- 1987 :Course on teaching for secondary schools. Received teaching certificate.

Activities in education

He has been teaching courses since 1994 on topics such as Introduction to GIS, Spatial Information for Disaster Risk Management, Natural Hazard Assessment, Empirical Modelling, Landslide susceptibility Assessment, Multi-Hazard risk Assessment, Disaster Risk Reduction.

From 1998 to 2000 he was Programme Director of the Earth Resources and Environmental Geosciences" educational programme, and he has been coordinating the specialization on Natural hazards for a number of years.



He has been active in the development of joint educational programmes with [IIRS](#) (India), [UGM](#) (Indonesia), [ICIMOD](#) (Nepal), [ADPC](#) (Thailand), [CLAS-UMSS](#) (Bolivia) and [UNAM-CIGA](#) (Mexico), and [CDUT](#) (China). He has given short courses in many different countries. He has supervised over 85 MSc research thesis students.

Courses in ITC which he now coordinates:

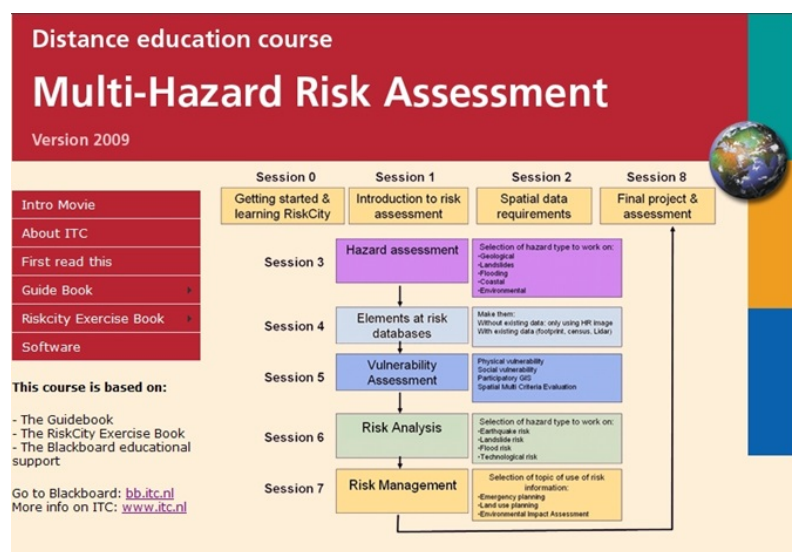
- **[Remote Sensing and GIS for Natural Hazard Assessment](#)**
- **[Natural Hazards Modelling and Risk Assessment](#)**
- **[Spatial Data for Disaster Risk Management](#)**
- **[Disaster Risk Management and Environmental Assessment for Spatial Planning](#)**
- **[Distance course in Multi-Hazard Risk Assessment](#)**

Training packages, that deal with the application of GIS and Remote Sensing for natural hazards and risk assessment:

- **[ILWIS Training Guide coordinator](#)**. In 1997 he worked as training material coordinator on preparation of the training materials for the ILWIS (Integrated Land and Water Information System) version 2.1 , and made over

10 application case studies on the use of GIS for hazard assessment, dealing with floods, landslides, volcanic eruptions and earthquakes.

- **GIS for Slope Instability Hazard Zonation (GISSIZ)**, dealing with the use of Remote Sensing for landslide inventory mapping and GIS for landslide susceptibility assessment.
- **Hazard and risk assessment in Central America**; This is the result of the UNESCO RAPCA project and contains GIS exercises for Guatemala, Honduras, El Salvador and Costa Rica.
- **Multi-hazard risk assessment** (RiskCity Training package, with theory and exercise book). The Theory book is also available in [Spanish](#), [Chinese](#), [Vietnamese](#) and Georgian.
- **Landslide Hazard and Risk Assessment (Safeland)**. A training manual containing a number of GIS case studies on landslide inventory, susceptibility, hazard and risk assessment with actual GIS data.
- **National Scale Multi-Hazard Risk Assessment of Georgia**. Resulting from MATRA and PPRD-EAST projects with [National atlas](#), [Web-GIS](#), [theory book](#) and [exercise book](#));
- **Analysis of Changing Multi-Hazard Risk for Decision Making**. A GIS tutorial that guides you through the process of multi-hazard risk assessment at local scale, including risk reduction scenarios and possible planning alternatives. This is also applied in the form of a [Spatial Decision Support System](#).



Regular short courses were organized with the following organizations:

- **ADPC, AIT and UNITAR-UNOSAT: GI4DRM**. This course has been designed jointly by ADPC, Asian Institute of Technology, ITC-University of Twente, Netherlands, and the United Nations Institute for Training and Research's Operational Satellite Applications Programme (UNITAR-UNOSAT), with the aim of providing an overview of the use of spatial information in disaster risk management. It has been running successfully since 2008, and is organized annually by ADPC in Thailand.
- **Bolivia, CLAS/UMSS**, 1995-2012. Joint courses on "Evaluación de amenazas y riesgos para desastres naturales", for the CLAS project in Cochabamba.
- **Mexico: CIGA/UNAM**, 2006-2009. With the Centro de Investigaciones en Geografía Ambiental (CIGA) of the Universidad Nacional de Mexico (UNAM) an annual joint short course on "Geo-Información para la Evaluación y Manejo del Riesgo a Múltiples Amenazas" was organized
- **LARAM and LARAM-Asia**. ITC contributed to the annual LARAM PhD School in Italy (Organized by the University of Salerno) and the LARAM Asia School (Later converted to [IRALL School organized by SKLGP in Chengdu, China](#)).
- **South Korea, KIGAM**. 2012-2014. Course "Landslide Monitoring and Assessment" for international and Korean students in the training center of IS-GEO at the Korean Institute of Geoscience and Mineral Resources (KIGAM) in Daejeon (Korea)

Joint Master Courses were organized with the following institutions:

- **The Indian Institute of Remote Sensing (IIRS), Dehradun, India**: A joint course on Geo-Information for Disaster Management was organized at Postgraduate and MSc level for a number of years (2007-2015). The MSc

students from this course came for a three-month period to ITC as part of their overall programme. The MSc research was carried out in India with support from supervisors from ITC and IIRS.

- **The Geography Department of Gadjah Mada University, Yogyakarta, Indonesia:** A joint MSc degree course on Geo-Information for spatial planning and risk management was organized for a number of years (2009-2016). The Indonesian MSc students also spent a three-month period at ITC, and their MSc research in Indonesia was supervised jointly by staff from ITC and UGM.

MSc thesis supervision

2015

- **Alam, Mujeeb.** (2015) Application of national census data for vulnerability assessment and spatial planning in Grenada. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2015. [Full text](#)
- **Gu, Fengchao.** (2015) Quantifying some components of resilience by analysing the changes of elements-at-risk in the Wenchuan epicentral area. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2015. [Full text](#)
- **Lozano Zafra, D.P.** (2015) National scale landslide susceptibility assessment for Dominica and Saint Vincent. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2015. [Full text](#)
- **Yifru Bogale, J.** (2015) National scale landslide hazard assessment along the road corridors of Dominica and Saint Lucia. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2015. [Full text](#)

2013:

- **Ara, S.** (2013) Analyzing population distribution and its effect on earthquake loss estimation in Sylhet, Bangladesh. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013. [Full text](#)
- **Erawati, I.** (2013) Assessment of economic vulnerability and community resilience in landslide prone areas after a landslide event. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013. [Full text](#)
- **Godfrey, A.** (2013) Expressing uncertainties in building vulnerability to hydro - meteorological hazards. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013
- **Iswanto, A.D.D.** (2013) Developing a prototype landslide information and warning system using mobile telephones based on local community participation : a case study in Kulonprogo District, Indonesia. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013. [Full text](#)
- **Lopez Rangel, R.A.** (2013) Precipitation threshold analysis for floods and landslides in a data - scarce environment: a case study from Buzau, Romania. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013. [Full text](#)
- **Rusdiyatomoko, A.** (2013) Incorporating landslide susceptibility in land rehabilitation. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013. [Full text](#)

2012:

- **Tang, C.** (2012) 2D flash flood simulation of the Tangjiashan landslide dam induced by the 2008 Wenchuan earthquake. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2012. [Full text](#)
- **Rawat, A.** (2012) Evaluating protective function of forest against rock fall hazard: a case study of Himalayan temperate forest Uttarkashi, India. Enschede, University of Twente Faculty of Geo-Information and Earth Observation ITC, 2012.
- **Adegbe, M.** (2012) Hydrological and hydraulic analysis of post seismic Hongchun debris flow, Sichuan province, China. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2012.

2011:

- **Hussin, H.Y.** (2011) Probabilistic run - out modeling of a debris flow in Barcelonnette, France. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2011. [Full text](#)
- **Riguer, D.E.L.** (2011) Multi - temporal study of earthquake induced landslides: a comparative case study of Beichuan, China and central Italy. Enschede, University of Twente Faculty of Geo-Information and

- Earth Observation (ITC), 2011.
- **Sudrajat, B.** (2011) Application of Hazus in earthquake building damage assessment: in Palbapang village, Bantul Yogyakarta province, Indonesia. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2011.
 - **Alcaraz Tarragüel, A.** (2011) Developing an approach for analysing the possible impact of natural hazards on cultural heritage: a case study in the upper Svaneti region of Georgia. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2011. [Full text](#)
 - **Yawen Ma** (2011) Regional scale multi - hazard susceptibility assessment: a case study in Mtskheta - Mtianeti, Georgia. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2011. [Full text](#)
- 2010:
- **Allo, E.T.** (2010) Determining rainfall thresholds for landslide initiation: a case study in Wadaslintang watershed Wonosobo, central Java province. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2010. [Full text](#)
 - **Babirye, G.P.** (2010) Analysing changes in landslide vulnerability using GIS and local spatial knowledge. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2010. [Full text](#)
 - **Dwi Wahono, B.F.** (2010) Applications of statistical and heuristic methods for landslide susceptibility assessments: a case study in Wadas Lintang sub district, Wonosobo regency, central Java province, Indonesia. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2010. [Full text](#).
 - **Nayak, J.** (2010) Landslide risk assessment along a major road corridor based on historical landslide inventory and traffic analysis. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2010. [Full text](#)
 - **Zahra, T.** (2010) Quantifying uncertainties in landslide runout modelling. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2010. [Full text](#).
- 2009:
- **Garcia Ramirez, E.A.** (2009) Community based debris flow risk appraisal for local risk management, case study: Villa Restrepo, Colombia. Enschede, ITC, 2009.
 - **Malik, A.** (2009) Snow avalanche runout modeling in Solang - Shundi area of Manali, Himachal Pradesh, India, using numerical model RAMMS. Enschede, ITC, 2009. [Full text](#)
 - **Sashikant Sahoo** (2009) A semi quantitative landslide susceptibility assessment using logistic regression model and rock mass classification system: study in a part of Uttarakhand Himalaya, India. Enschede, ITC, 2009. [Full text](#)
- 2008:
- **Devkota, S.** (2008) Parameterisation of soils properties for debris flow initiation modelling: a case study in the upper Tikovil river basin, Kerala, India. Enschede, ITC, 2008. [Full text](#)
 - **Dipender Singh Chand** (2008) Landslide monitoring in space and time using optical satellite imagery and DEM derived parameters: case study from Garhwal Himalaya, Uttarakhand, India. Enschede, ITC, 2008.
 - **Lugaizi, I.** (2008) Landslide volume monitoring using geophysics and multi - temporal digital elevation models: a case study of Trieves area, France. Enschede, ITC, 2008.
 - **Christanto, N.** (2008) Hydrological - slope stability modelling for landslide hazard assessment by means of GIS and remote sensing data a case study of Probolo sub - catchments, sub - district Purworejo regency, Indonesia. Yogyakarta, Enschede, ITC, Gajah Mada University (UGM), 2008. [Full text](#)
 - **Sumana Chakraborty** (2008) Spatio - temporal landslide hazard analysis along a road corridor based on historical information: a case study from Uttarakhand India. Enschede, ITC, 2008.
- 2007:
- **Kuthari, S.** (2007) Establishing precipitation thresholds for landslide irritation along with slope characterisation using GIS - based modelling. Enschede, ITC, 2007. [Full text](#)
 - **Villalón Semanat, M.** (2007) Landslide risk assessment at local level in Cuba. Enschede, ITC, 2007.
 - **Sengupta, A.** (2007) Industrial hazard, vulnerability and risk assessment for landuse planning: a case study of Haldia town, west Bengal, India. Enschede, ITC, 2007. [Full text](#)
- 2006:
- **Gulati, B.** (2006) Earthquake risk assessment of buildings: applicability of HAZUS in Dehradun, India. Enschede, ITC, 2006. [Full text](#)
 - **Kumar Jimée, G.** (2006) Seismic vulnerability and capacity assessment at ward level: a case study of ward

no. 20 Lalitpur sub metropolitan city, Nepal. Enschede, ITC, 2006. [Full text](#)

- **Namuwaya, S.D.C.** (2006) Predictive modelling of rainfall induced landslides in an tropical environment: a case of Ang Khang and Wang Chin districts in Northern Thailand. Enschede, ITC, 2006. [Full text](#)
- **Sekhar, L.K.** (2006) Effect of vegetation on debris flow initiation: conceptualisation and parameterisation of a dynamic model for debris flow initiation in Tikovil river basin, Kerala, India, using PCRaster. Enschede, ITC, 2006. [Full text](#)

2005

- **Prasad Khanal, R.** (2005) Preliminary seismic microzonation of Kathmandu valley, Nepal: using one - dimensional seismic response analysis. Enschede, ITC, 2005.
- **Ranjan, R.** (2005) Seismic response analysis of Dehradun city, India. Enschede, ITC, 2005. [Full text](#)
- **Pratima Singh** (2005) Population vulnerability for earthquake loss estimation using community based approach with GIS. Enschede, ITC, 2005. [Full text](#)
- **Khatsu, P.** (2005) Urban multi - hazard risk analysis using GIS and remote sensing: a case study of landslide, earthquake and fire hazard in a part of Kohima town, India. Enschede, ITC, 2005. [Full text](#)
- **Monrroy Prado, M.A.** (2005) Flood vulnerability assessment: structural, social and economic aspects case study: Naga city, Philippines. Enschede, ITC, 2005.

2004

- **Birendra Kumar Piya** (2004) Generation of a geological database for the liquefaction hazard assessment in Kathmandu valley. Enschede, ITC, 2004. [Full text](#)
- **Destegül, U.** (2004) Sensitivity analysis of soil site response modelling in seismic microzonation for Lalitpur, Nepal. Enschede, ITC, 2004. [Full text](#)
- **Guragain, J.** (2004) GIS for seismic building loss estimation: a case study from Lalitpur sub - metropolitan city area, Kathmandu, Nepal. Enschede, ITC, 2004. [Full text](#).
- **Pho Thanh Tung** (2004) Road vulnerability assessment in earthquakes: a case study of Lalitpur, Kathmandu, Nepal. Enschede, ITC, 2004. [Full text](#)
- **Islam, M.** (2004) Population vulnerability assessment for earthquakes in Lalitpur, Nepal. Enschede, ITC, 2004.

2003

- **Jacob Kamwaria Njagih** (2003) Digital field data capture technique for natural hazard and risk assessment. Enschede, ITC, 2003. [Full text](#)
- **Muh Aris Marfai** (2003) GIS modelling of river and tidal flood hazards in a waterfront city: case study, Semarang City, Central Java, Indonesia. Enschede, ITC, 2003. [Full text](#)
- **Zhongxia Yuan** (2003) Development of a GIS interface for seismic hazard assessment. Enschede, ITC, 2003. [Full text](#)
- **Navarrete Pacheco, J.A.** (2003) Digital stereo image interpretation for natural hazard assessment. Enschede, ITC, 2003. [Full text](#)
- **De la Caridad Viera Cepero, F.** (2003) Geomorphology and natural hazards of the Samala river basin, Guatemala. Enschede, ITC, 2003. [Full text](#) | [Full text](#)
- **Peters Guarin, G.** (2003) Flood risk assessment for the town of San Sebastian in Guatemala. Enschede, ITC, 2003. [Full text](#)
- **Lalan Prasad Singh** (2003) Application of SAR interferometry in landslide studies with special reference to generation of input data for statistical susceptibility assessment. Enschede, ITC, 2003. [Full text](#)
- **Muh Aris Marfai** (2003) GIS modelling of river and tidal flood hazards in a waterfront city: case study, Semarang City, Central Java, Indonesia. Enschede, ITC, 2003. [Full text](#)

2002

- **Badilla Coto, E.** (2002) Flood hazard, vulnerability and risk assessment in the city of Turrialba, Costa Rica. Enschede, ITC, 2002. [Full text](#) | [Full text](#)
- **Cheyo, D.R.S.** (2002) Landslide hazard, vulnerability and risk assessment using GIS: case study, Turrialba area in Costa Rica. Enschede, ITC, 2002.
- **Urban Lamadrid, R.G.** (2002) Seismic hazard and vulnerability assessment in Turrialba, Costa Rica. Enschede, ITC, 2002. [Full text](#) | [Full text](#).
- **Surmayadi, M.** (2002) GIS modelling for pyroclastic flow hazard and risk assessment: a case study of Merapi volcano, Central Java, Indonesia. Enschede, ITC, 2002.
- **Wang Chunqing** (China): Detection of coal fires in Xinjiang (China) using remote sensing techniques.
- **Tang Yanli** (China): The application of GIS and RS for coastline change detection and risk assessment to enhanced sea level rise. Yellow river delta, China.

2001

- **Mannanelage Wijewickrama** (Sri Lanka): Designing a methodology for zonation of run-out area of landslides.
- **Orestes Fonticoba Alea** (Cuba): Application of GIS for Landslide Hazard and Risk Assessment. Kandy area, Sri Lanka.
- **Tamire Hailu Uloru** (Ethiopia): Integration of GIS and stereo image interpretation to update landslide distribution.

2000

- **Francesco Palazzo** (Italy): Quantitative landslide hazard and risk assessment using GIS. An application in the lower Agri valley, Basilicata region, Italy.
- **Enrique Castellanos** (Cuba): Development of a hazard management system in the province of Guantanamo, Cuba.
- **Yu Gen** (China): Analysis of data integration techniques for landslide hazard mapping using the PCI data integration software.
- **Jose Roa** (Venezuela): Multitemporal landslide hazard assessment of the Trieves area, France.
- **Ruben Dario Vargas Franco** (Colombia): Generation of a GIS database for the city of Pereira for earthquake hazard assessment.

1999

- **Fasil Lullie** (Ethiopia): Qualitative and quantitative analysis of the Tessina landslide, Belluno province, Italy.
- **Annetty Benavides** (Cuba): GIS database for landslide hazard and risk assessment in the Barranco de Tirajan area, Gran Canaria, Canary Islands, Spain.
- **Dai Feng** (China): Using GIS for large scale Geomorphological mapping; an example from the Malbun area, Liechtenstein.

1998

- **Pravin Raj Maskey** (Nepal): Glacial lake flood modelling in the Nepalese Himalaya.

1997

- **Guillermo Calderon** (Venezuela). Use of expert opinion in landslide hazard zonation, Alpago area, Italy.
- **Rolando Mora** (Costa Rica). Geomorphological analysis of the Cochabamba area, Bolivia.
- **Alicia Aleksis** (Argentina). Geomorphological analysis of the Llave catchment, Caochabamba, Bolivia.
- **Champati Ray** (India). Fuzzy logic in landslide hazard assessment in Indian Himalayas, India.

1996

- **Syam Sapkhota** (Nepal). Landslide hazard zonation in the Kakani area, Nepal.
- **Edgar Carrillo** (Colombia). Constructing a GIS data base for seismic hazard zonation, Bucaramanga, Colombia.
- **Jane Atienza** (Philippines). Lahar hazard mapping in Mount Pinatubo, Philippines.
- **Lucia Luci** (Italy). Certainty factor analysis in Camerino, Italy.

1995

- **Wang Jingsi** (China). Flood hazard zonation in Legazpi, Philippines.
- **Arlene Dayao** (Philippines). Volcanic hazard zonation in Mount Mayon, Philippines.
- **Art Daag** (Philippines). Erosion of pyroclastic flows in Mount Pinatubo, Philippines.
- **Chowdury** (Bangladesh). Construction of GIS based engineering geological data base in Sliedrecht, The Netherlands.

1994

- **Monica Dunoyer** (Colombia). Evaluating differences in photo-interpretation for landslide recognition in Manizales, Colombia.
- **Jose Luis Naranjo** (Colombia). Evaluating the use of training areas in statistical landslide hazard zonation in Santa Rosa de Cabal, Colombia.
- **Redwan Djamaludin** (Indonesia). Landslide hazard zonation in Bandung, Indonesia.

1993

- **Pradeep Mool** (Nepal). Statistical landslide hazard zonation in Manizales, Colombia.
- **Achyut Koirala** (Nepal). Deterministic landslide hazard zonation in Manizales, Colombia.
- **Lucia Innocenti** (Italy). Landslide risk mapping in Manizales, Colombia.
- **Dave Niehaus** (Canada). Statistical landslide hazard zonation in Chinchina, Colombia.

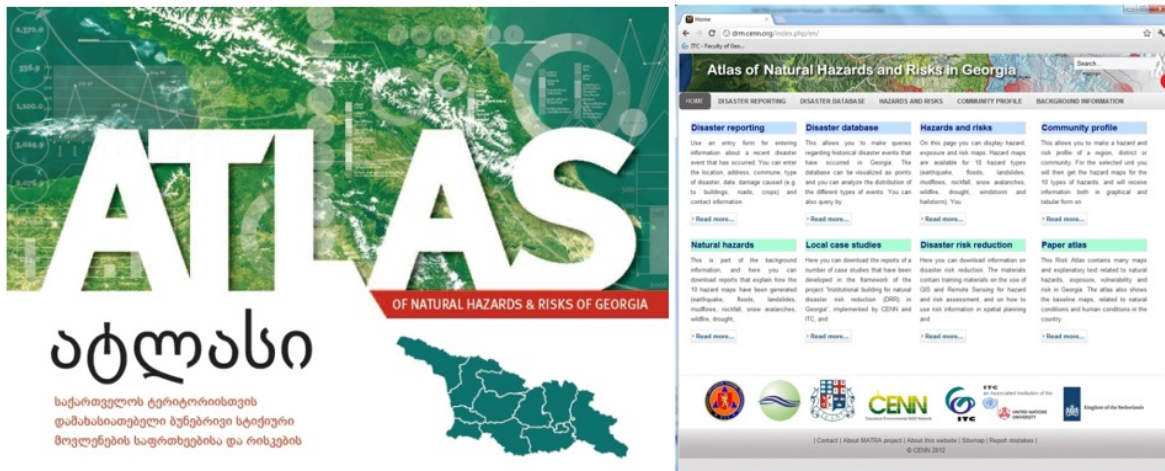
Activities in capacity development

Here are a number of example of capacity development projects:

- **Colombia: support of IGAC, 1988 - 1993.** Support of curriculum development and organization of training courses on natural hazards at the Instituto Geografico Agustín Codazzi (IGAC), collaboration with INGEOMINAS, Universidad de Caldas and Universidad Nacional.
- **USA: ISU, 1993.** Training at the summer school "International Disaster Warning and Mitigation System" of the International Space University, Huntsville, Alabama, USA.
- **Nepal, ICIMOD.** 1994-1998. course on "Remote Sensing and Geographic Information Systems for Landslide Hazard Zonation", organised in Kathmandu by ICIMOD (International Centre for Integrated Mountain Development), ITC, with funds from UNESCO and JICA.
- **Costa Rica: ICE, 1994.** Course "Introducción a los sistemas de información geográfica. Aplicaciones en las ciencias de la tierra", Instituto Costarricense de Electricidad, San José
- **Malaysia: MACRES, 1999:** Course on Remote Sensing and GIS for Landslide Hazard Assessment in MACRES, Malaysia
- **China: ESCAP, 1995.** Training Course on Environmental and Urban Geology of Fast-growing Cities", organised by ESCAP and the Chinese Ministry of Geology and Mineral Resources (MGMR), held in Shanghai
- **Bolivia, UMSS, 1995-2012.** Joint courses on "Evaluación de amenazas y riesgos para desastres naturales", for the [CLAS project](#) in Cochabamba.
- **India, Indian Institute of Remote Sensing GEONEDIS.** 1996-2006. Curriculum development and frequent training courses at the Indian Institute of Remote Sensing (IIRS, Department of Space). Project coordinator for a number of years and coordinator of a Joint Master Course on Natural Hazards and Disaster Risk Management. Geo-information for Environmental Assessment and DM, Institutional Strengthening of the Indian Institute of Remote Sensing (GEONEDIS)
- **Nepal: GLOF hazard, 1996.** Expedition in the Tamba Koshi and Rolwaling valleys, together with 6 Nepalese students, to map the possible effect of a glacial lake outburst (GLOF) of the Tsho Rolpa glacier lake.
- **Argentina, 1996.** Course "Curso de Actualización: Nuevas tecnologías en el análisis y mitigación de riesgos naturales en Sudamérica Neotropical" in S.M. de Tucumán
- **Peru, 1999.** Curriculum development "Gestión Estratégica para Prevención de Riesgos Ambientales" for the Msc course on "Planeamiento y Gestión Urbano Ambiental" for the National University San Agustín in Arequipa, and in Trujillo in the framework of the PEGUP project. Generation of the "[Atlas Ambiental de Trujillo](#)", and the "[Atlas Ambiental de Lima](#)".
- **Colombia: Rapid Inventory of Earthquake Damage, 1999-2000.** In order to make a rapid assessment of the damage inflicted by the 1999 Armenia earthquake and to make recommendations for the reconstruction of the damaged areas, the Dutch government offered assistance to the Colombian authorities in the "Rapid Inventory of Earthquake Damage (RIED)" project. In the context of this cooperation project between the Colombian Ministerio del Medio Ambiente and the organisations Ingeominas, CARDER, CRQ, and IGAC, the International Institute for Aerospace Survey and Earth Sciences (ITC) and the Delft University of Technology (TUD) were subsequently requested to carry out this task.
- **Central America, UNSECO-RAPCA project.** 1998-2003. [UNESCO project on Capacity Building for Natural Disaster Reduction](#), regional Action Programme Central America (RAPCA) with participants from the following countries: Guatemala, Honduras, Nicaragua, El Salvador, Costa Rica, Panama and Belize;
- **SE Asia, CASITA University Network project.** 2002-2004. Capacity Building in Asia using Information Technology Application (CASITA). EU EuropaAid ASIA IT&T Project. Main partner was the Asian Disaster Preparedness Center (ADPC). Establishment of an Asian University Network with Universities in the following countries : Bangladesh (BUET and Khulna), Indonesia (Gadja Mada University), Laos (Urban Research Institute), Pakistan (University of Peshawar), Sri Lanka (Un. Moratuwa, Univ. of Ruhuna, Peradenya University), Thailand (AIT, Chaing Mai University), Vietnam (Hanoi Architectural University), Philippines (University of the Philippines), India (IIRS, CEPT).



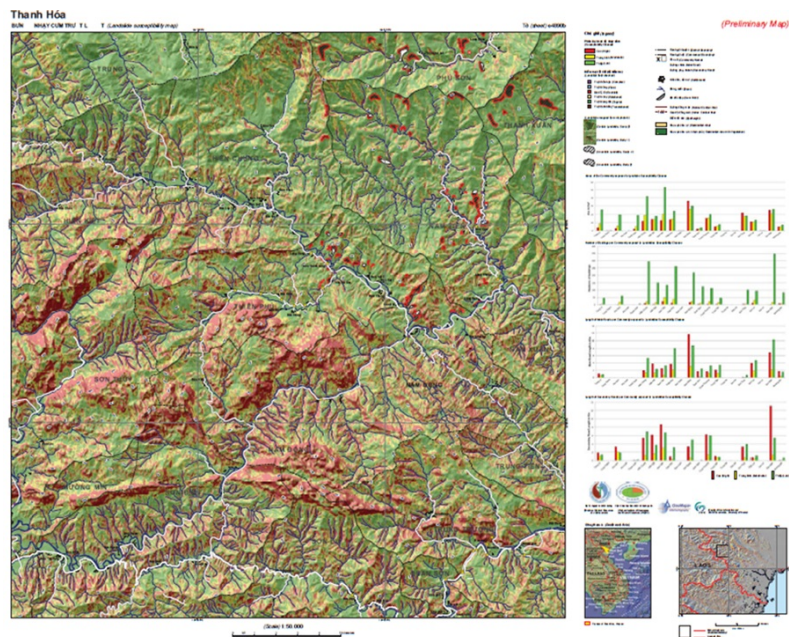
- **Mexico: UNAM**, 2006-2009. With the Centro de Investigaciones en Geografía Ambiental (CIGA) of the Universidad Nacional de Mexico (UNAM) an annual joint short course on "Geo-Información para la Evaluación y Manejo del Riesgo a Múltiples Amenazas" was organized
- **Central America: CAPRA evaluation**, 2009-2010. ITC was asked by the World Bank to review the CAPRA methodology and software, user groups, training needs, WIKI communication report, and software development recommendations
- **Georgia, MATRA project**. 2009-2012. Institutional Building for Natural Disaster Risk Reduction (DRR) in Georgia, funded by NL Government, together with the Caucasian Environmental NGO Network (CENN). The project addressed nine different natural hazards and their overlap with eight elements at risk, such as population, buildings, and GDP. Development of a [Digital Atlas of Natural Hazards in Georgia](#) and a [Web-GIS](#).



- **Vietnam: GHITRA project**. 2010-2011. ITC was lead partner in the Geo-information Technology for Hazard Risk Assessment (GHITRA) project in Vietnam, funded by the Asian Development Bank. Aim was to build capacity on the application of modern Geo-IT for Hazard Risk Assessment (HRA) and Disaster Risk Reduction (DRR) and to develop a spatial multi-hazard risk assessment methodology applicable for Vietnam. Staff of the Vietnamese Ministry of Agriculture and Rural Development (MARD) and its Disaster Risk Management related agencies and programs (CCFSC, DDMFSC, DMC). A Vietnamese version was made of the [Multi-Hazard Risk Assessment Guidebook](#), and [Exercise Book](#).
- **Eastern Europe, EU PPRD EAST project**. EU-funded Programme for the Prevention, Preparedness and Response to Man-made and Natural Disasters in the ENPI East Region (PPRD East). Development of a training package and training for participants from Moldova, Ukraine, Belarus, Georgia, Armenia and Azerbaijan.
- **Pakistan: IST**, 2013. Training Course on Advanced Geo-Spatial Disaster Management Techniques, at the Institute of Space Technology, Islamabad, Pakistan

- **Vietnam: Landslide hazard assessment method.** 2013-2014.

Consulting project for the Vietnamese Institute of Geology and Mining (VIGMR) on the design of an optimal approach for medium-scale landslide susceptibility assessment for Vietnam in 2014. Generation of guidelines, three test sheets at scale 1:50,000 and training courses.



- **Nepal: Post-earthquake landslide hazards.**

After the 2015 Gorkha earthquake collaboration with several organisations, such as UNEP, UNIL (Lausanne University), ICIMOD, DSCWM, ICIMOD, NSET Tribhuvan University on the development of methods for post-earthquake landslide inventory and hazard assessment

- **Caribbean: CHARIM project.**

Caribbean Handbook on Disaster Information Management. This World Bank project with funding from ACP-EU Natural Disaster Reduction Programme developed an on-line handbook to support the generation and application of landslide and flood hazard and risk information to inform projects and program of planning and infrastructure sectors, specifically targeted to small countries in the Caribbean region. The methodology centers around a series of use cases, which are practical examples. National scale datasets were organized and stored in the CHARIM [GEoNode platform](#). National scale landslide and flood hazard maps were made for Belize, Saint Lucia, Dominica, Saint Vincent and the Grenadines and Grenada.

- **Cape Verde: Geo-Information for Hazard and Risk Assessment.** 2016-2017. Capacity building project funded by UNEP to apply Geo-Information for Multi-Hazard risk assessment.

Activities in research

He is currently contributing to the research theme on [Disaster Risk Management](#) in ITC. PhD research has been carried out in Colombia, Cuba, Philippines, China, India, Malaysia, and Europe.

Externally funded research projects:

- RUNOUT project.** Major risk from rapid, large-volume landslides in Europe: The design and testing of new techniques for hazard assessment and mitigation. EU FP5, Programme Environment and Climate 1994-1998. The primary goals for Project RUNOUT were to develop and test physical models for the catastrophic collapse and runout of giant landslides, and to use these to improve strategies for mitigating the hazard from such mass movements. Test sites in Gran Canaria, Liechtenstein and Italy.
- ESA-DUP SLAM Project:** the development of an ESA EO Service to support the legal obligations of Swiss and Italian Geological Risk Services in landslide risk forecasting and prevention. Several projects funded by the European Space Agency within the framework of its Data User Program (DUP), have investigated the feasibility and the operational applicability of spaceborne imagery to respond to the needs of governmental institutions that have a mandate in landslide analysis and prevention.
- SLARIM project:** Strengthening Local Authorities in Risk Management. This was an internally funded ITC project running from 2002 to 2005. The main objective was to develop a methodology for the use of spatial information systems for municipalities, which will allow local authorities to evaluate the risk of natural disasters in their municipality, in order to implement strategies for vulnerability reduction. It concentrated on medium-sized cities in developing countries, which do not yet utilize GIS in their urban planning (Naga in the Philippines for flood risk management, Lalitpur in Nepal and Dehradun in India for seismic risk management). This resulted in the PhD of Veronica Botero and Graciela Peters.
- Mountain Risk Project.** The Mountain Risk Project was an EU FP6 Marie Curie Initial Training Network running from 2007-2010. It focused on research and training in aspects of mountains hazards and risks assessment and management. It intended to develop an advanced understanding of how mountain hydro-geomorphological processes behave and to apply this understanding to living with the hazards in the long-term. This resulted in the PhD thesis of Byron Quan Luna on the use of runout modelling for landslide hazard and risk assessment.
- SafeLand Project.** SafeLand was a Large-scale integrating Collaborative research project funded by the Seventh Framework Programme for research and technological development (FP7) of the European Commission. It developed generic quantitative risk assessment and management tools and strategies for landslides at local, regional, European and societal scales and establish the baseline for the risk associated with landslides in Europe, to improve our ability to forecast landslide hazard and detect hazard and risk zones.



- **INCREO project.** The INCREO project was an EU FP7 Copernicus project, running from 2013-2014. The objective of IncREO is to provide actors responsible for civil protection and disaster management with EO-based solutions contributing to an improved preparedness and mitigation planning for areas highly vulnerable to natural disasters and already noticeable climate change trends.



- **CHANGES project.** The CHANGES project was an EU FP7 Marie Curie Initial Training Network. The CHANGES network (Changing Hydro-meteorological Risks – as Analyzed by a New Generation of European Scientists) aimed to develop an advanced understanding of how global changes (related to environmental and climate change as well as socio-economical change) will affect the temporal and spatial patterns of hydro-meteorological hazards and associated risks in Europe; how these changes can be assessed, modelled, and incorporated in sustainable risk management strategies, focusing on spatial planning, emergency preparedness and risk communication. This resulted in the PhD of Thea Turkington on the analysis of climate change for hydro-meteorological hazards in mountainous areas in the Alps.



Bilateral research projects:

- **Austria: Applied Geomorphological Mapping Hintere Bregenzerwald.** As part of the MSc a mapping project of 12 geomorphological map sheets was carried out together with A.C. Seijmonsbergen. Each map at 1:10,000 scale had two overlay maps: geotechnical and natural hazards.
- **Austria: Geotopen Inventar Vorarlberg.** Collaboration of the University of Amsterdam with the Vorarlberger Naturschau (Inatura, Dornbirn) resulted in one of the first inventories of geomorphologically important geotopes in Austria.
- **Switzerland: Landslide hazard assessment in Sant-Gallen.** Collaboration between the University of Amsterdam and the Wildbachverbauung in Sankt Gallen: several project were carried out on detailed applied geomorphological mapping in 1986-1988.
- **Colombia: Landslide susceptibility and hazard assessment in Manizales.** Collaboration between ITC and the Instituto Geografica Agustín Codazzi (IGAC) in Bogota, Colombia. Linked to PhD of Cees van Westen and Mark Terlien, and to capacity building in IGAC.
- **China: Coalfire impact on landslides and subsidence.** Research project funded by Netherlands Government and EU on mitigating the impact of spontaneous coalfire combustion in Ninxia province.
- **Philippines: Volcanic hazard assessment in Pinatubo and Mayon.** Collaboration with PHIVOLCS on post-volcanic debris flows modelling at Mount Pinatubo, resulting in the PhD of Arturo Daag. Volcanic hazard assessment of Mayon volcano with Arlene Dayao of DMG.
- **Cuba: National scale landslide risk assessment.** This work was centred around the PhD research of Enrique Castellanos (now director IGP in Cuba). Methods were developed for landslide hazard and risk assessment at national, provincial, municipal and local scale.
- **Nepal: Seismic hazard and risk assessment in Kathmandu valley.** Collaboration with the International Centre for Integrated Mountain Development (ICIMOD), the Nepalese Society on Earthquake Technology (NSET), the Department of Mines and Geology, and Lalitpur Sub-Metropolitan Office. Modelling of soft sediments in Kathmandu valley, liquefaction hazard assessment, building characterization, seismic risk assessment, improvement of building permit system.
- **Peru: Volcanic hazard assessment in Arequipa.** Collaboration with Prof. Thouret (University of Clermont Ferrand), Mike Sheridan, and Ruben Vargas Franco.
- **India: Landslide hazard and risk assessment.** Four year collaboration project with the Geological Survey of India (GSI), the National Remote Sensing Agency (NRSA, DoS) and the Italian CNR-IRPI on the development of landslide inventory, susceptibility, hazard and risk assessment methods appropriate for India. Resulting in four PhD theses of Sekhar Lujose Kuriase, Tapas Ranjan Martha, Saibal Ghosh and Pankaj Jaiswal.
- **China: Earthquake-induced landslide hazard assessment in Sichuan province.** Close collaboration with the State Key Laboratory of Geohazard Prevention (SKLGP), of the Chengdu Technical University (CDUT), resulting

in PhD thesis of Tolga Gorum and Xuanmei Fan, and ongoing work by Chengxiao Tang. Also resulting in the Wenchuan-Earthquake Geohazards Atlas and numerous publications.

- **Malaysia: Use of LiDAR for landslide hazard and risk assessment.** Collaboration with the Universiti Teknologi Malaysia, and JMG on the application of LiDAR data to landslide inventory mapping, hazard and risk assessment. This resulted in the PhD of Khammarul Razak.
- **India: Technological hazard and risk assessment in Haldia.** This research resulted from an EU project with the Indian Chamber of Commerce in Kolkata and the EU Joint Research Centre in Ispra, Italy. Two PhD researchers: Anandita Sengupta and Debanjan Bandyopadhyay (December 2016)

PhD thesis supervision

1. Turkington, T.A.R., Jetten, V. (promoter) , **van Westen, C.J.** (assistant promoter) and Ettema, J. (assistant promoter) (2016) Changing flood and landslide hazard : a meteorological perspective. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2016. ITC Dissertation 288, ISBN: 978-90-365-4193-0. [Full text](#)
2. Razak, K.A., de Jong, S.M. (promoter) , Jetten, V.G. (promoter) , **van Westen, C.J.** (co-promoter) and Straatsma, M.W. (co-promoter) (2014) Airborne laser scanning for forested landslides investigation in temperate and tropical environments. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2014. ITC Dissertation 244, ISBN: 978-90-365-3625-7. [Full text](#)
3. Gorum, T., van der Meer, F.D. (promoter) , **van Westen, C.J.** (assistant promoter) and van der Meijde, M. (assistant promoter) (2013) Towards a better understanding of earthquake triggered landslides : an analysis of the size, distribution pattern and characteristics of coseismic landslides in different tectonic and geomorphic environments. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013. ITC Dissertation 235, ISBN: 978-90-6164-363-0. [Full text](#)
4. Fan, X., Jetten, V.G. (promoter) and **van Westen, C.J.** (assistant promoter) (2013) Understanding the causes and effects of earthquake - induced landslide dams. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2013. ITC Dissertation 233, ISBN: 978-90-6164-361-6. [Full text](#)
5. Quan Luna, B., Jetten, V.G. (promoter) , **van Westen, C.J.** (assistant promoter) and van Asch, Th.W.J. (assistant promoter) (2012) Dynamic numerical run - out modelling for quantitative landslide risk assessment. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2012. ITC Dissertation 206, ISBN: 978-90-6164-330-2. [Full text](#)
6. Martha, T.R., Jetten, V.G. (promoter) , **van Westen, C.J.** (assistant promoter) and Kerle, N. (assistant promoter) (2011) Detection of landslides by object - oriented image analysis. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2011. ITC Dissertation 189, ISBN: 978-90-6164-309-8. [Full text](#)
7. Ghosh, S., Jetten, V.G. (promoter) , **van Westen, C.J.** (assistant promoter) and Carranza, E.J.M. (assistant promoter) (2011) Knowledge guided empirical prediction of landslide hazard. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2011. ITC Dissertation 190, ISBN: 978-90-6164-310-4. [Full text](#)
8. Jaiswal, P., Jetten, V.G. (promoter) , **van Westen, C.J.** (assistant promoter) and Ayyasami, K. (assistant promoter) (2011) Landslide risk quantification along transportation corridors based on historical information. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2011. ITC Dissertation 191, ISBN: 978-90-6164-311-1. [Full text](#)
9. Kuriakose, S.L., Jetten, V.G. (promoter) , de Jong, S.M. (promoter) , **van Westen, C.J.** (co-promoter) and van Beek, L.P.H. (co-promoter) (2010) Physically - based dynamic modelling of the effect of land use changes on shallow landslide initiation in the Western Ghats of Kerala, India. Enschede, University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2010. ITC Dissertation 178, ISBN: 978-90-6164-298-5. [Full text](#) | [Full text](#)
10. Botero Fernandez, V., Ottens, H.F.L. (promoter) , **van Westen, C.J.** (co-promoter) and Sliuzas, R.V. (co-promoter) (2009) Geo - information for measuring vulnerability to earthquakes : a fitness for use approach. Enschede, Utrecht, ITC, University of Utrecht, 2009. ITC Dissertation 158, ISBN: 978-90-6164-272-5. [Full text](#)
11. Peters Guarin, G., Frerks, G. (promoter) , **van Westen, C.J.** (co-promoter) and de Man, W.H.E. (co-promoter) (2008) Integrating local knowledge into GIS based flood risk assessment, Naga city, The Philippines.

Wageningen, Enschede, Wageningen University, ITC, 2008. ITC Dissertation 157, ISBN: 978-90-8585-295-7. [Full text](#)

12. Castellanos Abella, E.A., de Jong, S.M. (promoter) , **van Westen, C.J.** (co-promoter) and van Asch, Th.W.J. (co-promoter) (2008) Multi - scale landslide risk assessment in Cuba. Enschede, Utrecht, ITC, University of Utrecht, 2008. ITC Dissertation 154, ISBN: 978-90-6164-268-8. [Full text](#)
13. Daag, A.S., Terwindt, J.H.J. (promoter) , Nossin, J.J. (promoter) , van Asch, Th.W.J. (promoter) and **van Westen, C.J.** (promoter) (2003) Modelling the erosion of the pyroclastic flow deposits and the occurrences of Lahars at Mt. Pinatubo, Philippines. Enschede, ITC, 2003. ITC Dissertation 104, ISBN: 90-6164-218-3. [Full text](#)
14. **van Westen, C.J.**, Price, D.G. (promoter) and Rengers, N. (promoter) (1993) Application of geographic information systems to landslide hazard zonation. Enschede, ITC, 1993. ITC Dissertation 13, ITC Publication 15, ISBN: 90-6164-078-4. [Full text](#)

External PhD evaluation

- 2015: Diana Maria Contreras Mojica. Spatial Indicators of Recovery after Earthquakes. Paris-Lodron University Salzburg.
- 2015: Ziga Malek. "Combining participatory and geospatial modelling to generate spatially explicit land change scenarios applied to European mountain areas: Italian Alps and Romanian Carpathians ". University of Vienna.
- 2015: Madan Mohan Rout. Probabilistic Seismic Hazard Assessment of Northwest and Central Himalayan region. Indian Institute of Technology, Roorkee, India
- 2015: Elias Garcia Urquia. Landslide hazard mapping using data derived from press archives: a case study for Tegucigalpa, Honduras. Uppsala University, Sweden
- 2014: Keith Delenay. Characterisation and Analysis of Catastrophic Landslides and Related Processes using Digital Cartographic Techniques, University of Waterloo, Canada.
- 2012: Annelies Heijmans. Risky encounters. Institutions and interventions in response to recurrent disasters and conflict. Wageningen University, the Netherlands
- 2011: Melanie Kappes. Multi-Hazard Risk Analyses: a Concept and its Implementation. University of Vienna, Austria.
- 2011: Kim Martelli. The physical vulnerability of urban areas facing the threat of inundation from lahars and flash floods: application to the case study of Arequipa, Peru. Universite Blaise Pascal - Clermont-Ferrand II, France..
- 2009: Jose Cepeda. Characterisation and risk management of rainfall induced landslides. Faculty of mathematics and Natural Sciences, University of Oslo,
- 2006: Le Thi Chau Ha. Remote sensing data integration for landslide susceptibility mapping in Vietnam. Faculty of Science, Agriculture & Engineering, University of Newcastle upon Tyne, United Kingdom.
- 2008: Graciela Devoli. A study on the distribution, characteristics, behaviour and triggering mechanisms of Nicaraguan landslides. Faculty of mathematics and Natural Sciences, University of Oslo, Norway.
- 2008: Bettina Neuhäuser. GIS-based Modelling of Landslide Susceptibility in the Flysch Zone of the Northern Vienna Forest
- 2006: Marcus Gustavsson. Development of a detailed Geomorphological Mapping system and GIS Geodatabase in Sweden. University of Uppsala, Sweden.
- 2001: Nuria Santacana i Quintas. Analisis de la susceptibilidad del terreno a la formación de deslizamientos superficiales y grandes deslizamientos mediante el uso de sistemas de Informacion Geografica. Aplicación a la cuenca alta del Rio Llobregat. Universidad Politecnica de Catalunya, Barcelona, Spain.
- 2001: Tomas Fernandez del Castillo. Cartografia, Analisis y modelado de la susceptibilidad a los movimientos de ladera en mazicos rocosos mediante SIG: Aplicación a diversos sectores del Sur de Provincia de Granada. Universidad de Granada, Spain.

Organizational of scientific meetings and conferences

- Organizer of the executive seminar: [Capacity Building in Disaster Geo-information Management in Developing Countries](#), 23-25 September 2009, ITC, Enschede, the Netherlands.
- Organizer of [numerous workshops and training courses](#) in different countries in the framework of the EU Marie Curie CHANGES project in the period 2010-2014.
- Annual General Assembly of the European Geophysical Union (EGU). Organisation of sessions on "[Hydro-meteorological hazards: Changing pattern of risk and effective risk mitigation strategies](#)"(2013, 2014)" and "Uncertainty and quality evaluation in landslide hazard and risk assessment" (2015)
- Organizer of the International Conference "[Analysis and Management of Changing Risk for Natural Hazards](#)", 18-19 November 2014, Padua, Italy. The conference was attended by 170 participants, from 34 countries. There were 46 oral presentations and 62 posters.

Invited and Key-Note presentations

- 2016: IRALL School. iRALL School is an international school on "Investigation, analysis and Management of large landslides" in November 2015 in the State Key laboratory of Geohazard prevention and Geoenvironmental Protection (SKLGP), Chengdu University of Technology
- 2016: Invited presentation at the Institute for Informatics, University of Osnabruck, 31 5, 2016.
- 2015: ISMHR2015. International Symposium on Multi-Hazard and Risk 2015. 23-24 March 2015, Universiti Teknologi Malaysia (UTM) Kuala Lumpur
- 2015: JCT-1 TR3 Forum: Slope Safety Preparedness for Effects of Climate Change, 17 and November 2015 in Naples.
- 2015: Wuhan University of Geosciences, Invited presentation, Wuhan China.
- 2015: Keynote presentation at the Swiss Geomorphologist meeting (SGmG), 17 June, Natural Hazards & Risks - Changes and Challenges. Innertkirchen, Switzerland.
- 2015: Invited presentation at the workshop on "Building resilient communities through urban planning and the integration of natural sciences" we are organizing as a joint effort between CERGC and UNECE Committee on Housing and Land Management on January 13, 2015 in Geneva, Switzerland.
- 2014: Invited presentation at LARAM School, University of Salerno, Italy, on Tutorial on QRA using GIS
- 2014: Invited presentation at KIGAM, Daejeon, South Korea on Landslide Monitoring and Assessment.
- 2013 – Brazil. International Seminar On Prevention, Mitigation And Recovery Of Environmental Disasters. Rio de Janeiro, March 18-21, 2013
- 2013: Eco-RisQ General Assembly, 6 December 2013, Geneva, Switzerland
- 2012 – Session leader "Risk Assessment for Decision Making" at the Understanding Risk Forum, organized by the Worldbank, 2-6 July, Cape Town, South Africa
- 2012 – Keynote presentation Conference "GIS for the United Nations and the International Community" organized by UNOSAT and ESRI. April 3-5, WMO, Geneva. Session "GIS and Capacity building – How Territorial Planning benefits from Geospatial Information"
- 2011 – Second World Landslide Forum, October 3-9, 2011, FAO Building. Session on Landslide hazard and risk assessment. From landslide inventories to landslide risk assessment; an attempt to support methodological development in India.
- 2011 – International conference on "Remote Sensing, Natural Hazards and Environmental Change. National University of Singapore. "Spatial information for analyzing changing hydro-meteorological risk"
- 2011 – India. National workshop on Landslide Hazard and risk assessment in India
- 2010 - Mapping and analysing earthquake-induced landslides using high resolution pre-and post-images for the Wenchuan and Haiti earthquakes.
- 2009 – VII Simposio Nacional sobre Taludes y Laderas Inestables. 27-30 October, 2009, UPC, Barcelona. Landslide inventory, hazard and risk assessment in India. A contribution to methodology development
- 2009 – Conference to commemorate the 10th anniversary of the ChiChi earthquake. Taiwan. Analysis of Landslide distribution and Landslide Dams triggered by the Wenchuan Earthquake, Sichuan(China)
- 2009 – Workshop on Methods of medium scale landslide hazard & risk estimation. Geological survey of India, Kolkata. "Landslide risk assessment"

- 2008 – First World Landslide Forum, UNU headquarters, Tokyo, Jpana. Multi-scale landslide risk assessment; a contribution to the national system of multi-hazard risk in Cuba
- 2008 – International workshop on remote sensing and climate change impacts in mountain regions in Bolzano, Italy, March 2008. Eura, Bolzano, Italy Application of remote sensing for Mountain risk assessment: a case study on multi-scale landslide risk assessment for Cuba
- 2007 – Hongkong, Conference for the 25th anniversary of the Geotechnical Branch of Hongkong. Application of remote sensing for Mountain risk assessment:a case study on multi-scale landslide risk assessment for Cuba
- 2007 – First North American Landslide Conference, Vail, Colorado. Mapping landslides: recent developments in the use of digital spatial information
- 2004 – International Symposium on Landslides, Rio de Janeiro, Brazil. Geo-Information tools, techniques and products applied to Landslide Risk Assessment. An overview of recent developments
- 2003 – Honduras. Taller Mitch mas 5. Fortalecimiento de Capacidades para la Reducción de Desastres Naturales (CBNDR) Plan de Acción Regional Centroamericano (RAPCA)

Research Reviews

- 2016: EU Marie S. Curie Action ITN review
- 2016: Review research proposal Swiss National Science Foundation
- 2016: Czech Research Foundation GACR. Review of proposal
- 2016: French Research Agency (ANR)
- 2015: Hong Kong Research Grants Council. Review of proposals
- 2015: Review research proposal Swiss National Science Foundation
- 2015: Austrian Science Fund (FWF). Proposal evaluation
- 2014: ARRS, Slovenian Research Council. Review of several proposals
- 2014: Österreichischen Geographischen Gesellschaft (ÖGG)
- 2014: Research Grants Council (RGC) of Hong Kong
- 2014: Swiss National Science Foundation (SNSF) Div. Mathematics, Physical and Engineering Sciences
- 2014: National Research Council, Norway. Climate Programme (KLIMAFORSK)
- 2013: BELSPO, Belgium Research Foundation, BRAIN-BE, Thematic axis 2 - Geosystems, universe and climate evaluation of 6 proposals with meeting in Brussels.
- 2013: ARRS, Slovenian Research Council. Review of several proposals
- 2013: Czech Research Foundation GACR. Review of proposal
- 2013: Russian, New Eurasia Foundation acting in the capacity of the operator of the Ministry of education and science of the Russian Federation
- 2013: Hong Kong Research Grants Council. Review of proposals
- 2013: EU Marie Curie - FP7-PEOPLE-2013-IEF-IIF-IOF Evaluation
- 2012: Review research proposal Swiss National Science Foundation
- 2012: Evaluation application for tenure and promotion at the Bowling Green State University, Ohio, USA
- 2012: Evaluation application for tenure track at San Francisco State University, Department of Geography
- 2012: Research Grant Council Hong Kong. Review of several research projects.
- 2012: ARRS, Slovenian Research Council. Review of several proposals
- 2012: University of Leuven, Belgium. Evaluation of the research proposal
- 2012: Review for the Post of Junior Research Scientist (Charge de Recherche) at the French CNRS
- 2011: European Commission. FP7-ENV-2011. Review of Area 6.1.3.4 Multi-risk evaluation and mitigation strategies. ENV.2011.1.3.4-1 Capacity building in natural hazards risks reduction
- 2011: FWO Research Funding, Flanders, Belgium.
- 2011: Evaluation application for tenure and promotion at the University of Waterloo, Ontario, Canada.
- 2011: Country review of SREX report IPCC.
- 2009: Sultanate of Oman. Sultan Qaboos University.
- 2008: European Commission, DG Research – Directorate I.5 (Environment). Final Scientific and Technical Review of research project funded under the sub-priority 1.1.6.3. “Global change and climate change”.
- 2008: DOC-FFORTE. [Frauen in forschung und technologie] University of Vienna. Review of research proposal.
- 2006: Belgian Science Foundation. Stereo-II. Review of proposal.
- 2006: Swiss National Science Foundation..

- 2006: ESF, European Science Foundation. ESF - Research Networking Programme - Call 2006. Review proposal: Volcanic slope stability evaluation (VOSSE)
- 2003 EU FP5 LEWIS project: Landslide Early-Warning Integrated System (EVG1-2001-00067). Project evaluation
- 1998: Review of Curricula at the International Center for Integrated Mountain Development (ICIMOD)

Review of scientific papers for the following Journals

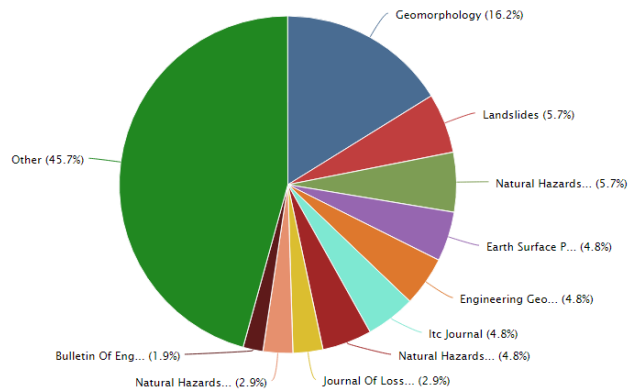
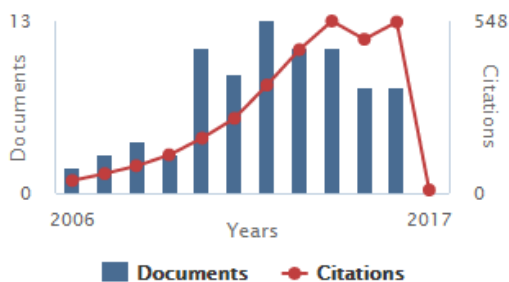
- Advances in Space Research (3)
- African Journal of Environmental Science and Technology (1)
- Arabian Journal of Geosciences (2)
- Bulletin of Engineering Geology and the Environment (4)
- Catena (8)
- Central European Journal of Geosciences (1)
- Computers, Environment and Urban Systems (1)
- Computers & Geosciences (1)
- Conference on Current Trends in Remote Sensing and GIS Applications, 2007. Indian Institute of Technology, Kharagpur, India (3)
- Earth Science Informatics (1)
- Earth-Science Reviews (1)
- Earth Surface Processes and Landforms (6)
- EARSeL Proceedings (1)
- Engineering Geology (>35)
- Environmental Geology (8)
- Environmental Management (1)
- Environmental Monitoring and Assessment (1)
- Geosciences (1)
- Geoinformatica (1)
- Geoinformatics (1)
- Geografiska Annaler: Series A, Geomorphology (2)
- Geomorphology (12)
- Geophysical; Review Letters (1)
- Geotechnical and Geological Engineering (1)
- The 4th International Conference on Information Systems for Crisis Response and Management, 2007 (4)
- IAEG conference
- International Journal of Applied Earth Observation and Geoinformation (8)
- International Journal of Geographical Information Science
- International Journal of Disaster Risk Reduction (5)
- Journal of Maps (3)
- Journal of Mountain Science (5)
- Journal of Earth System Science
- Journal of Environmental Management (2)
- Landscape and Urban Planning
- Landslides (10)
- Natural Hazards (20)
- Natural Hazard and Earth System Sciences (10)
- Physical Geography (3)
- Philippine Journal of Geosciences (1)
- Photogrammetry and Remote Sensing (1)
- Progress in Physical Geography (2)
- Remote Sensing (1)
- Remote Sensing of Environment (3)
- The Geological Society (1)
- The Scientific World Journal (1)

- Transportation Research Part A: Policy and Practice (1)

Awards

- ITC Research award 1993, presented at the ITC Dies Natalis Ceremony held in Enschede December 17, 1993.
- “Richard Wolters” research award 1996, presented by the International Association of Engineering Geologists at the 30th IGC in Beijing, August 1996.

Research indicators



Scopus

Author ID	6701664942
<i>h</i> -index	29
Citations	3280 by 2015 documents
Documents	105

Google Scholar

i10-index	85
<i>h</i> -Index	39
Citations	7566

ISI-Journal Publications

1. Turkington, T.A.R., Remaitre, A., Ettema, J., Hussin, H.Y. and **van Westen, C.J.** (2016) Assessing debris flow activity in a changing climate : open access. In: Climatic change, 137 (2016)1 pp. 293-305. [Full text](#) | [Full text](#)
2. Sengupta, A., Bandyopadhyay, D., Roy, S., **van Westen, C.J.** and van der Veen, A. (2016) Challenges for introducing risk assessment into land use planning decisions in an Indian context. In: Journal of Loss Prevention in the Process Industries, 42 (2016), pp. 14-26. [Full text](#) | [Full text](#)
3. Hussin, H.Y., Zumpano, V., Reichenbach, P., Sterlacchini, S., Micu, M., **van Westen, C.J.** and Balteanu, D. (2016) Different landslide sampling strategies in a grid - based bi - variate statistical susceptibility model. In: Geomorphology, 253 (2016) pp. 508-523. [Full text](#) | [Full text](#)
4. Sengupta, A., Bandyopadhyay, D., **van Westen, C.J.** and van der Veen, A. (2016) An evaluation of risk assessment framework for industrial accidents in India. In: Journal of Loss Prevention in the Process Industries, 41(2016), pp. 295-302. [Full text](#) | [Full text](#)
5. Gaprindashvili, G. and **van Westen, C.J.** (2016) Generation of a national landslide hazard and risk map for the country of Georgia. In: Natural hazards, 80 (2016)1 pp. 69-101. [Full text](#) | [Full text](#)
6. Chen, Lixia., **van Westen, C.J.**, Hussin, H.Y., Ciurean, R.L., Turkington, T.A.R., Chavarro-Rincon, D. and Shrestha, D.P. (2016) Integrating expert opinion with modelling for quantitative multi-hazard risk assessment in the Eastern Italian Alps. In: Geomorphology, 273 (2016) pp. 150-167. [Full text](#) | [Full text](#)
7. Aye, Z.C., Jabodeyoff, M., Derron, M.H., **van Westen, C.J.**, Hussin, H.Y., Ciurean, R.L., Frigerio, S. and Pasuto, A. (2016) An interactive web - GIS tool for risk analysis : a case study in the Fella River basin, Italy. In: Natural hazards and earth system sciences (NHES) : open access, 16 (2016)1 pp. 85-101. [Full text](#) | [Full text](#)
8. Ciurean, R.L., Hussin, H.Y., **van Westen, C.J.**, Jaboyedoff, M., Nicolet, P., Chen, L., Frigerio, S. and Glade, T. (2016) Multi-scale debris flow vulnerability assessment and direct loss estimation of buildings in the Eastern Italian Alps. In: Natural hazards, (2016)IN PRESS29 p. [Full text](#) | [Full text](#)

9. Pellicani, R., Spilotro, G. and **van Westen, C.J.** (2016) Rockfall trajectory modeling combined with heuristic analysis for assessing the rockfall hazard along the Maratea SS18 coastal road (Basilicata, Southern Italy). In: *Landslides : journal of the International Consortium on Landslides*, 13 (2016)5 pp. 985-1003. [Full text](#) | [Full text](#)
10. Yang, W.T., Wang, M., Kerle, N., **van Westen, C.J.**, Liu, Y. and Shi, P.J. (2015) Analysis of changes in post-seismic landslide distribution and its effect on building reconstruction. In: *Natural hazards and earth system sciences (NHES)* : open access, 15 (2015) pp. 817-825. [Full text](#) | [Full text](#)
11. Aye, Z.C., Jaboyedoff, M., Derron, M.H. and **van Westen, C.J.** (2015) Prototype of a web - based participative decision support platform in natural hazards and risk management. In: *ISPRS International Journal of Geo-Information* : open access, 4 (2015)3 pp. 1201-1224. [Full text](#) | [Full text](#)
12. Pellicani, R., **van Westen, C.J.** and Spilotro, G. (2014) Assessing landslide exposure in areas with limited landslide information. In: *Landslides : journal of the International Consortium on Landslides*, 11 (2014)3 pp. 463-480. [Full text](#) | [Full text](#)
13. Zhou, Chunmei, Shao, W. and **van Westen, C.J.** (2014) Comparing two methods to estimate lateral force acting on stabilizing piles for a landslide in the Three Gorges Reservoir, China. In: *Engineering geology*, 173 (2014) pp. 41-53. [Full text](#) | [Full text](#)
14. Turkington, T.A.R., Ettema, J., **van Westen, C.J.** and Breinl, K. (2014) Empirical atmospheric thresholds for debris flows and flash floods in the southern French Alps. In: *Natural hazards and earth system sciences (NHES)* : open access, 14 (2014)6 pp. 1517-1530. [Full text](#) | [Full text](#)
15. Quan Luna, B., Blahut, J., Camera, C., **van Westen, C.J.**, Apuani, T., Jetten, V.G. and Sterlacchini, S. (2014) Physically based dynamic run - out modelling for quantitative debris flow risk assessment : a case study in Tresenda, northern Italy. In: *Environmental earth sciences*, 72 (2014)3 pp. 645-661. [Full text](#) | [Full text](#)
16. Corominas, J., **van Westen, C.J.**, Frattini, P., Cascini, L., Malet, J.-P., Fotopoulou, S., Catani, F., van den Eeckhaut, M., Mavrouli, O., Agliardi, F., Pitolakis, K., Winter, M.G., Pastor, M., Ferlisi, S., Tofani, V., Hervas, J. and Smith, J.T. (2014) Recommendations for the quantitative analysis of landslide risk : open access. In: *Bulletin of engineering geology and the environment IAEG*, 73 (2014)2 pp. 209-263. [Full text](#) | [Full text](#)
17. Gorum, T., Korup, O., **van Westen, C.J.**, van der Meijde, M., Xu, C. and van der Meer, F.D. (2014) Why so few? Landslides triggered by the 2002 Denali earthquake, Alaska. In: *Quaternary Science Reviews*, 95(2014), pp. 80-94. [Full text](#) | [Full text](#)
18. Li, W., Huang, R., Tang, C., Xu, Q. and **van Westen, C.J.** (2013) Co - seismic landslide inventory and susceptibility mapping in the 2008 Wenchuan earthquake disaster area, China. In: *Journal of mountain science*, 10 (2013)3 pp. 339-354. [Full text](#) | [Full text](#)
19. Gorum, T., **van Westen, C.J.**, Korup, O., van der Meijde, M., Fan, X. and van der Meer, F.D. (2013) Complex rupture mechanism and topography control symmetry of mass - wasting pattern, 2010 Haiti earthquake. In: *Geomorphology*, 184 (2013) pp. 127-138. [Full text](#) | [Full text](#)
20. Razak, K.A., Santangelo, M., **van Westen, C.J.**, Straatsma, M.W. and de Jong, S.M. (2013) Generating an optimal DTM from airborne laser scanning data for landslide mapping in a tropical forest environment. In: *Geomorphology*, 190 (2013) pp. 112-125. [Full text](#) | [Full text](#)
21. Martha, T.R., **van Westen, C.J.**, Kerle, N., Jetten, V.G. and Kumar, V. (2013) Landslide hazard and risk assessment using semi - automatically created landslide inventories. In: *Geomorphology*, 184 (2013) pp. 139-150. [Full text](#) | [Full text](#)
22. Jaiswal, P. and **van Westen, C.J.** (2013) Use of quantitative landslide hazard and risk information for local disaster risk reduction along a transportation corridor : a case study from Nilgiri district, India. In: *Natural hazards*, 65 (2013)1 pp. 887-913. [Full text](#) | [Full text](#)
23. Alcaraz Tarragüel, A., Krol, B.G.C.M. and **van Westen, C.J.** (2012) Analysing the possible impact of landslides and avalanches on cultural heritage in Upper Svaneti, Georgia. In: *Journal of cultural heritage*, 13(2012)4, pp. 453-461. [Full text](#) | [Full text](#)
24. Quan Luna, B., Remaitre, A., van Asch, Th.W.J., Malet, J.-P. and **van Westen, C.J.** (2012) Analysis of debris flow behavior with a one dimensional run - out model incorporating entrainment. In: *Engineering geology*, 128 (2012) pp. 63-75. [Full text](#) | [Full text](#)
25. Fan, X., **van Westen, C.J.**, Xu, Q., Gorum, T. and Dai, F. (2012) Analysis of landslide dams induced by the 2008 Wenchuan earthquake. In: *Journal of Asian earth sciences*, 57 (2012) pp. 25-37. [Full text](#) | [Full text](#)

26. Peters-Guarin, G., McCall, M.K. and **van Westen, C.J.** (2012) Coping strategies and risk manageability : using participatory geographical information systems to represent local knowledge. In: *Disasters*, 36 (2012)1 pp. 1-27. [Full text](#) | [Full text](#)
27. Jaiswal, P. and **van Westen, C.J.** (2012) Frequency - size relation of shallow debris slides on cut slopes along a railroad corridor : a case study from Nilgiri hills, Southern India. In: *Natural hazards*, 61 (2012)3 pp. 1263-1275. [Full text](#) | [Full text](#)
28. Ghosh, S., **van Westen, C.J.**, Carranza, E.J.M., Jetten, V.G., Cardinali, M., Rossi, M. and Guzzetti, F. (2012) Generating event - based landslide maps in a data - scarce Himalayan environment for estimating temporal and magnitude probabilities. In: *Engineering geology*, 128 (2012) pp. 49-62. [Full text](#) | [Full text](#)
29. Ghosh, S., **van Westen, C.J.**, Carranza, E.J.M. and Jetten, V.G. (2012) Integrating spatial, temporal and magnitude probabilities for medium - scale landslide risk analysis in Darjeeling Himalayas, India. In: *Landslides : journal of the International Consortium on Landslides*, 9 (2012)3 pp. 371-384. [Full text](#) | [Full text](#)
30. Martha, T.R., Kerle, N., **van Westen, C.J.**, Jetten, V.G. and Kumar, K.V. (2012) Object - oriented analysis of multi - temporal panchromatic images for creation of historical landslide inventories. In: *ISPRS Journal of Photogrammetry and Remote Sensing*, 67 (2012) pp. 105-119. [Full text](#) | [Full text](#)
31. Hussin, H.Y., Quan Luna, B., **van Westen, C.J.**, Christen, M., Malet, J.P. and van Asch, Th.W.J. (2012) Parameterization of a numerical 2-D debris flow model with entrainment : a case study of the Faucon catchment, Southern French Alps. In: *Natural hazards and earth system sciences (NHES)* : open access, 12 (2012)10 pp. 3075-3090. [Full text](#) | [Full text](#)
32. Fan, X., Tang, C.X., **van Westen, C.J.** and Alkema, D. (2012) Simulating dam - breach flood scenarios of the Tangjiashan landslide dam induced by the Wenchuan earthquake. In: *Natural hazards and earth system sciences (NHES)* : open access, 12 (2012)10 pp. 3031-3044. [Full text](#) | [Full text](#)
33. Fan, X., **van Westen, C.J.**, Korup, O., Gorum, T., Xu, Q., Dai, F., Huang, R. and Wang, G. (2012) Transient water and sediment storage of the decaying landslide dams induced by the 2008 Wenchuan earthquake, China. In: *Geomorphology*, 171-172 (2012) pp. 58-68. [Full text](#) | [Full text](#)
34. Razak, K.A., Straatsma, M.W., **van Westen, C.J.** and ... [et al.] (2011) Airborne laser scanning of forested landslides characterization : terrain model quality and visualization. In: *Geomorphology*, 126 (2011)1-2 pp. 186-200. [Full text](#) | [Full text](#)
35. Quan Luna, B., Blahut, J., **van Westen, C.J.** and ... [et al.] (2011) The application of numerical debris flow modelling for the generation of physical vulnerability curves. In: *Natural hazards and earth system sciences (NHES)* : open access, 11 (2011)7 pp. 2047-2060. [Full text](#) | [Full text](#)
36. Gorum, T., Fan, X., **van Westen, C.J.** and ... [et al.] (2011) Distribution pattern of earthquake - induced landslides triggered by the 12 May 2008 Wenchuan earthquake. In: *Geomorphology*, 133 (2011)3-4 pp. 152-167. [Full text](#) | [Full text](#)
37. Melchiorre, C., Castellanos, E.A., **van Westen, C.J.** and ... [et al.] (2011) Evaluation of prediction capability, robustness and sensitivity in non linear landslide susceptibility models, Guantanamo, Cuba. In: *Computers and geosciences*, 37 (2011)4 pp. 410-425. [Full text](#) | [Full text](#)
38. Bièvre, G., Knies, U., Jongmans, D., Pathier, E., Schwartz, S., **van Westen, C.J.** and ... [et al.] (2011) Paleotopographic control of landslides in lacustrine deposits : Trièves plateau, French western Alps. In: *Geomorphology*, 125 (2011)1 pp. 214-224. [Full text](#) | [Full text](#)
39. Jaiswal, P., **van Westen, C.J.** and Jetten, V.G. (2011) Quantitative assessment of landslide hazard along transportation lines using historical records. In: *Landslides : journal of the International Consortium on Landslides*, 8 (2011)3 pp. 279-291. [Full text](#) | [Full text](#)
40. Jaiswal, P., **van Westen, C.J.** and Jetten, V.G. (2011) Quantitative estimation of landslide risk from rapid debris slides on natural slopes in the Nilgiri hills, India. In: *Natural hazards and earth system sciences (NHES)* : open access, 11 (2011)6 pp. 1723-1743. [Full text](#) | [Full text](#)
41. Martha, T.R., Kerle, N., **van Westen, C.J.**, Jetten, V.G. and ... [et al.] (2011) Segment optimization and data - driven thresholding for knowledge - based landslide detection by object - based image analysis. In: *IEEE Transactions on geoscience and remote sensing*, 49 (2011)12 pp. 4928-4943. [Full text](#) | [Full text](#)
42. Ghosh, S., Carranza, E.J.M., **van Westen, C.J.**, Jetten, V.G. and ... [et al.] (2011) Selecting and weighting spatial predictors for empirical modeling of landslide susceptibility in the Darjeeling Himalayas, India. In: *Geomorphology*, 131 (2011)1-2 pp. 35-56. [Full text](#) | [Full text](#)

43. Blahut, J., **van Westen, C.J.** and Sterlacchini, S. (2010) Analysis of landslide inventories for accurate prediction of debris - flow source areas. In: *Geomorphology*, 119 (2010)1-2 pp. 36-51. [Full text](#) | [Full text](#)
44. Martha, T.R., Kerle, N., Jetten, V.G., **van Westen, C.J.** and ... [et al.] (2010) Characterising spectral, spatial and morphometric properties of landslides for semi - automatic detection using object - oriented methods. In: *Geomorphology*, 116 (2010)1-2 pp. 24-36. [Full text](#) | [Full text](#)
45. Martha, T.R., Kerle, N., **van Westen, C.J.**, Jetten, V.G. and Kumar, K.V. (2010) Effect of sun elevation angle on DSMs derived from Cartosat - 1 data. In: *PE&RS = Photogrammetric Engineering and Remote Sensing*, 76 (2010)4 pp. 429-438. [Full text](#)
46. Das, I., Sahoo, S., **van Westen, C.J.**, Stein, A. and Hack, H.R.G.K. (2010) Landslide susceptibility assessment using logistic regression and its comparison with a rock mass classification system along a road section in the northern Himalayas. In: *Geomorphology*, 114 (2010)4 pp. 627-637. [Full text](#) | [Full text](#)
47. Martha, T.R., Kerle, N., Jetten, V.G., **van Westen, C.J.** and Kumar, V. (2010) Landslide volumetric analysis using cartosat - 1 - derived DEMs. In: *IEEE Geoscience and remote sensing letters*, 7 (2010)3 pp. 582-586. [Full text](#) | [Full text](#)
48. Jaiswal, P., **van Westen, C.J.** and Jetten, V.G. (2010) Quantitative assessment of direct and indirect landslide risk along transportation lines in southern India. In: *Natural hazards and earth system sciences (NHESS) : open access*, 10 (2010)6 pp. 1253-1267. [Full text](#) | [Full text](#)
49. Jaiswal, P., **van Westen, C.J.** and Jetten, V.G. (2010) Quantitative landslide hazard assessment along a transportation corridor in southern India. In: *Engineering geology*, 116 (2010)3-4 pp. 236-250. [Full text](#) | [Full text](#)
50. Frigerio, S. and **van Westen, C.J.** (2010) Riskcity and webriskcity : data collection, display and dissemination in a multi - risk training package. In: *Cartography and geographic information science*, 37 (2010)2 pp. 119-135. [Full text](#) | [Full text](#)
51. Ghosh, S., Günther, A., Carranza, E.J.M., **van Westen, C.J.** and Jetten, V.G. (2010) Rock slope instability assessment using spatially distributed structural orientation data in Darjeeling Himalaya, India. In: *Earth surface processes and landforms*, 35 (2010)15 pp. 1773-1792. [Full text](#) | [Full text](#)
52. Jaiswal, P. and **van Westen, C.J.** (2009) Estimating temporal probability for landslide initiation along transportation routes based on rainfall thresholds. In: *Geomorphology*, 12 (2009)1-2 pp. 96-105. [Full text](#) | [Full text](#)
53. Xu, Q., Fan, X., Huang, R.Q. and **van Westen, C.J.** (2009) Landslide dams triggered by the Wenchuan Earthquake, Sichuan Province, South West China. In: *Bulletin of engineering geology and the environment IAEG*, 68 (2009)3 pp. 373-386. [Full text](#) | [Full text](#)
54. Sekhar, L.K., van Beek, L.P.H. and **van Westen, C.J.** (2009) Parameterizing a physically based shallow landslide model in a data poor region. In: *Earth surface processes and landforms*, 34 (2009)6 pp. 867-881. [Full text](#) | [Full text](#)
55. Ghosh, S., **van Westen, C.J.**, Carranza, E.J.M. and ... [et al.] (2009) A quantitative approach for improving the BIS Indian method of medium - scale landslide susceptibility. In: *Journal of the geological society of India*, 74(2009)5, pp. 625-638. [Full text](#)
56. Sekhar, L.K., Jetten, V.G., **van Westen, C.J.**, Sankar, G. and van Beek, L.P.H. (2008) Pore water pressure as a trigger of shallow landslides in the western Ghats of Kerala, India : some preliminary observations from an experimental catchment. In: *Physical geography*, 29 (2008)4 pp. 374-386. [Full text](#)
57. Castellanos Abella, E.A. and **van Westen, C.J.** (2008) Qualitative landslide susceptibility assessment by multicriteria analysis : a case study from San Antonio del Sur, Guantánamo, Cuba. In: *Geomorphology*, 94 (2008)3-4 pp. 453-466. [Full text](#) | [Full text](#)
58. **van Westen, C.J.**, Castellanos Abella, E.A. and Sekhar, L.K. (2008) Spatial data for landslide susceptibility, hazards and vulnerability assessment : an overview. In: *Engineering geology*, 102 (2008)3-4 pp. 112-131. [Full text](#) | [Full text](#)
59. Castellanos Abella, E.A. and **van Westen, C.J.** (2007) Generation of a landslide risk index map for Cuba using spatial multi-criteria evaluation. In: *Landslides : journal of the International Consortium on Landslides*, 4 (2007)4 pp. 311-325. [Full text](#) | [Full text](#)
60. Mahajan, A.K., Sporry, R.J., Champati Ray, P.K., Ranjan R., Slob, S. and **van Westen, C.J.** (2007) Methodology for site - response studies using multi - channel analysis of surface wave technique in Dehradun city. In: *Current Science*, 92(2007)7, pp. 945-955. [Full text](#) | [Full text](#)

61. Mahajan, A.K., Slob, S., Ranjan, R., Sporry, R.J., Champati Rah, P.K. and **van Westen, C.J.** (2007) Seismic microzonation of Dehradun City using geophysical and geotechnical characteristics in the upper 30 m of soil column. In: *Journal of Seismology*, 11 (2007)4 pp. 355-370. [Full text](#) | [Full text](#)
62. **van Westen, C.J.**, van Asch, Th.W.J. and Soeters, R. (2006) Landslide hazard and risk zonation : why is it still so difficult?. In: *Bulletin of engineering geology and the environment IAEG*, 65 (2006)2 pp. 167-184. [Full text](#) | [Full text](#)
63. Singh, L.P., **van Westen, C.J.**, Champati Ray, P.K. and Pasquali, P. (2005) Accuracy assessment of InSAR derived input maps for landslide susceptibility analysis : a case study from the Swiss alps. In: *Landslides : journal of the International Consortium on Landslides*, 2 (2005)3 pp. 221-228. [Full text](#) | [Full text](#)
64. **van Westen, C.J.** and Daag, A.S. (2005) Analysing the relation between rainfall characteristics and lahar activity at Mount Pinatubo, Philippines. In: *Earth surface processes and landforms*, 30 (2005)13 pp. 1663-1674. [Full text](#) | [Full text](#)
65. Delaite, G., Thouret, J.-C., Sheridan, M., Labazuy, P., Stinton, A., Souriot, T. and **van Westen, C.J.** (2005) Assessment of volcanic hazards of El Misti and in the city of Arequipa, Peru, based on GIS and simulations, with emphasis on lahars. In: *Zeitschrift für Geomorphologie = Annals of geomorphology = Annales de Géomorphologie, Suppl.*140 (2005) pp. 209-231. [Full text](#)
66. **van Westen, C.J.** and Lulie Getahun, F. (2003) Analyzing the evolution of the Tessina landslide using aerial photographs and digital elevation models. In: *Geomorphology*, 54 (2003)1-2 pp. 77-89. [Full text](#) | [Full text](#)
67. **van Westen, C.J.**, Rengers, N. and Soeters, R. (2003) Use of geomorphological information in indirect landslide susceptibility assessment. In: *Natural hazards*, 30 (2003)3 pp. 399-419. [Full text](#)
68. **van Westen, C.J.** (2000) The modelling of landslide hazards using GIS. In: *Surveys in geophysics*, 21(2000)2-3, pp. 241-255. [Full text](#) | [Full text](#)
69. **van Westen, C.J.**, Seijmonsbergen, A.C. and Mantovani, F. (1999) Comparing landslide hazard maps. In: *Natural hazards*, 20 (1999)2-3 pp. 137-158. [Full text](#) | [Full text](#)
70. **van Westen, C.J.**, Rengers, N., Terlien, M.T.J. and Soeters, R. (1997) Prediction of the occurrence of slope instability phenomena through GIS based hazard zonation. In: *Geologische Rundschau*, 86(1997)2, pp. 404-414. [Full text](#) | [Full text](#)
71. **van Westen, C.J.** and Terlien, M.T.J. (1996) An approach towards deterministic landslide hazard analysis in GIS : a case study from Manizales, Colombia. In: *Earth surface processes and landforms*, 21 (1996)9 pp. 853-868. [Full text](#)
72. Mantovani, F., Soeters, R. and **van Westen, C.J.** (1996) Remote sensing techniques for landslide studies and hazard zonation in Europe. In: *Geomorphology*, 15 (1996)3-4 pp. 213-225. [Full text](#) | [Full text](#)
73. Rengers, N., Soeters, R. and **van Westen, C.J.** (1992) Remote sensing and GIS applied to mountain hazard mapping. In: *Episodes*, 15(1992)1, pp. 36-46.
74. Rupke, J., Cammeraat, E., Seijmonsbergen, A.C. and **van Westen, C.J.** (1988) Engineering geomorphology of the Widentobel catchment, Appenzell and Sankt Gallen, Switzerland : a geomorphological inventory system applied to geotechnical appraisal of slope stability. In: *Engineering geology*, 26 (1988)1 pp. 33-68. [Full text](#) | [Full text](#)

Other Refereed Journal Articles

1. Godfrey, A., Ciurean, R.L., **van Westen, C.J.**, Kingma, N.C. and Glade, T. (2015) Assessing vulnerability of buildings to hydro-meteorological hazards using an expert based approach : an application in Nehoiu Valley, Romania. In: *International Journal of Disaster Risk Reduction*, 13 (2015) pp. 229-241. [Full text](#) | [Full text](#)
2. **van Westen, C.J.** and Woldai, T. (2012) The RiskCity training package on multi - hazard risk assessment. In: *International Journal of Applied Geospatial Research (IJAGR)*, 3(2012)1, pp. 41-52. [Full text](#)
3. Gen, Y., Maathuis, B.H.P. and **van Westen, C.J.** (2007) Prediction rate of GIS - based models for predicting landslides and its applications. In: *Chinese journal of rock mechanics and engineering*, 26(2007)2, pp. 285-291. [Full text](#)

4. Peters Guarin, G., **van Westen, C.J.** and Montoya, A.L. (2005) Community - based flood risk assessment using GIS for the town of San Sebastian, Guatemala. In: Journal of human security and development, 1(2005)1, pp. 29-49. [Full text](#)
5. Piya, B., **van Westen, C.J.** and Woldai, T. (2004) Geological database for liquefaction hazard analysis in the Kathmandu valley, Nepal. In: Journal of Nepal Geological Society, 30(2004), pp. 141-152.
6. Badilla Coto, E., **van Westen, C.J.** and Kingma, N.C. (2003) Evaluación de la Amenaza y causas de inundación en la ciudad e Turrialba, Costa Rica. In: Revista Geológica de América Central, 28(2003)Junio, pp. 91-108. [Full text](#)
7. Barredo, J., Benavides, A., Hervas, J. and **van Westen, C.J.** (2000) Comparing heuristic landslide hazard assessment techniques using GIS in the Tirajana basin, Gran Canaria Island, Spain. In: International Journal of Applied Earth Observation and Geoinformation : JAG, 2 (2000)1 pp. 9-23. [Full text](#) | [Full text](#)
8. **van Westen, C.J.**, Soeters, R. and Sijmons, K. (2000) Digital geomorphological landslide hazard mapping of the Alpago area, Italy. In: International Journal of Applied Earth Observation and Geoinformation : JAG, 2 (2000)1 pp. 51-60. [Full text](#) | [Full text](#)
9. **van Westen, C.J.** (editor) (2000) Editorial : proceedings of the symposium tools and techniques for risk mapping. In: International Journal of Applied Earth Observation and Geoinformation : JAG, 2 (2000)1 pp. 2. [Full text](#) | [Full text](#)
10. **van Westen, C.J.** and Daag, A. (1998) Estimating erosion on Mount Pinatubo. In: Earth Observation Magazine, 7(1998)2, pp. 18-20. [Full text](#) | [Full text](#)
11. Daag, A. and **van Westen, C.J.** (1996) Cartographic modelling of erosion in pyroclastic flow deposits of Mount Pinatubo, Philippines. In: ITC journal = bulletin de l'ITC, (1996)2 pp. 110-124. [Full text](#)
12. **van Westen, C.J.** (1994) Application of geographic information systems to deterministic landslide hazard zonation. In: Boletín de Vías, universidad nacional de Colombia, Sede Manizales : revista de Vías transportes Geotecnia, 21(1994)79 pp. 11-141.
13. Naranjo, J.L., **van Westen, C.J.** and Soeters, R. (1994) Evaluating the use of training areas in bivariate statistical landslide hazard analysis : a case study in Colombia. In: ITC journal = bulletin de l'ITC, (1994)3 pp. 292-300. [Full text](#)
14. **van Westen, C.J.** (1993) Remote sensing and geographic information systems for geologic hazard mitigation. In: ITC journal = bulletin de l'ITC, (1993)4 pp. 63-71.
15. **van Westen, C.J.** (1993) Remote sensing and geographic information systems for geological hazard mitigation. In: ITC journal = bulletin de l'ITC, (1993)4 pp. 393-399.
16. van Dijke, J.J. and **van Westen, C.J.** (1990) Rockfall hazard : a geomorphologic application of neighbourhood analysis with ILWIS. In: ITC journal = bulletin de l'ITC, (1990)1 pp. 40-44.

Book Chapters

1. Krol, B.G.C.M., Boerboom, L.G.J., Looijen, J.M. and **van Westen, C.J.** (2016) The use of geo-information in Eco-RR : from mapping to decision support. In: Ecosystem-based disaster risk reduction and adaptation in practice / edited by F.G. Renaud, K. Sudmeier-Rieux, M. Estrella and U. Nehren. Cham: Springer International Publishing, 2016. ISBN: 978-3-319-43633-3. (Advances in natural and technological hazards research 42). pp. 161-179.[Full text](#) | [Full text](#)
2. Hussin, H.Y., Ciurean, R., Frigerio, S., Marcato, G., Calligaris, C., Reichenbach, P., **van Westen, C.J.** and Glade, T. (2014) Assessing the effect of mitigation measures on landslide hazard using 2D numerical runout modelling. In: Landslide science for a safer geoenvironment / ed. by K. Sassa, P. Canuti and Y. Yin. Berlin: Springer, 2014. (Methods of landslide studies ; 2) ISBN 978-3-319-05050-8. pp. 679-684.[Full text](#) | [Full text](#)
3. Fan, X., Huang, R., **van Westen, C.J.**, Xu, Q., Havenith, H.B. and Jetten, V.G. (2014) A conceptual event - tree model for coseismic landslide dam hazard assessment. In: Landslide science for a safer geoenvironment : volume 3 : targeted landslides / edited by K. Sassa, P. Canuti and Y. Yin. Cham: Springer International, 2014. ISBN: 978-3-319-04996-0. pp. 605-608.[Full text](#) | [Full text](#)
4. Xu, Chong., Xu, Xiwei., Gorum, T., **van Westen, C.J.** and Fan, X.M. (2014) Did the 2008 Wenchuan earthquake lead to a new volume loss?. In: Landslide science for a safer geoenvironment : volume 3 : targeted landslides / ed by K. Sassa, P. Canuti and Y. Yin. Berlin: Springer International Publishing, 2014. ISBN: 978-3-319-04996-0. pp. 191-1196.[Full text](#) | [Full text](#)
5. Greiving, S., **van Westen, C.J.**, Corominas, J., Glade, T., Malet, J.-P. and Van Asch, Theo. (2014) Introduction : the components of risk governance. In: Mountain risks : from prediction to management and governance / ed by T. van Asch ... [et al]. Dordrecht: Springer Netherlands, 2014. ISBN: 978-94-007-6769-0. (Advances in natural and technological hazards research, 34). pp. 1-27.[Full text](#) | [Full text](#)
6. Sengupta, A., Bandyopadhyay, D., **van Westen, C.J.** and van der Veen, A. (2014) Is a QRA-based method suitable to guide Land Use Planning decisions in India?. In: Safety and reliability : methodology and applications : proceedings of the European safety and reliability conference, ESREL 2014, Wroclaw, Poland, 14-18 September 2014 / edited by T. Nowakowski et al. Boca Raton: CRC Press, 2014. ISBN: 978-1-315-73697-6. pp. 1401-1409.[Full text](#)
7. **van Westen, C.J.**, Kappes, M.S., Quan Luna, B., Frigerio, S., Glade, T. and Malet, J.-P. (2014) Medium - scale multi - hazard risk assessment of gravitational processes. In: Mountain risks : from prediction to management and governance / ed by T. van Asch ... [et al]. Dordrecht: Springer Netherlands, 2014. ISBN: 978-94-007-6769-0. (Advances in natural and technological hazards research, 34). pp. 201-231.[Full text](#) | [Full text](#)
8. **van Westen, C.J.**, Ghosh, S., Jaiswal, P., Martha, T.R. and Kuriakose, S.L. (2013) From landslide inventories to landslide risk assessment : an attempt to support methodological development in India. In: Landslide science and practice : volume 1 : Landslide inventory and susceptibility and hazard zoning / ed by C. Margottini, P. Canuti and K. Sassa. Berlin: Springer, 2013. ISBN: 978-3-642-31325-7. pp. 3-20.[Full text](#) | [Full text](#)
9. **van Westen, C.J.** (2013) Remote Sensing and GIS for Natural Hazards Assessment and Disaster Risk Management. In: Treatise on Geomorphology / ed. by John F. Schroder and M.P. Bishop. San Diego, Academic Press, Elsevier, 2013 (Remote Sensing and GIScience in Geomorphology Vol. 3) ISBN 978-0-12-374739-6, pp. 259-298.[Full text](#)
10. Fan, X., **van Westen, C.J.**, Xu, Q., Gorum, T., Dai, F., Wang, G. and Huang, R. (2013) Spatial distribution of landslide dams triggered by the 2008 Wenchuan earthquake. In: Landslide science and practice : volume 5 : complex environment / edited by C. Margottini, P. Canuti and K. Sassa. Berlin: Springer-Verlag, 2013. ISBN: 978-3-642-31427-8. pp. 279-285.[Full text](#) | [Full text](#)
11. Wu, D., Georgiadou, P.Y. (contributor) , Kapur Keeble, O. (contributor) , Bennett, R.M. (contributor) , Brussel, M.J.G. (contributor) , Lance, K.T. (contributor) , Noort, H.C.P. (contributor) , Sliuzas, R.V. (contributor) , Verplanke, J.J. (contributor) , **van Westen, C.J.**(contributor) and ... [et al.] (2012) Geospatial Science and technology for development : with a focus on urban development, land administration and disaster risk management. New York, Geneva, United Nations Conference on Trade and Development (UNCTAD), 2012. UNCTAD current studies on science, technology and innovation 6, [Full text](#) | [Full text](#)

12. **van Westen, C.J.**, Jaiswal, P., Ghosh, S., Martha, T.R. and Kuriakose, S.L. (2012) Landslide inventory, hazard and risk assessment in India. In: Terrigenous mass movements : detection modelling, early warning and mitigation using geoinformation technology / ed. by B. Pradhan and M. Buchroithner. Berlin: Springer, 2012. ISBN 978-3-642-25495-6 pp. 239-282. [Full text](#) | [Full text](#)
13. **van Westen, C.J.** (2012) Landslide risk assessments for decision - making. In: Proceedings of the 2012 Understanding Risk Forum : Best Practices in Disaster Risk Assessment, 2-6 July 2012, Cape Town, South Africa. Washington, D.C.: The World Bank, 2012. pp. 67-71. [Full text](#) | [Full text](#)
14. **van Westen, C.J.** (2010) GIS for the assessment of risk from geomorphological hazards. In: Geomorphological hazards and disaster prevention / ed. by I. Alcantara-Ayala and A. Goudie. Cambridge : Cambridge University Press, 2010. ISBN 978-0-52176925-9 pp. 205-219. [Full text](#)
15. Vargas Franco, R.D., Thouret, J.-C., Delaite, G., **van Westen, C.J.**, Sheridan, M.F., Siebe, C., Marino, J., Souriot, T. and Stinton, A. (2010) Mapping and assessing volcanic and flood hazards and risks, with emphasis on lahars, in Arequipa, Peru. In: Stratigraphy and geology of volcanic areas. / ed. by G. GropPELLI and L. Viereck-Goette. Boulder: Geological Society of America, 2010. ISBN 978-0-8137-246-5 (Geological Society of America Special Paper 464) , 2010, pp. 267-282. [Full text](#)
16. Castellanos Abella, E.A. and **van Westen, C.J.** (2008) Spatial landslide risk assessment in Guantánamo Province, Cuba. In: Landslides and engineered slopes, from the past to the future : proceedings of the 10th international symposium on landslides and engineered slopes ISL, 30 June - 4 July 2008, Xian, China. / ed. by Z. Chen ...[et al.] London : Taylor & Francis, 2008. ISBN 978-0-415-411-97-7. pp. 1879-1885. [Full text](#)
17. Castellanos Abella, E.A. and **van Westen, C.J.** (2005) Development of a system for landslide risk assessment for Cuba. In: Proceedings of the international conference on landslide risk management, 31 May - 3 June, 2005 Vancouver. / ed. by O. Hungr, R. Fell, R. Couture and E. Eberhardt. London: Balkema, 2005. ISBN 04 1538 043. pp. 1-10. [Full text](#)
18. **van Westen, C.J.**, Kumar Piya, B. and Guragain, J. (2005) Geo - information for urban risk assessment in developing countries : the SLARIM project. In: Geo-information for disaster management GI4DM : proceedings of the 1st international symposium on geo-information for disaster management : Delft, The Netherlands, 21-23 March 2005. / ed. by P.J.M. van Oosterom, S. Zlatanova, M. Elfriede. Berlin etc. : Springer, 2005. ISBN: 978-3-540-24988-7. pp. 379-392. [Full text](#)
19. **van Westen, C.J.** (2004) Geo - information tools for landslide risk assessment : an overview of recent developments. In: Landslides : evaluation and stabilization - glissement de terrain: Evaluation et Stabilisation : proceedings of the 9th international symposium on landslides, June 28 -July 2, 2004 Rio de Janeiro, Brazil / ed. by W. Lacerda, M. Erlich, S.A.B. Fontoura and A.S.F. Sayao. London : Balkema, 2004. ISBN: 978-0-415-35665-7. pp. 39-56. [Full text](#)
20. **van Westen, C.J.** (2002) Remote sensing and geographic information systems for natural disaster management. In: Environmental modelling with GIS and remote sensing / A. Skidmore (ed.). London etc. : Taylor & Francis, 2002. ISBN 0-415-24170-7 pp. 200-226. [Full text](#)
21. Soeters, R. and **van Westen, C.J.** (1996) Slope instability recognition, analysis, and zonation. In: Landslides, investigation and mitigation / ed. by A.K. Turner and R.L. Schuster. Washington, D.C. National Academy Press, 1996. ISBN 0-309-06151-2. (Transportation Research Board, National Research Council, Special Report ; 247) pp. 129 - 177. [Full text](#)
22. Terlien, M.T.J., **van Westen, C.J.** and van Asch, Th.W.J. (1995) Deterministic modelling in GIS - based landslide hazard assessment. In: Geographical information systems in assessing natural hazards: selected contributions from the international workshop held in Perugia on September 20-22 1993 / ed. by A. Carrara and F. Guzzetti. Dordrecht : Kluwer Academic, 1995. ISBN 0-7923-3502-3 (Advances in natural and technological hazards research ; 5) pp. 57-77.
23. Chang-Jo F. Chung, Fabbri, A.G. and **van Westen, C.J.** (1995) Multivariate regression analysis for landslide hazard zonation. In: Geographical information systems in assessing natural hazards selected contributions from an international workshop held in Perugia on September 20-22, 1993. / ed. by A. Carrara and F. Guzzetti. Dordrecht : Kluwer Academic, 1995. 0-7923-3502-3 (Advances in natural and technological hazards research ; 5) pp. 107-133.
24. **van Westen, C.J.** (1994) GIS in landslide hazard zonation : a review, with examples from the Andes of Colombia. In: Mountain environments & geographic information systems / ed. by M.F. Price and D.I. Heywood. London :Taylor and Francis, 1994. ISBN 0-7484-0088-5 pp. 135-166. [Full text](#)

Monographs, edited books

1. **van Westen, C.J.**, Straatsma, M.W., Turdukulov, U.D., Feringa, W.F., Sijmons, K., Bakhtadze, K., Janelidze, T., Kheladze, N. and ... [et al.] (2012) Atlas of natural hazards and risks of Georgia : e-book. Tbilisi, Caucasus Environmental NGO Network (CENN), University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2012. ISBN: 978-9941-0-4310-9. [Full text](#) | [Full text](#)

Conference proceedings

1. Razak, K.A., **van Westen, C.J.**, Straatsma, M.W. and ... [et al.] (2011) Mapping of elements at risk for landslides in the tropics using airborne laser scanning. In: FIG working week 2011 : bridging the gap between cultures : technical programme and proceedings, Marrakech, Morocco, 18-22 May 2011. 16 p. [Full text](#) | [Full text](#)
2. **van Westen, C.J.** (2011) Spatial information for analyzing changing hydro - meteorological risk. In: Remote sensing, natural hazards and environmental change, 28-29 July 2011, Singapore, Japan : conference proceedings / J.-C. Thouret, , S.C. Liew, , A. Gupta. - Clermont-Ferrand : Presses Universitaires Blaise Pascal, 2011. - 96 p. ; 30 cm. ISBN 978-2-84516-554-0. pp. 73-76. [Full text](#)
3. **van Westen, C.J.**, Quan Luna, B., Vargas Franco, R.D. and ... [et al.] (2010) Development of training materials on the use of geo - information for multi - hazard risk assessment in a mountainous environment. In: Mountain risks : bringing science to society : proceedings of the Mountain Risks International Conference, Firenze, Italy, 24-26 November 2010 / ed. by J.-P. Malet, T. Glade and N. Casagli. - Strasbourg : CERIG, 2010. ISBN 2-95183317-1-5. pp. 469-475. [Full text](#)
4. Quan Luna, B., **van Westen, C.J.** and ... [et al.] (2010) From deterministic hazard modelling to risk and loss estimation. In: Mountain risks : bringing science to society : proceedings of the Mountain Risks International Conference, Firenze, Italy, 24-26 November 2010 / ed. by J.-P. Malet, T. Glade and N. Casagli. - Strasbourg : CERIG, 2010. ISBN 2-95183317-1-5. pp. 373-380. [Full text](#)
5. Quan Luna, B., **van Westen, C.J.**, Jetten, V.G. and ... [et al.] (2010) A preliminary compilation of calibrated rheological parameters used in dynamic simulations of landslide run - out. In: Mountain risks : bringing science to society : proceedings of the Mountain Risks International Conference, Firenze, Italy, 24-26 November 2010 / ed. by J.-P. Malet, T. Glade and N. Casagli. - Strasbourg : CERIG, 2010. ISBN 2-95183317-1-5. pp. 255-260. [Full text](#)
6. Kundalia, S., **van Westen, C.J.** and Champatiray, P.K. (2009) Establishing precipitation thresholds for landslide initiation in the upper catchment of Alaknanda river, Uttarakhand, India. In: EOGC 2009 : Proceedings of the 2nd international conference on earth observation for global changes, May 25-29, 2009, Chengdu, Sichuan, China / ed. by. Qingxi Tong and Deren Li. Beijing ; Peking University, 2009. pp. 1417-1431. [Full text](#)
7. Ghosh, S., **van Westen, C.J.**, Carranza, E.J.M. and Jetten, V.G. (2009) Generation of event - based landslide inventory maps in a data - scarce environment : case study around Kurseong, Darjeeling district, West Bengal, India. In: Landslide processes : from geomorphologic mapping to dynamic modelling : proceedings of the landslide processes conference, Strasbourg, France, 6-7 february 2009. / ed. by J.P. Malet, A. Remaitre and T. Bogaard - Strasbourg : European Centre on Geomorphological Hazards (CERIG), 2009. - ISBN 2-95183317-1-4 pp. 37-44. [Full text](#)
8. **van Westen, C.J.** and Jaiswal, P. (2009) Landslide hazard and risk assessment along a transportation corridor in India. In: VII Simposio Nacional sobre taludes y laderas inestables : 25 anos, 27-30 October, Barcelona, Spain. Barcelona : Centre Internacional de Metodes Numerics en Enginyeria (CIMNE) 2009, pp. 127-138. [Full text](#)
9. Jaiswal, P. and **van Westen, C.J.** (2009) Rainfall - based temporal probability for landslide initiation along transportation routes in Southern India. In: Landslide processes : from geomorphologic mapping to dynamic modelling : proceedings of the landslide processes conference, Strasbourg, France, 6-7 february 2009. / ed. by J.P. Malet, A. Remaitre and T. Bogaard - Strasbourg : European Centre on Geomorphological Hazards (CERIG), 2009. - ISBN 2-95183317-1-4 pp. 139-143. [Full text](#)
10. Martelli, K., Thouret, J.-C., **van Westen, C.J.** and ... [et al.] (2008) Estimating building and infrastructure vulnerability in the city of Arequipa, Peru, from volcanic mass flows : a challenge : extended abstract. In: Geodynamique andine : Andean geodynamics : Geodinamica andina : 7th international symposium

- on andean geodynamics : resumes etendus : extended abstracts : resumenes ampliados, 2-4 septembre 2008, Nice, France. Paris : Institut de Recherche pour le Development (IRD), 2008. ISBN 978-2-7009-1643-1. pp. 315-318.[Full text](#) | [Full text](#)
11. **van Westen, C.J.** and Castellanos Abella, E.A. (2008) Multi - scale landslide risk assessment : a contribution to the national system of multi - hazard risk in Cuba. In: Proceedings of the First world landslide forum, 18-21 November 2008, Tokyo, Japan : parallel sessions volume. Tokyo : United Nations University Press, 2008. pp. 669-671.[Full text](#)
 12. **van Westen, C.J.** (2008) RiskCity : a training package on the use of GIS for urban multi - hazard risk assessment. In: Proceedings of the First world landslide forum, 18-21 November 2008, Tokyo, Japan : parallel sessions volume. Tokyo : United Nations University Press, 2008. pp. 665-668.[Full text](#)
 13. Chakraborty, S., Das, I.C. and **van Westen, C.J.** (2008) Temporal landslide hazard analysis based on a historic approach along a road corridor, using high resolution panchromatic & multispectral data within a GIS environment : a case study from Uttarakhand India. In: ACRS 2008 : proceedings of the 29th Asian Conference on Remote Sensing, 10-14 November 2008, Colombo, Sri Lanka. Colombo : Survey Department of Sri Lanka, Asian Association on Remote sensing, 2008. 7 p.[Full text](#) | [Full text](#)
 14. **van Westen, C.J.** and Castellanos Abella, E.A. (2007) Development of a method for multi - scale landslide risk assessment in Cuba. In: Proceedings of the 2007 international forum on landslide disaster management : 10-12 December 2007, Hong Kong : Volumes I and II / editor K. Ho, V. Li. - Hong Kong : The Hong Kong institute of engineers, 2007. pp. 717-745.[Full text](#)
 15. **van Westen, C.J.** (2007) Mapping landslides : recent developments in the use of digital spatial information : keynote. In: Landslides and society : keynote and invited presentations of the 1st North American landslide conference : landslides and society, integrated science, engineering, management, and mitigation Vail, Colorado June 3-8, 2007. / ed. by A.K. Turner and R.L. Schuster. Madison : Omnipress, 2007. ISBN 978-0-9754295-2-5 (AEG special publication ; 22), pp. 221-238.[Full text](#)
 16. Woldai, T., **van Westen, C.J.** and Bamutaze Yazidhi (2006) Building African capacity for disaster risk reduction through networking, the case of Unedra. In: AARSE 2006 : Proceeding of the 6th AARSE international conference on earth observation and geoinformation sciences in support of Africa's development, 30 October - 2 November 2006, Cairo, Egypt. Cairo : The National Authority for Remote Sensing and Space Science (NARSS), 2006. ISBN 1-920-01710-0. 5 p.[Full text](#)
 17. Sekhar, L.K., **van Westen, C.J.**, Lakhera, R.C., van Beek, L.P.H., Sankar, G., Alkema, D. and ... [et al.] (2006) Effect of vegetation on debris flow initiation : conceptualization and parameterization of a dynamic model for debris flow initiation in Tikovil river basin, Kerala, India, using PCRaster. In: Proceedings of the 2nd international symposium on Geo-Information for disaster management Gi4DM : remote sensing and GIS techniques for monitoring and prediction of disasters, 25-26 September, 2006, Goa, India. 6 p.[Full text](#)
 18. Beerens, S.J.J., **van Westen, C.J.** (contributor) , Georgiadou, P.Y. (contributor) and van der Meijde, M. (contributor) (2006) Facing disasters with geo-information and earth observation : the UNU - ITC programme for disaster geo-information management : keynote. In: Proceedings of ICAST 2006 : 17th International conference on advances in space technologies, 2-3 September 2006 Islamabad, Pakistan. IEEE, 2006. ISBN: 978-1-42440-514-5. pp. 206-211.[Full text](#) | [Full text](#)
 19. Piya, B., **van Westen, C.J.** and Woldai, T. (2006) Generation of geological database for liquefaction hazard analysis in Kathmandu Valley, Nepal. In: Proceedings of the international symposium on geo disasters, infrastructure management and protection of world heritage sites : 25-26 November 2006, Kathmandu. Kathmandu : Nepal Engineering College, 2006. pp. 9-25.[Full text](#)
 20. Khatsu, P. and **van Westen, C.J.** (2005) Urban multi - hazard risk analysis using GIS and remote sensing : a case study from Kohima town, Nagaland India. In: ACRS 2005 : proceedings of the 26th Asian conference on remote sensing, ACRS 2005, 7-11 November 2005, Hanoi, Vietnam. Hanoi : 26th Asian Conference on Remote Sensing and 2nd Asian Space Conference, volume 1. ISBN: 978-1-60423-751-1. pp. 603-611.[Full text](#) | [Full text](#)
 21. **van Westen, C.J.** (2004) Geoinformation science and earth observation for municipal risk management : the SLARIM project + powerpoint. In: Proceedings of the 9th international seminar on GIS : emergency and disaster response with GIS, 8-9 September 2004, Seoul, Korea / ed. by Kyu-Bang Lee. Korea. Korea Research Institute for Human Settlements. pp. 91-120. Powerpoint published in: Proceeding of the 9th international seminar on GIS : emergency and disaster response with GIS, 8-9 September 2004, Seoul, Korea - PRESENTATIONS / ed. by Kyu-Bang Lee. Korea. Korea Research Institute for Human Settlements. pp. 153-177.[Full text](#) | [Full text](#)

22. Paganini, M., Palazzo, F., Arno, O., Manunta, P., Ferretti, A., Gontier, E., Wunderle, S., Pasquali, P., Strozzi, T., Zilger, J. and **van Westen, C.J.** (2003) SLAM, the development of an EO service to support the legal obligations of Swiss and Italian geological risk services in landslide risk forecasting and prevention. In: IGARSS 2003 : Proceedings of the IEEE international geoscience and remote sensing symposium : Learning from earth's shapes and colours, 21-25 July 2003, Toulouse, France, ISBN 0-7803-7929-2. pp. 2422 - 2424. [Full text](#) | [Full text](#)
23. **van Westen, C.J.**, Montoya, A.L., Boerboom, L.G.J. and Badilla Coto, E. (2002) Multi - hazard risk assessment using GIS in urban areas : a case study for the city of Turrialba, Costa Rica. In: Proceedings of the regional workshop on best practices in disaster mitigation : lessons learned from the Asian urban disaster mitigation program and other initiatives, 24-26 September 2002, Bali, Indonesia. pp. 120-136. [Full text](#)
24. Castellanos Abella, E.A. and **van Westen, C.J.** (2001) Geomorphology and geology of San Antoni del Sur, Guantanamo, Cuba : its contribution in producing landslides. In: Proceedings of GEOMIN 2001 : Geologia y Minería 2001 : memorias trabajos y resúmenes : La Habana 19 y 23 marzo 2001. pp. 84-93. [Full text](#)
25. Castellanos Abella, E.A. and **van Westen, C.J.** (2001) Landslide hazard assessment using the heuristic model. In: Proceedings of GEOMIN 2001 : Geologia y Minería 2001 : memorias trabajos y resúmenes : La Habana 19 y 23 marzo 2001. pp. 10-20. [Full text](#)
26. **van Westen, C.J.** and Hofstee, P. (2001) The role of remote sensing and GIS in risk mapping and damage assessment for disaster in urban areas. In: Second Forum catastrophe mitigation : natural disasters, impact, mitigation, tools. 24-26 September 2001, Leipzig. 8 p.
27. **van Westen, C.J.** and Georgiadou, P.Y. (2001) Spatial data requirements and infrastructure for geologic risk assessment. In: Proceedings workshop on natural disaster management, ISPRS Technical Committee VII, Ahmedabad, India. 15 p.
28. **van Westen, C.J.** (2000) Remote sensing for natural disaster management. In: ISPRS 2000 congress : geoinformation for all : Amsterdam, the Netherlands, 16-23 July, 2000. pp. 1700-1707. [Full text](#)
29. Rengers, N. and **van Westen, C.J.** (1996) Application of satellite remote sensing for natural disaster reduction in developing countries. In: Conf. on the application of remotely sensed data and GIS in environmental and natural resources assessment in Africa, Harare, Zimbabwe, March 15-22, 1996, pp 170-176.
30. Rengers, N. and **van Westen, C.J.** (1994) Application of satellite remote sensing for natural disaster reduction in developing countries. In: Proceedings : IDNDR : world conference on natural disaster reduction, Yokohama, Japan, 23-27 May 1994 : technical committee session C : the effects of disasters on modern societies, pp. 39-44.
31. **van Westen, C.J.**, Rengers, N., Soeters, R. and Terlien, M.T.J. (1994) An engineering geological GIS data base for mountainous terrain = Une base de données SIG de géologie de l'ingénieur pour des terrains montagneux. In: Proceedings 7th international congress International Association of Engineering Geology (IAEG) : 5-9 September 1994, Lisboa, Portugal, pp. 4467-4475.
32. **van Westen, C.J.**, Soeters, R. and Rengers, N. (1994) GISSIZ : training package for the use of Geographical Information Systems in slope instability zonation. In: Proceedings of the 10th ERIM thematic conference on geologic remote sensing, San Antonio, Texas, 9-12 May 1994, 12 p.
33. Soeters, R. and **van Westen, C.J.** (1994) Slope instability : the role of remote sensing and GIS in recognition, analysis and zonation. In: Proceedings of seminar for decision makers on applications of remote sensing and geo information systems, 12-16 December 1994, Langkawi, Malaysia, pp. 97-108.
34. Soeters, R. and **van Westen, C.J.** (1994) Slope instability : the role of remote sensing and GIS in recognition, analysis and zonation. In: Natural hazards and remote sensing : proceedings of a conference on natural hazard assessment and mitigation : the unique role of remote sensing : The Royal Society, London, 8-9 March 1994 / ed. by G. Wadge, pp. 44-50.
35. **van Westen, C.J.** (1994) Einsatz von geographischen Informationssystemen bei der Kartierung natürlicher Risikogebiete. In: Beiträge zur kartographischen Informationsverarbeitung : Umweltinformation und Karte : Sonderband zum 43. Deutschen Kartographentag Trier, May 1994, pp. 291-301.
36. Soeters, R., **van Westen, C.J.** and Rengers, N. (1993) Mountain hazard mapping making use of remote sensing and Geographic Information Systems. In: Proceedings of the 25th international symposium on remote sensing and global environmental change : 4-8 April 1993, Graz, Austria : Vol. I tools for sustainable development, pp. I-54-I-65.

37. van Asch, Th.W.J., **van Westen, C.J.**, Blijenberg, H. and Terlien, M.T.J. (1992) Quantitative landslide hazard analyses in volcanic ashes of the Chinchina area, Colombia. In: Proceedings 1er simposio internacional sobre sensores remotos y sistemas de informacion geografica para el estudio de riesgos naturales, Bogotá, Colombia, 10-12 March 1992, pp. 433-443.
38. **van Westen, C.J.** (1992) Scale related GIS techniques in the analysis of landslide hazard. In: Proceedings 1er simposio internacional sobre sensores remotos y sistemas de informacion geografica (SIG) para el estudio de riesgos naturales, Bogotá, Colombia, (1992), pp. 484-498.
39. Soeters, R., Rengers, N. and **van Westen, C.J.** (1991) Remote sensing and geographical information systems as applied to mountain hazard analysis and environmental monitoring. In: Proceedings of the 8th thematic conference on geologic remote sensing : April 29 - May 2 1991, Dever, USA : Vol. II, pp. 1389-1402.
40. **van Westen, C.J.** (1990) A medium scale landslides hazard analysis using a PC - based GIS : a case study from Chinchina, Colombia. In: Proceedings 1er simposio internacional sobre sensores remotos y sistemas de informacion geografica (SIG) para el estudio de riesgos naturales, Bogotá, Colombia : Vol. 2, 15 p.
41. **van Westen, C.J.** and Alzate Bonilla, J.B. (1990) Mountain hazard analysis using a PC based GIS. In: Proceedings 6th international congress International Association of Engineering Geology (IAEG) : 6-10 August 1990, Amsterdam, The Netherlands / ed. by D.G. Price, pp. 265-271.
42. **van Westen, C.J.** (1989) Proyecto ITC - UNESCO sobre analisis de Riesgos en Montanas utilizando SIG = ITC - UNESCO project on GIS for mountain hazard analysis. In: 1st southamerican symposium of landslides : Paipa, Colombia, August 7-10 1989 : Vol. 1, pp. 214-224.

Scientific and Professional Publications

1. **van Westen, C.J.** (2016) National scale landslide susceptibility assessment for Dominica : e-book. Washington, D.C., The World Bank, Latin America and Caribbean (LAC), ACP-EU Natural Disaster Risk Reduction Program, 2016. Caribbean Handbook on Risk Information Management (CHARIM) , [Full text](#) | [Full text](#)
2. Bandyopadhyay, D., Paul, N., Sengupta, A., **van Westen, C.J.** and van der Veen, A. (2013) Bridging industrial risk management deficits in India using a Geo - ICT based tool. In: Disaster management and risk reduction : role of environmental knowledge / ed by A.K. Gupta et al. New Delhi: Narosa, 2013. ISBN 978-81-8487-251-4. pp. 99-110. [Full text](#)
3. **van Westen, C.J.** and Damen, M.C.J. (2013) Training package on national scale multi - hazard risk assessment : exercise book : e-book. Kiev, PPRD-EAST, 2013. [Full text](#)
4. **van Westen, C.J.**, Damen, M.C.J. and Feringa, W.F. (2013) Training package on national scale multi - hazard risk assessment : theory book : e-book. Kiev, PPRD-EAST, 2013. [Full text](#)
5. van der Meer, F.D., van der Meijde, M. and **van Westen, C.J.** (2013) Understanding earthquake triggered landslides : a PhD dissertation by Tolga Görüm. In: GRSG newsletter : Geological Society of London, Geological Remote Sensing Group : partly open access, (2013)68 pp. 32-36. [Full text](#)
6. **van Westen, C.J.** (2012) Remote sensing and GIS for natural hazards assessment and disaster risk management. In: Application of space technology for disaster risk reduction : international training course lecture notes : april 2012, Dehradun, India. - Dehradun : Indian Institute of Remote Sensing (IIRS) : Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), 2012. - 432 p. ; 25 cm pp. 307-375. [Full text](#)
7. Sengupta, A., Bandyopadhyay, D., **van Westen, C.J.** and van der Veen, A. (2011) Adapting a quantitative risk assessment based method to guide land use planning decisions in India. Enschede, ITC, 2011. ITC Working papers series 8, ISBN: 978-90-6164-319-7. [Full text](#)
8. Bandyopadhyay, D., Sengupta, A., **van Westen, C.J.** and van der Veen, A. (2011) Bridging risk management deficits in India using a geo - ICT based tool. Enschede, ITC, 2011. ITC Working papers series 7, ISBN: 978-90-6164-318-0. [Full text](#)
9. Navarra, D.D., **van Westen, C.J.**, van der Veen, A., Parodi, G.N., Boerboom, L.G.J., Merchand, M., Nekhai, O., Arriaza, M., de Bruijn, K.M., Mens, M.P.J., Slinger, J.H., Cuppen, M.E., Krywkow, J., Leenders, J.K., Wagemaker, J., Roelevink, A. and Rientjes, T.H.M. (2011) Innovation, risk and governance : case studies on innovative approaches to EGovernance and risk management. Edizioni Fotograf, 2011. ISBN: 978-88-95272-99-3.

10. de By, R.A. (editor) , de By, R.A., Georgiadou, P.Y., Knippers, R.A., Kraak, M.J., Sun, Y., Weir, M.J.C. and **van Westen, C.J.** (2011) Principles of geographic information systems : an introductory textbook : translated into Mongolian. Enschede, ITC, 2011. ITC Educational Textbook Series 1, ISBN: 978-99962-1-270-3.
11. Frigerio, S. and **van Westen, C.J.** (2011) RiskCity and WebRiskCity : educating responders and the public about risk management. In: ACSM Bulletin, (2011)249 pp. 19-20. [Full text](#) | [Full text](#)
12. **van Westen, C.J.** (editor) (2010) Multi - hazard risk assessment : RiskCity : distance education. Enschede, ITC, 2010.
13. Peters Guarin, G., McCall, M.K. and **van Westen, C.J.** (2009) Coping strategies and manageability : how participatory geographical information systems can transform local knowledge into better policies for disaster risk management. Benfield, UCL Hazard Research Centre, 2009. Disaster Studies Working paper 22, [Full text](#)
14. Brussel, M.J.G., Chambi Echegaray, G., Feringa, W.F., Morales, J.M., Sijmons, K., Knippers, R.A., Turkstra, J., de Meijere, J.C., Krol, B.G.C.M., **van Westen, C.J.**, Rossiter, D.G. and Strobl, R.O. (2008) Atlas ambiental de Lima : Peru. Lima, Gráfica Biblos, 2008.
15. **van Westen, C.J.** (2008) GIS for urban multi - hazard risk assessment : the RiskCity training package. In: European geologist, (2008)26, pp. 5-7,9.[Full text](#)
16. **van Westen, C.J.** (2008) Seismic loss estimation for Lalitpur, Nepal. In: Technology application for earthquake disaster management / ed. by Subir Ghosh. Hyderabad : The Icfai University Press, 2008. ISBN 978-81-314-1738-6. pp. 191-199.[Full text](#)
17. **van Westen, C.J.** and Vargas Franco, R.D. (2005) Capacity building for natural disaster reduction CBNDR : Regional action program for central America RAPCA. Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC), ITC, UNESCO, Delft University of Technology (TUD), 2005. Capacity Building for Natural Disaster Reduction (CBNDR) : Regional Action Program for Central America (RAPCA) , [Full text](#)
18. **van Westen, C.J.** (2005) Seismic loss estimation for Lalitpur, Nepal. In: GIS development weekly, 1(2005)16, 5 p.[Full text](#)
19. **van Westen, C.J.** (editor) and Vargas Franco, R.D. (editor) (2004) GIS case studies : the use of geographic information systems for the assessment of natural hazards, vulnerability and risk in central America. Enschede, Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC), UNESCO, ITC, Delft University of Technology (TUD), 2004.
20. de By, R.A. (editor) , de By, R.A., Georgiadou, P.Y., Knippers, R.A., Kraak, M.J., Sun, Y., Weir, M.J.C. and **van Westen, C.J.** (2004) Principles of geographic information systems : an introductory textbook. Enschede, ITC, 2004. ITC Educational Textbook Series 1, ISBN: 90-6164-226-4.
21. de By, R.A. (editor) , de By, R.A., Knippers, R.A., Sun, Y., Ellis, M.C., Kraak, M.J., Weir, M.J.C., Georgiadou, P.Y., Radwan, M.M., **van Westen, C.J.**, Kainz, W. and Sides, E.J. (2004) Principles of geographic information systems : an introductory textbook : translated into Korean. Enschede, ITC, 2004. ITC Educational Textbook Series 1, ISBN: 89-953256-2-3.
22. Climent, A., Salgado, D., Slob, S. and **van Westen, C.J.** (2003) Amenaza sísmica y vulnerabilidad física en la ciudad de cañas, Guanacaste, Costa Rica. Enschede, ITC, 2003. Capacity Building for Natural Disaster Reduction (CBNDR) : Regional Action Program for Central America (RAPCA) ,
23. **van Westen, C.J.**, Sijmons, K., Wijnker, L. and Nieuwenhuis, J. (2003) Analisis de riesgo por inundaciones y deslizamientos de tierra en la microcuenca del arenal de Montserrat, El Salvador. Enschede, ITC, 2003. Capacity Building for Natural Disaster Reduction (CBNDR) : Regional Action Program for Central America (RAPCA) ,
24. **van Westen, C.J.**, Montoya, A.L. and Vargas Franco, R.D. (2003) Aplicación de SIG para la evaluación de amenazas y riesgos : Tegucigalpa, Honduras. Enschede, ITC, 2003. Capacity Building for Natural Disaster Reduction (CBNDR) : Regional Action Program for Central America (RAPCA) , [Full text](#) | [Full text](#)
25. Champati Ray, P.K., **van Westen, C.J.** and Lakhera, R.C. (2003) Geoindicators and spatial information system for landslide prediction and hazard zonation. In: Geoindicators and related environmental studies : focus on India / ed. by Chandra Shekhar Dubey and P.S. Saklani. New Delhi, Sheetal-Sudha publ. 2003. pp. 113-123.
26. **van Westen, C.J.** (2003) Módulo de capacitación : aplicación de sistemas de información geográfica y sensores remotos para el análisis de Amenazas, vulnerabilidad y riesgos. Enschede, Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC), ITC, UNESCO, Delft University of Technology (TUD), 2003.[Full text](#)

27. **van Westen, C.J.** (2003) Zonificación de Amenazas naturales en la cuenca del río Samalá y Análisis de vulnerabilidad y riesgo en la población de San Sebastián, Retalhuleu, Guatemala, Centro América. Enschede, ITC, 2003. Capacity Building for Natural Disaster Reduction (CBNDR) : Regional Action Program for Central America (RAPCA) ,
28. Singhroy, V., Glenn, N., Ohkuma, H., Refice, A., **van Westen, C.J.**, Bennert, D., Wasowski, J., Bulmer, M., Rott, H. and Zan, L. (2002) Earth Observation for landslide hazard report. 2002. [Full text](#)
29. de By, R.A. (editor) , de By, R.A., Knippers, R.A., Sun, Y., Ellis, M.C., Kraak, M.J., Weir, M.J.C., Georgiadou, P.Y., Radwan, M.M., **van Westen, C.J.**, Kainz, W. and Sides, E.J. (2001) Principles of geographic information systems : an introductory textbook. Enschede, ITC, 2001. ITC Educational Textbook Series 1, ISBN: 90-6164-200-0.
30. Duque, A., Hack, H.R.G.K., Montoya, A.L., Scarpas, T., Slob, S., Soeters, R. and **van Westen, C.J.** (2001) Rapid inventory of earthquake damage RIED. In: Ingeokring Newsletter, 2001 (2001)9 pp. 28-31. [Full text](#) | [Full text](#)
31. **van Westen, C.J.** (2000) Desarrollo de una metodología para la identificación de Amenazas y riesgos a deslizamientos en la cuenca del Rio San Juan, Republica Dominicana. Enschede, ITC, 2000. Capacity Building for Natural Disaster Reduction (CBNDR) : Regional Action Program for Central America (RAPCA) ,
32. **van Westen, C.J.** (2000) Estudio preliminar de Amenazas naturales en la Cenca de Rio Turrialba, Canton Turrialba, Costa Rica. Enschede, ITC, 2000. Capacity Building for Natural Disaster Reduction (CBNDR) : Regional Action Program for Central America (RAPCA) ,
33. Roy, P.S. (editor) , **van Westen, C.J.** (editor) , Jha, V.K. (editor) , Lakhera, R.C. (editor) and Champati Ray, P.K. (editor) (2000) Natural disasters and their mitigation : a remote sensing perspective. Dehra Dun, Indian Institute of Remote Sensing, 2000.
34. de By, R.A. (editor) , de By, R.A., Knippers, R.A., Sun, Y., Ellis, M.C., Kraak, M.J., Weir, M.J.C., Georgiadou, P.Y., Radwan, M.M., **van Westen, C.J.**, Kainz, W. and Sides, E.J. (2000) Principles of geographic information systems : an introductory textbook. Enschede, ITC, 2000. ITC Educational Textbook Series 1, ISBN: 90-6164-184-5.
35. de By, R.A., Ellis, M.C., Kainz, W., Knippers, R.A., Kraak, M.J., Krol, B.G.C.M., Radwan, M.M., Sides, E.J., Sun, Y., Weir, M.J.C. and **van Westen, C.J.** (1999) Principles of geographic information systems : ITC core module : version 1 : syllabus. Enschede, ITC, 1999.
36. **van Westen, C.J.** and Daag, A.S. (1998) Estimating erosion in volcanic deposits on mount Pinatubo, Philippines : using a DTM overlaying technique. In: EOM : The magazine for geographic, mapping, earth information = Earth Observation Magazine, (1998)2 pp. 18-20.
37. **van Westen, C.J.** (editor) , Saldaña López, A. (editor) , Uria cornejo, S.P. (editor) and Chavez Ardanza, G. (1997) ILWIS 2.1 for Windows : Applications guide : the Integrated Land and Water Information System. Enschede, ITC, 1997.
38. **van Westen, C.J.**, Soeters, R. and Rengers, N. (1994) GISSIZ : training package Geographical Information Systems in slope instability zonation. In: STOP Disasters, (1994)18, pp. 24-25. - Also published as ITC publication ; 15.
39. **van Westen, C.J.**, Soeters, R. and Rengers, N. (1993) Geographic Information Systems as applied to landslide hazard zonation. In: Mapping Awareness & GIS in Europe, 7(1993)5, pp. 9-13.
40. **van Westen, C.J.**, van Duren, I.C., Kruse, H.M.G. and Terlien, M.T.J. (1993) GISSIZ : training package for Geographic Information Systems in slope instability zonation : Part 1. theory Part 2. exercises. Enschede, ITC, 1993. ITC Publication 15, ISBN: 90-6164-078-4.
41. **van Westen, C.J.** and Alzate, J.B. (1990) Mountain hazard analysis using a PC based GIS. In: AGID report no. 13 : environmental geology and natural hazards of the Andean region : 30 April - 2 May 1990, Medellin, Colombia / ed. by M. Hermelin, pp. 527-536.
42. Seijmonsbergen, A.C. (editor) , ... [et al.] (editor) and **van Westen, C.J.** (1988) Explanatory notes to the geomorphological, geotechnical and natural hazard maps of the Hintere Bregenzerwald, vlb. Austria. Amsterdam ; Dornbirn, Institute for Physical Geography & Soil Science, University of Amsterdam ; Vorarlberger Naturschau, 1988.