

Pascal Horton

Environmental Engineer (PhD)

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Nationality: Swiss

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Skills

- Debris flow susceptibility mapping at a regional scale
- Hydrological processes and modelling
- Precipitation downscaling and analysis of meteorological processes
- Programming: C++, Matlab, Python, R, PHP
- Model and software development
- GIS analyses and modelling

Education

- 2022-08-31 **CAS** in Advanced Machine Learning
University of Bern, Switzerland
- 2012-12-19 **PhD** in Geosciences and Environment. Improvement of a statistical precipitation downscaling method. Institute of Earth Sciences, University of Lausanne (UNIL), Switzerland. Supervisors: Michel Jaboyedoff (UNIL) & Charles Oblé (Univ. Grenoble Alpes)
- 2004-03-27 **Master** in Environmental Sciences and Engineering.
Swiss Federal Institute of Technology (EPFL), Switzerland

Positions

- Since 2020 Scientific collaborator (80-60%)
Oeschger Centre for Climate Change Research (OCCR) and Institute of Geography (hydrology group), University of Bern, Switzerland
- Since 2012 Partner; expert in natural hazards and software development (20-40%)
Terranum Sàrl (spin-off of the University of Lausanne)
- 2016 – 2020 Postdoc researcher and lecturer (80%)
Oeschger Centre for Climate Change Research (OCCR) and Institute of Geography (hydrology group & climate impact group), University of Bern, Switzerland
- 2015 – 2016 Lecturer (10%; course “Introduction to Matlab”)
Faculty of Geosciences and Environment, University of Lausanne, Switzerland
- 2013 – 2014 Postdoc (60%)
Institute of Earth Sciences, University of Lausanne (UNIL), Switzerland
- 2009 – 2012 Ph.D. candidate
Institute of Geomatics and Risk Analysis, University of Lausanne (UNIL), Switzerland

- 2007 – 2009 Researcher
Institute of Geomatics and Risk Analysis, University of Lausanne (UNIL), Switzerland
- 2007 – 2007 Hydrological engineer (project execution)
Sodelo Sàrl, Switzerland
- 2006 – 2006 Research assistant
Hydrology and Land Improvement Laboratory, EPFL, Switzerland
- 2005 – 2006 Research assistant
Institute of Geomatics and Risk Analysis, University of Lausanne (UNIL), Switzerland
- 2004 – 2005 Research assistant
Hydrology and Land Improvement Laboratory, EPFL, Switzerland

Awards

- 2019 Seal of Excellence for a MSCA IF proposal (project proposal 838782, CLICHEX)

Developed software

AtmoSwing (github.com/atmoswing/atmoswing)

Analog Technique Model for Statistical weather downscaling and forecasting, C++

Flow-R (flow-r.org)

Flow path assessment of gravitational hazards at a Regional scale, originally in Matlab and coming release in C++

AtmoSwing R-toolbox (github.com/atmoswing/tools-r)

R package to analyze the outputs of AtmoSwing

AtmoSwing Python-toolbox (github.com/atmoswing/tools-py)

Python package to analyze the outputs of AtmoSwing

Vroomgis (github.com/terranum-ch/vroomgis)

C++ GIS engine. Participation to existing project

ToolMap (github.com/terranum-ch/ToolMap)

C++ GIS software for geological mapping. Takeover of an existing project