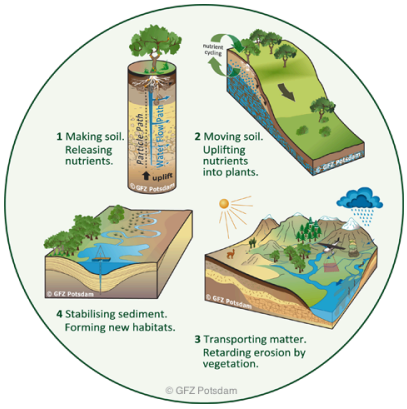
17 PhD Positions
EarthShape: Earth Surface Shaping by Biota. A German-Chilean Priority Program in the Chilean Coast Range



The new German Priority Program (Schwerpunktprogramm der DFG) 1803 "EarthShape – Earth Surface Shaping by Biota" will explore how biologic processes form soil, influence topography, and thereby shape the Earth surface. You will work in a consortium of 13 interdisciplinary projects comprising **17 new PhD positions** and 3 Postdocs that encompass the fields Geology, Ecology, Soil Sciences, Geography, Microbiology, Geophysics, and Geochemistry. EarthShape research will be conducted at **four study sites within in the Chilean Coastal Range** that features one of Earth's most spectacular vegetation gradients and is controlled by climate ranging from hyper-arid to humid temperate. It is a natural laboratory to study how biology and topography interact. You will be trained in interdisciplinary methods and conduct joint field work and training workshops.

The program is coordinated by Todd Ehlers (todd.ehlers@uni-tuebingen.de) and Friedhelm von Blanckenburg (fvb@gfz-potsdam.de). Interested applicants should contact the supervisors at the potential host institutions (see list below, these will also handle your applications). An MSc or Diplom degree is required for admission into PhD programs at German Universities. Projects will begin between January and March 2016 and are funded for three years. The application deadline for most positions is around October 15, 2015. Additional information about each position and contact information the supervisor is available on the "Positions open" link at www.earthshape.net

The available PhD positions, work locations, and supervisors are as follows:

PhD 1a: Experimental investigation of interactive plant-trait and climate effects on soil carbon inputs. University of Marburg (Prof. Maaike Bader)

PhD 2a: Coupled landscape evolution and dynamic vegetation modeling from the Last Glacial Maximum to present. University of Tübingen (Prof. Todd Ehlers; co-supervisor Thomas Hickler).

PhD 2b: Dynamic modeling of vegetation changes in Chile from the Last Glacial Maximum to present. Senckenberg Biodiversity and Climate Research Centre (BiK-F) and Goethe University, Frankfurt/Main (Prof. Thomas Hickler; co-supervisor Todd Ehlers)

PhD 4a: Modelling and budgeting sediment transport, storage and connectivity - biotic effect. University of Bonn (Dr. Thomas Hoffmann, co-supervisor: Prof. Lothar Schrott)

PhD 5a: Physiological, biochemical and molecular-taxonomical studies on biocrust organisms. University of Rostock (Prof. Karsten; co-supervisor: Prof. Büdel);

PhD 5b: Geoecological, ecophysiological and taxonomical studies of biocrust. University of Kaiserslautern (Prof. Büdel; co-supervisor: Prof. Bendix)

PhD 5c: Chemical analyses of proxies for weathering intensity and investigation of biocrusts in P cycling. University of Rostock (Prof. Leinweber; co-supervisor: Prof. Karsten)

PhD 5d: Climatic control of biocrusts, and multi-/hyperspectral detection of crusts by remote sensing for selected catchments. University of Marburg (Prof. Bendix; co-supervisor: Prof. Büdel)

PhD 6a: Analysis of root carbon contribution to nutrient mobilization in the weathering zone. Georg-August-University of Göttingen (Prof. Yakov Kuzyakov; co-supervisor Prof. Anna Gorbushina).

PhD 7a: Holocene palaeoclimate reconstruction of Northern Chile based on sedimentary archives. University Heidelberg (Prof. Bertil Mächtle, Dr. Karsten Schittek)

PhD 8a: Geophysical characterization (GPR and EMI) of the weathering front on hillslopes in combination with geochemical proxies. Forschungszentrum Jülich (Prof. Jan van der Kruk; co-supervisor Dr. Mirjam Schaller)

PhD 9a: Testing biotic controls on erosion and sediment transport with cosmogenic nuclides and river incision modeling. GFZ Potsdam (Prof. Dirk Scherler, co-supervisor Dr. Eva Nora Mueller)

PhD 10a: Soil phosphorus solubilization by microorganisms and plants at different stages of soil development. University of Bayreuth, Germany (Dr. Marie Spohn).

PhD 11a: Separating climate, vegetation and geochemical effects on nutrient cycling along a climate gradient. University of Tübingen. (Prof. K. Tielbörger, Prof. Y. Oelmann, Prof. L. Cavieres)

PhD 12a: Employing innovative isotope geochemical systems to identify how roots and fungi take up mineral nutrients and convert rock to soil. GFZ Potsdam (Prof Friedhelm von Blanckenburg; co-supervisors: Dr. Jens Boy, Prof. Georg Guggenberger)

PhD 13a: Understanding of microbial communities and the impact of their metabolic processes on the development of a soil. GFZ, Potsdam, Germany (Prof. Dirk Wagner)

PhD 13b: Understanding of microbial-mediated soil formation processes and their relationship to soil erosion. University of Tübingen (Prof. Thomas Scholten and Dr. Peter Kühn)