

1 **Name:** Dr. Jens Kiesel
2 **Profession:** Civil Engineer
3 **Date of Birth:** 06.02.1980 **Nationality:** German
4 **E-Mail:** jenskiesel@gmail.com **Phone:** +49-179-2138668
5 **Education:**

Institution (Date from - Date to)	Degree(s) or Diploma(s) obtained:
Christian-Albrechts-University, Kiel, Germany, 2007 - 2014	PhD, Natural Sciences (hydrologic, 1D-2D hydraulic, habitat modelling), (summa cum laude)
University of Technology, Darmstadt, Germany, 2001 - 2006	Diploma in Civil Engineering, Water Engineering
Addis Ababa University, Ethiopia, 2004 - 2005	Diploma Thesis (hydrologic modelling)
University of New South Wales, Sydney, Australia, 2003 - 2004	Honours Thesis (urban stormwater drainage modelling)

6 **Membership of Professional Associations:**

GIZ SEEG-Team of Experts

DWA Germany

DGL Germany

Reviewer activities for Advances in Geosciences, Hydrological Processes, Hydrological Sciences
Journal, Ecological Indicators, Agricultural Water Management, Water, River Research and
Applications, Computers and Geosciences, Journal of Hydrology, Hydrology and Earth System
Sciences

7 **Key qualifications:**

Hydrologic-, hydraulic-, habitat modelling, GIS, climate change impact and adaptation, erosion and
sediment transport, field assessments, training

8 **Computer skills:**

Software: MS Office, QGIS & PyQGIS, ArcGIS & ArcObjects (all advanced)

Modelling: HEC-HMS, SWAT, HEC-RAS, AdH (all advanced), Talsim, SWMM (basic)

Programming languages: Python (advanced), C++ (basic), Fortran (basic)

9 **Awards and honours:**

2015: Young Talent Award 2015 by the German Limnological Society

2015: Selected as German representative for the EFFF Award for the best PhD Dissertation in
Freshwater Sciences

2014: Summa cum laude for PhD Dissertation

2013 and 2017: European Geosciences Union Early Career Scientist's Travel Support (ECSTS)

2007-2011: German Environmental Foundation Scholarship holder

2005, 2008, 2010: German Academic Exchange Service Scholarship holder

1999: Award for University Entrance Exam

10 **Countries of Work Experience:**

Afghanistan, China, Ethiopia, Germany, Georgia, Haiti, India, Kenya, Malawi, Mozambique, Russia,
Somalia, Tajikistan, Tunisia, Sudan, Yemen

11 Languages:

Language	Reading	Speaking	Writing
German	Mother Tongue		
English	excellent	excellent	excellent
French	poor	poor	poor
Spanish	poor	poor	poor

12 Employment Record:

From : 2008 To: current
Employer: Freelance Consultant with HYDROC
Positions held: Principal Engineer

From : 2014 To: current
Employer: IGB Berlin
Positions held: Research Associate (part time)

From : 2013 To: 2014
Employer: Kiel University
Positions held: Research Associate

From : 2006 To: 2007
Employer: Kiel University
Positions held: Research Associate

From : 2000 To: 2008
Employer: Alfred Kiesel GmbH
Positions held: Project Monitoring

13 Projects Undertaken

Name of assignment or project: Global Change Effects on River Ecosystems (GLANCE)

Year: 2014-2020

Location: Germany

Client: Federal Ministry of Education and Research, Germany

Main project features: Investigate the effects from global change induced flow changes in rivers from the regional to the global scale on benthic macroinvertebrates. Through the agreed cooperation with the German Working Group on water issues (LAWA) and the German Federal Environmental Agency (UBA), the project seeks a transfer of results to operational, integrated water resources management and for optimizing measures targeting the EU Water Framework Directive (WFD).

Activities performed: Investigating and simulating hydrological and hydraulic processes in three German catchments (lowland, mid-range mountains and mountainous) under current and future conditions. Organizing and carrying out field campaigns for gathering hydraulic data, processing of data, performing hydrologic, water quality, coupled 1D- and 2D-hydraulic simulations, CMIP5 – CORDEX climate change data processing, bias correction and assessing climate change impacts and uncertainty on discharge patterns and hydraulic variables, writing project reports and publications

Name of assignment or project: Assessment of Suitable Flood Mitigation Measures in Tbilisi, Georgia

Year: 2017-2018

Location: Georgia

Client: CTCN

Main project features: The 27km²-catchment area of the river Tsavkistskali is subject to a complex hydrological setting. The river is fed by rain, snow, and underground waters. The river is characterized by spring floods and strong flash floods. Flash floods as a result of heavy rains have hit Tbilisi, causing heavy damages or even catastrophes. Technology for flood modelling and mapping is essential to flood prevention and management. The technology and methodology used in this project will set the National Environmental Agency (NEA) of Georgia to a higher level. The proposed activities represent an unprecedented work on a single river catchment including hydrological modelling, hydraulic modelling, flood mapping, proposal for flood mitigation and adaptation measures.

Activities performed: Identify the scientific and engineering software tools for flood modelling and mapping to be used for lumped hydrological modelling, distributed hydrological modelling, climate change scenario management, possible integration with 1D river channel flow. The hydrological rainfall-runoff modelling includes assessment of flood water discharges in the pilot catchment, hydrological rainfall-runoff model simulations to calculate the river flow discharges for locations of interest along the river. Flood discharges with 3 probabilities (or return periods), high, medium and small, will be defined. Results are presented in a hydrological modelling report. An important aspect is the technology and knowledge transfer to the National Environmental Agency, handing over software and models as well as providing thorough training and capacity building to enable the agency to fully benefit and make use of the new technologies.

Name of assignment or project: Feasibility Study for a River Barge Transportation System along the River Nile in South Sudan

Year: 2017-2018

Location: South Sudan

Client: UNOPS

Main project features: Preparation of a comprehensive Feasibility Study on a Barge Transportation System on the River Nile in South Sudan, which will include the following items: Survey and Assessment of the conditions of necessary areas of the Nile River between Juba and Renk including the flow velocities, depths and widths. Site visit to the existing target River Nile ports to assess the current port condition, existing local river transportation systems and a needs assessment for humanitarian supplies at the local Protection of Civilian sites nearby. Coordinate and discuss with the national and state authorities, as well as UN agencies, regarding the establishment of the barge operation system. Environmental Audit for the activities required to be undertaken. Production of preliminary cost estimates for the implementation of a River Barge Transportation System on the River Nile in South Sudan. Preparation of Specifications and Tender Documents for the procurement of all components required for a Barge Transportation System on the River Nile in South Sudan. Presentation and Delivery of a Workshop for all relevant stakeholders which will present the key findings of the Feasibility Study.

Activities performed: Screening of historical data of the Nile regarding discharges, cross sections and discharge rating curves. Hydraulic assessment of a 1200km stretch of the Nile river between Juba and Renk using bathymetric data and cross-sectional properties for estimating water depths and flow velocities. Identifying and assessing bottlenecks for barge transports along the river. Providing input for Stakeholder consultations and development of river- and port development measures including design of dredging works, river infrastructure works, port construction works and logistics in order to enable efficient barge transport on the Nile river.

Name of assignment or project: Sustainable Land Management in Somaliland, Somalia

Year: 2017

Location: Somaliland

Client: GIZ, Ambero

Main project features: The Upper Wadi Biji is the most important groundwater supply catchment for the capital of Somaliland, Hargeysa. Within this catchment, the project promotes coordination and capacity development among stakeholders, developing an integrated concept for sustainable land

management (SLM). Land use planning has been identified as the mechanism to develop such an integrated SLM concept and enable collaboration among sectors and jurisdictions. The land use planning approach to SLM includes implementation measures for biodiversity conservation and conservation agriculture as well as specific small scale rural water & land conservation infrastructures in the process.

Activities performed: Carrying out a spatial water balance calculation for the Upper Wadi Biji catchment area under data scarce conditions. Precipitation and temperature data were checked, gap-filled and spatially extrapolated. A meteorological, hydrological and hydrogeological database was compiled based on literature research and collecting data and gathering information from local stakeholders and ministries. Field investigations were carried out regarding dry season flows and Wadi channel properties. Calibration of the model for the only available historical hydro-geological observations (1980) was carried out, based on which the current situation and scenarios were simulated. Scenarios included changes in vegetation cover, construction of storage structures such as Berkads, Sand- and Infiltration dams as well as soil and conservation measures. For these scenarios, spatial water balance results were produced for representative dry, normal and wet years in terms of water yield, evapotranspiration, and groundwater recharge.

Name of assignment or project: Strengthening Somali Capacity to Address Disaster Risk Management
Year: 2017

Location: Somaliland, Puntland

Client: The World Bank

Main project features: The project aims to strengthen the government's capacity to manage and respond to the evolving impacts of natural disasters and climate-related events, such as El Niño, and other hazards prevailing in the country. The project will work to build institutional capacity for preparedness and adaptation activities in Somalia in the longer-term, while seeking to build linkages with regional and international networks to exchange knowledge and build understanding of best practice in disaster risk management. In addition, rangeland Management Strategies will be developed to set the cornerstone for future rangeland management efforts in Somaliland and Puntland.

Activities performed: Collecting, screening and compiling a comprehensive spatial database with a focus on water- and land resources for Somaliland and Puntland. Development of online and paper maps for workshops on mapping rangelands and assessing their status. Compilation of long-term average monthly Normalized Difference Vegetation Index (NDVI) maps for Somaliland and Puntland. Working closely together with rangeland and social experts for the development of rangeland strategies.

Name of assignment or project: Consultancy Services for Physiographic Survey of Nzoia Watershed
Year: 2016-2017

Location: Kenya

Client: Government of The Republic of Kenya, Ministry of Water and Irrigation

Main project features: The main objective of this study is to spatially, temporally and physically characterize the Nzoia watershed along several land characteristics including land cover, land use, soil properties, land forms and slope, land cover changes, agro-climatic zones, catchment degradation, morphology, geology, and water quality with the aim to understand and tackle the threat of rapid silting of the Lower Nzoia Irrigation Scheme.

Activities performed: Field mapping and field investigation planning for ground truthing model results, data preparation, implementation of RUSLE and SEDMOD methodology in an open source GIS system to depict erosion, soil loss and sedimentation across the Nzoia catchment. Assessment and visualization of results, knowledge transfer, training and exchange with local experts in remote sensing, erosion and field surveys.

Name of assignment or project: Integrated water resources management in rural areas

Year: 2016-2017

Location: Tunisia

Client: German Academic Exchange Service

Main project features: Together with INRGREF (Institut National de Recherches en Génie Rural, Eaux et Forêts) in Tunis and the Department of Water Resources Management of Kiel University, a course was organized and held in Tunis to teach IWRM in arid- and semi-arid regions. Topics included runoff generation and evaporation in arid regions, theory and practical work in modelling, field excursions to irrigated areas, hydraulic structures including dams, diversions and pumping stations.

Activities performed: Involvement in the conceptualization and application phase of the course and responsible for developing a hydrological model for the Medjerda river. Holding a five-day workshop including model theory, calibration, validation, scenario applications and GIS techniques. Hands-on training in GIS, model setup, model plausibility, calibration and management operations using the SWAT model. Supervising project work in assessing the impact of different dam operation rules and erosion mitigation measures. Cooperation meetings, discussions and presentations with water-related institutions across Tunisia.

Name of assignment or project: Consultancy Services for Improving the Water Supply and Sanitation Situation of the Canaan Area, Haiti

Year: 2016

Location: Haiti

Client: UN HABITAT

Main project features: This study focuses on the improvement of the water supply and sanitation situation in the Canaan Area (St-Christophe, Canaan, Jerusalem, Corail and Ona-Ville), Haiti.

Activities performed: Field investigations for understanding the current water supply scheme, water value chain and taking water quality samples. Technical conceptualization of a piped primary water supply network including on-ground investigation of possible well- and reservoir locations. GIS-based analysis of detailed spatial population distribution for the current situation and multiple future scenarios. Water demand calculation and design of the water supply scheme for the derived scenarios.

Name of assignment or project: Consultancy Services for Improving the Drainage Situation of the Canaan Area, Haiti

Year: 2016

Location: Haiti

Client: UN HABITAT

Main project features: Urban planning, infrastructure development and reducing water-related hazards in the Canaan Area (St-Christophe, Canaan, Jerusalem, Corail and Ona-Ville), Haiti.

Positions held: Hydraulic Expert

Activities performed: Field investigations for identifying points of intervention regarding bank erosion, stream sedimentation and flooding; surveying culverts for identifying possible bottlenecks in the existing drainage system. GIS-based planning and conceptualization of a primary and secondary stormwater drainage network considering the natural flow conditions and existing infrastructure. Detailed hydraulic calculations for the design of roadside canals.

Name of assignment or project: Rehabilitation of the Boye in Bottrop, Essen and Gladbeck

Year: 2015

Location: Germany

Client: DAHLEM Beratende Ingenieure

Main project features: Planning and detailed design of the rehabilitation of the river Boye (km 0.8 to 8.3), including sewage and stormwater drainage design

Activities performed: Development of a comprehensive GIS database for storing and visualizing all project relevant data

Name of assignment or project: Macro level study on the integrated development potential of sand river wadis of Somaliland and Puntland

Year: 2015

Location: Somalia

Client: The Worldbank Main project features: Identification of possible sites for wadi development across Somaliland and Puntland, including mapping and remote sensing data acquisition Activities performed: Development of a QGIS-based, user-friendly tool which is used to evaluate most suitable areas for water harvesting (sand dams), particularly for climate change adaptation and rural development; evaluation is based on remote sensing- and ground-based data.
Name of assignment or project: Computer modelling and complementary engineering assessment of sediment development and hydrology of AkSu- and Khojibakirgan Watershed Year: 2015 Location: Tajikistan, Kyrgyzstan Client: Agence d'Aide à la Coopération Technique et au Développement (ACTED) Main project features: Assessing the current hydrological and sediment load situation in two watersheds. Positions held: Hydrologic Modelling- and Erosion Expert Activities performed: Methodological and model development for assessing the spatial distribution of runoff, field erosion and sedimentation in the stream network and the stormwater drainages of the major villages in the catchments. Investigating impacts of single events as well as climate change and land use change on peak discharges and sedimentation.
Name of assignment or project: Flood Risk Mapping for Badakhshan, Afghanistan Year: 2014 Location: Afghanistan Client: GIZ, Germany Main project features: Development of flood risk maps for the whole province of Badakhshan, north east Afghanistan. Positions held: Hydraulic Modelling Expert Activities performed: Hydraulic simulations and flood risk mapping of the Kokcha and Panj rivers using HEC-RAS. Applying automatic cross section delineation in the main channel and tributaries of the two river basins. Integration of floodplain topographic and channel bathymetric data. Developing a GIS-based methodology to extrapolate river inundation to basin-wide coverage.
Name of assignment or project: Design and development of a porpoise detection buoy in the Baltic Sea Year: 2013-2014 Location: Germany Client: TB Conrad Main project features: Development of a software and hardware system to monitor the occurrence of porpoise whales in the Baltic Sea Positions held: Programmer Activities performed: Design and programming of a Graphical User Interface for remote operation of a porpoise detection buoy, including real-time data viewer and data visualisation tools
Name of assignment or project: SASCHA - Sustainable land management and adaptation strategies to climate change for the western Siberian grain-belt Year: 2013-2014 Location: Russia Client: Federal Ministry of Education and Research, Germany Main project features: The SASCHA project aims to provide basic knowledge, practical management tools and adaptation strategies to cope with recent and future ecological change and landscape transformation in the Tyumen region, Western Siberia Positions held: Hydrologic Subproject Coordinator, Hydrologic Modelling Expert Activities performed: Hydrologic modelling, planning and execution of two field campaigns during snowmelt period, pre- and post-snowmelt water quantity and -quality measurements, investigating soil

physical parameters, data acquisition and processing, supervision of digitization tasks; supervision of climate change downscaling, bias correction, modelling and climate change impact assessment.
Name of assignment or project: Environmental and Natural Resource Management Interventions in the Middle Shire River Basin in Malawi (ENRMI) Year: 2013-2014 Location: Malawi Client: Millennium Challenge Account (MCA) Main project features: The Shire Basin is the main source of Malawi's electricity supply. Improving the reliability, quality and availability of this energy generation is central to any future economic development in Malawi. Upstream environmental degradation within the Upper and Middle Shire River basin has an on-going detrimental impact on hydropower generation. The ENRMI is aimed specifically at tackling these negative impacts. Positions held: Hydrologic Modelling- and Erosion Expert Activities performed: Watershed- and soil erosion modelling using SWAT and SLEMSA to provide accurate flow-, soil erosion risk and sedimentation estimates.
Name of assignment or project: Western Basin Water Resources Management Project Year: 2012-2014 Location: Afghanistan Client: Asian Development Bank Main project features: Rehabilitation of irrigation schemes in the Hari Rud catchment. Masterplan development including irrigation, hydropower, water security, groundwater, dam operation rules and economic aspects under different climate and development scenarios. Positions held: Hydrologic Modelling Expert Activities performed: Hydrologic modelling of the Hari Rud catchment including the interactions of all water users using HEC-HMS and external models for different development steps and climate change scenarios, climate change data processing, downscaling and bias correction, impact assessment on irrigation and dam operation, irrigation scheduling and optimum reservoir operation under irrigation and hydropower usage, assessment of additional future dam constructions, discussion of climate change adaptation options
Name of assignment or project: Development of a Flood DSS for the Zambezi River Year: 2012-2013 Location: Mozambique Client: INGC Main project features: Visualize the impact of hydrological changes including future dam constructions and climate change in the Zambezi basin on flooding along the river within Mozambique in a Web-based System Positions held: Hydraulic Modelling Expert Activities performed: Hydraulic simulations of the Zambezi River downstream of Cahora Bassa using HEC-RAS, cross sectional and floodplain data integration, depicting the impact of climate change, dam construction and operation on the flooding situation, flood risk mapping for most severe historical floods and a range of synthetic flooding situations, training of staff in Mozambique, project reports and presentations
Name of assignment or project: IALOU - Integrated assessment of land use options for climate change mitigation and adaptation Year: 2012 Location: Malawi Client: The World Bank Main project features: Develop methodologies for climate mitigation and adaptation considering environmental, economic and social developments in the Shire Basin. Positions held: Hydrologic Modelling Expert

Activities performed: Hydrologic and erosion simulations of Malawi's Water Resources Units for a range of land use and climate change scenarios using SWAT, development of spatially distributed maps to visualise land use and climate change impacts after statistical downscaling and bias correction of climate change data, assessing the impact of land use and climate change adaptation interventions on erosion and surface runoff.
Name of assignment or project: Hydrologic and Hydraulic Investigations in the Kinzig catchment (in German) Year: 2011-2012 Location: Germany Client: Senckenberg Research Institute Main project features: Simulation of hydraulic variables including sediment transport and substrate stability for the assessment of riverine habitats Positions held: Project Coordination, Hydraulic Modelling Expert Activities performed: Organizing and carrying out field campaigns for gathering hydraulic data in a team, processing of data, hydraulic simulations including hydraulic structures (culverts, bridges, weirs), simulation and mapping of historical flood events, integrated hydrologic-1D-2D hydraulic modelling of flow velocities, water depths and sediment transport, hydrologic and erosion modelling as well as climate change impact assessment supervision, project report, training and presentations
Name of assignment or project: Responding to Climate Change in Mozambique - Component Water: Doing more with less Year: 2011-2012 Location: Mozambique Client: INGC Main project features: The Government of Mozambique wants to prepare the country for the negative impacts of climate change while at the same time create opportunities for sustainable growth and investment Positions held: Hydraulic Modelling Expert Activities performed: Hydraulic simulations of the Zambezi, Limpopo and Pungwe rivers within Mozambique, software development for automatic generation of hydraulic model input files, model calibration on historical floods, assessment of climate change impacts on the flooding situation in the three rivers using flood risk mapping and 1D-2D hydraulic modelling, detailed 2D-flood risk assessment, training of staff in Mozambique, project reports and presentations
Name of assignment or project: Disaster risk analysis and mapping in Badakhshan Year: 2011 Location: Afghanistan Client: GIZ Main project features: Disaster risk analysis and mapping in the Hindu Kush region of Afghanistan, focusing on avalanche risk, flood risk and landslide risk Positions held: Hydraulic Modelling Expert Activities performed: Flood risk assessment of the Kokcha river using hydraulic modelling, simulation of historical floods, flood mapping
Name of assignment or project: Developing an Integrated Model to Predict Abiotic Habitat Conditions and Biota of Rivers - IMPACT Year: 2010-2014 Location: Germany Client: Commission of the European Communities, "IWRMNET" Main project features: Restoration of streams and rivers has become a widely accepted social objective in developed nations, which increasingly becomes established in law like in the "European Water Framework Directive" (WFD). Because the WFD demands a good ecological status of all European rivers, there is a strong demand for cost-effective restoration measures. In the project, tools

are developed to test these measures through the application of a comprehensive model chain. This model chain is used to disentangle and assess the effect of anthropogenic stressors on river biota. Positions held: Hydrologic and Hydraulic Modelling Expert (Adviser) Activities performed: Advising conceptualisation and proposal writing, advisor for field work, 1D-2D hydraulic modelling, model coupling and habitat modelling, collaboration in climate change and land use change impact assessment on river ecosystems
Name of assignment or project: Technical Assistance for eastern Nile planning model Year: 2010-2011 Location: Ethiopia Client: Nile Basin Initiative – Eastern Nile Technical Regional Office (NBI-ENTRO) Main project features: Assistance for the Eastern Nile Planning Model (ENPM) regional project coordinators in developing the knowledge based system for the ENPM Works Positions held: Project Engineer Activities performed: Navigability study for the Baro-Akobo-Sobat sub-basin based on remote sensing data including data collection, hydrological and GIS analysis, model calibration and deriving navigability parameters and improvement possibilities for the river network.
Name of assignment or project: Development of comprehensive water management tools for sustainable development of catchments Year: 2010 Location: India Client: German Academic Exchange Service Main project features: Exchange of methods and model applications between the IIT Madras, India and Kiel University, Germany Positions held: Research Associate Activities performed: Prediction in ungauged basins (PUB) using regionalisation and artificial neural networks (ANN) as well as complex watershed modelling tools.
Name of assignment or project: Assessment of Freshwater Ecosystems under Global Change (EcoChange) Year: 2009-2011 Location: China Client: Federal Ministry of Education and Research, German Research Foundation, Mercator Foundation Main project features: Cooperation project for assessing multiple stressors on a freshwater ecosystem in the Three Gorges Dam catchment area Positions held: Hydraulic Modelling Expert Activities performed: Organizing and carrying out field campaigns for gathering hydraulic data (cross sections, flow velocities, water depths) along the 60km long main channel of the Xiangxi river in the Three Gorges Region in a mountainous, natural and urban environment, cross section data integration, hydraulic modelling including runoff-river dams and hydraulic structures, hydrologic-hydraulic model coupling, simulation of historical flood events, presentations
Name of assignment or project: Climate change impact assessment in agriculture and water sectors study Year: 2009 Location: Yemen Client: The World Bank Main project features: Impact assessment of climate changes in precipitation and temperature on water and agricultural sectors, including irrigation, water supply and groundwater recharge, evaluating climate change adaptation options Positions held: Hydrologic Modelling Expert Activities performed: Hydrologic modelling of Yemens Wadi Systems under current conditions and

climate change projections, collaboration in discussion of climate change adaptation measures
Name of assignment or project: Ecohydrologic and hydraulic modelling to describe aquatic habitats Year: 2007-2014 Location: Germany Client: German Federal Environmental Foundation Main project features: Depicting the impact of catchment- and channel-related processes on the aquatic habitat. This is of particular importance to entangle abiotic-biotic riverine dependencies as well as for developing tailored measures to achieve the targets of the Water Framework Directive (WFD) Positions held: Project Coordinator, Hydrologic-, Hydraulic- and Habitat Modelling Expert Activities performed: Organizing and carrying out field campaigns for gathering hydraulic data, development of a hydrologic and hydraulic model cascade, development of an ArcGIS interface for the 2D-hydraulic AdH model, hydraulic modelling including sediment transport and substrate stability, sediment entry pathway assessment, writing project reports, publications, training and giving presentations
Name of assignment or project: ICP Forests - Level II Year: 2007 Location: Germany Client: United Nations Economic Commission for Europe Main project features: Assessment and Monitoring of Air Pollution Effects on Forests Positions held: Research Associate Activities performed: Climate data acquisition, assessment and processing using statistical methods; data preparation for project partners in Sweden; database construction, management and administration as well as writing an instructions manual. Collaboration with the German Weather Service concerning data allocation.
Name of assignment or project: NAT-Working: Pupils, Teachers and Scientists get networked Year: 2006 Location: Germany Client: Robert-Bosch-Foundation Main project features: Connecting pupils with scientific work Positions held: Research Associate Activities performed: Planning, material acquisition, construction, execution and supervision of a lysimeter experiment; data acquisition and assessment, writing of project report. Constant measurements of evaporation, soil moisture and soil moisture tension using high precision scales, TDR probes and micro-tensiometers on data loggers.
Name of assignment or project: Nature oriented flood damage prevention (NOFDP) Year: 2005 Location: Germany Client: European Commission, INTERREG IIIB Main project features: Using both technical and non-technical solutions for flood damage prevention which aims to be in line with the Water Framework Directive (WFD). Positions held: Hydrologic Modeller Trainee Activities performed: Input data preparation, time series analysis and construction of a rainfall-runoff model for flood hazard evaluation in the Upper Mümling catchment (328km ²) with the hydrologic model TALSIM2.0; output analysis and preparation for the connection with a hydraulic model (SOBEK), design of flood retention and design of urban drainage channels.
Name of assignment or project: Planning the revitalisation of the Winkelbach Year: 2005 Location: Germany Client: Water Authority Bergstrasse Main project features: Planning the renaturation of a degraded stream

Positions held: Member of the planning team, Trainee

Activities performed: Site investigation for structural, hydraulic and biological assessment; weighing economic, agricultural, recreational and environmental interests and benefits; detailed design of four revitalisation options including construction plans, hydraulic design, cost estimation. Interdisciplinary project team presentation and report awarded by the Water Authority Bergstraße.

Name of assignment or project: Project monitoring

Year: 2000-2008

Location: Germany

Client: Karstadt Warehouse, H&M, public authorities and further German customers

Main project features: Tiling construction sites

Positions held: Trainee

Activities performed: Work includes on-site supervision, customer relations and final inspections; making out invoices; webpage and storehouse supervision

14 Publications (peer-reviewed):

Guse B, Pfannerstill M, Gafurov A, **Kiesel J**, Lehr C, Fohrer N. accepted. Identifying the connective strength between model parameters and performance criteria. Hydrology and Earth System Sciences.

Kiesel J, Guse B, Pfannerstill M, Kakouei K, Jähnig SC, Fohrer N. 2017. Improving hydrological model optimization for riverine species. Ecological Indicators, <http://dx.doi.org/10.1016/j.ecolind.2017.04.032>.

Kakouei K, **Kiesel J**, Kail J, Pusch M, Jähnig SC. 2017. Quantitative hydrologic preferences of benthic stream invertebrates in Germany. Ecological Indicators 79, 163-172.

Kiesel J, Pfannerstill M, Schmalz B, Khoroshavin V, Sheludkov A, Veshkurseva T, Fohrer N. 2017. Modelling of hydrological processes in snowmelt-governed meso-scale catchments of the Western Siberian Lowlands. International Journal of Hydrology Science and Technology, DOI: 10.1504/IJHST.2018.10007182.

Schmalz B, Kruse M, **Kiesel J**, Müller F, Fohrer N. 2016. Water-related ecosystem services in Western Siberian lowland basins - Analysing and mapping spatial and seasonal effects on regulating services based on ecohydrological modelling results. Ecological Indicators 71: 55-65.

Guse B, Kail J, Radinger K, Schröder M, **Kiesel J**, Hering D, Wolter C, Fohrer N. 2015. Eco-hydrologic model cascades: Simulating land use and climate change impacts on hydrology, hydraulics and habitats for fish and macroinvertebrates. Science of the Total Environment 533: 542-556.

Kail J, Guse B, Radinger J, Schröder M, **Kiesel J**, Kleinhans M, Schuurman F, Fohrer N, Hering D, Wolter C. 2015. From hydrology to species assemblages - a modelling framework to assess the effect of pressures on river habitat conditions and biota. PLOS ONE | DOI:10.1371/journal.pone.0130228.

Kiesel J, Schröder M, Hering D, Schmalz B, Hörmann G, Jähnig SC, Fohrer N. 2015. A new model linking macroinvertebrate assemblages to habitat composition in rivers: development, sensitivity and univariate application. Fundamental and Applied Limnology 186 (1-2).

Schmalz B, Kuemmerlen M, **Kiesel J**, Cai Q, Jähnig SC, Fohrer N. 2014. Impacts of land use changes on hydrological components and macroinvertebrate distributions in the Poyang lake area. Ecohydrology 2014, DOI: 10.1002/eco.1569

Schröder M, **Kiesel J**, Schattmann A, Jähnig SC, Lorenz AW, Kramm S. 2013. Substratum associations of benthic invertebrates in lowland and mountain streams. Ecological Indicators 30, 178-189.

Kiesel J, Schmalz B, Brown G, Fohrer N. 2013. Application of a hydrological-hydraulic modelling cascade in lowlands for investigating water and sediment fluxes in the catchment, channel and reach. *Journal of Hydrology and Hydromechanics* 61(4), 313-325.

Abdulla N, Petersen G, **Kiesel J**, Wade S. 2013. Climate Change Impacts on Water Resources in Yemen. *Journal of Earth Science and Engineering* 3, 629-638.

Zhao GJ, Hörmann G, Fohrer N, **Kiesel J**, Gao JF, Li HP. 2012. Application of a nutrient model for sediment yield and phosphorus load estimation in a data scarce catchment in South China. *Fresenius Environmental Bulletin* 21(7a), 1894-1904.

Kiesel J, Schmalz B, Savant G, Fohrer N. 2012. Across the scales: From catchment hydrology to instream hydraulics. In: *Understanding Changing Climate and Environment and Finding Solutions*. Editors: R-P. Hinkelmann, Y. Liong, D. Savic, MH. Nasermoaddeli, K-F. Daemrich, P. Fröhle, D. Jacob. TuTech Innovation.

Jähnig SC, Kuemmerlen M, **Kiesel J**, Domisch S, Cai Q, Schmalz B, Fohrer N. 2012. Modelling of riverine ecosystems by integrating models: conceptual approach, a case study and research agenda. *Journal of Biogeography* 39(12), 2253–2263.

Liu H, **Kiesel J**, Hörmann G, Fohrer N. 2011. Effects of DEM horizontal resolution and methods on calculating the slope length factor in gently rolling landscapes. *Catena* 87, 368-375.

Kiesel J, Fohrer N, Schmalz B. 2010. Considering aquatic habitat properties in integrated river basin management - an ecohydrological modelling approach. *Hydrocomplexity: new tools for solving the wicked water problems*. (edited by Savenije H, Demuth S, Hubert P.), IAHS Publications 338. Centre for Ecology and Hydrology, Wallingford, UK, 137-139.

Kiesel J, Fohrer N, Schmalz B, White MJ. 2010. Incorporating landscape depressions and tile drainages of a northern German lowland catchment into a semi-distributed model. *Hydrological Processes* 24, 1472-1486.

Liu H, Fohrer N, Hörmann G, **Kiesel J**. 2009. Suitability of S factor algorithms for soil loss estimation at gently sloped landscapes. *Catena* 77. 248-255.

Kiesel J, Hering D, Schmalz B, Fohrer N. 2009. A transdisciplinary approach for modelling macroinvertebrate habitats in lowland streams. *IAHS Publications* 328, 24-33.

Kiesel J, Schmalz B, Fohrer N. 2009. SEPAL – a simple GIS-based tool to estimate sediment pathways in lowland catchments. *Advances in Geosciences* 21(3), 25-32.

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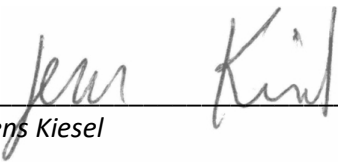
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15 Certification:

I, the undersigned, certify that to the best of my knowledge and believe, this CV correctly describes myself,

my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



Signature Jens Kiesel

Date: 04/10/2017

Day/Month/Year