Karsten Vennemann

Terra GIS

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Karsten has more than 20 years of expertise in GIS and project management. His background is in Geography and Soil Science and he holds a Diploma from the University of Stuttgart, Germany, and a Master's Degree from UC Berkeley. In 2007 he founded Terra GIS Ltd, a GIS consulting company based in Seattle, Washington and since 2017 also in Schriesheim (near Heidelberg), Germany. Terra GIS is providing expertise in spatial technology and has focused on projects in conservation, natural resources management, sustainable development and agriculture, and social engagement.

Over the last 5 years (2015-2020) Karsten has been the principal GIS expert to support teams of researchers in 9 African Countries for the Collaborative Crop Research Program (CCRP) of the McKnight Foundation (see http://ccrp.org). His work included GIS strategy planning, capacity build-ing and training for teams of agricultural scientists & researchers in GIS, designing and implement-ing GIS and database server architectures, and implementing Web GIS solutions (based on Open Source software).

From 2014-2017 he worked as consultant in close cooperation with the University of Hohenheim, Germany (Soil Science Department) and Sokoine University, Morogoro, Tanzania on implementing the *Tanzania Food and Land Productivity Information System* (http://sua.terragis.net/transsec), the *Tanzania Land Evaluation Tool* (http://sua.terragis.net/transsec/Land_Evaluation_Tool.html) and the *Tanzania Food Security Monitor* within the Trans-SEC project (http://www.trans-sec.org). In 2019 the Tanzania Land Evaluation Tool has been added to the FAO Land Resources Planning Toolbox listing.

His previous work included positions as Environmental Scientist, GIS Analyst & Programmer, and Project Coordinator. Other work included GIS project management, GIS analysis and cartography, remote sensing, development of web based information systems and implementation of spatial databases. He has experience in leading and managing GIS projects (in the academic, business and non-profit sectors). In addition he has extensive experience in teaching custom GIS work-shops/seminars in multiple languages (English, German, French and Spanish) in a wide variety of cultural settings and proficiency levels as well as in GIS curriculum development.

Other work included projects for a variety of clients in the following sectors:
- Government Agencies (e.g. Washington State Office of Civil Legal Aid)
- Private Companies (e.g. Trident Seafood, Obama for America Inc.)
- Non-profit Organizations (e.g. the California Invasive Plant Council - CALIPC)
- Projects he worked on included the following topics:
  - Web mapping/ Information Systems
  - Custom geo-coding tools and spatial Join tools (e.g. using PostGIS)
  - Desktop GIS applications (programming Python, PHP, HTML/CSS, JavaScript, and VB
  - Cartography: Digital and printed maps (poster sized maps for a variety of clients)
  - GIS Training and GIS support for clients: teaching workshops and classes (in English, German, French and Spanish language), online seminars, creating GIS user manuals in multiple languages

General GIS Expertise

Advanced use of desktop GIS systems, spatial analysis, remote sensing, geocoding, data editing, transformation, vector and raster based analysis (focus on natural resources, soil science, climate, hydrology, biology, and agronomy), digitizing (on-screen and on tablet), data conversion and geo-database creation, import, export, QA, data models, custom system design and implementation, consulting for GIS strategy and project management.

Work Experience

1/ 07 – present **TERRA GIS Ltd. (Terrestrial EnviRonment Regional Analysis), Seattle, WA**
Principal and GIS Analyst/Programmer. Terra GIS provides expertise in Geographical Information Systems, environmental consulting and sustainable development. Services include scientific research and reporting, spatial analysis, cartography, web mapping, and the creation of specialized tools related to conservation, environmental issues, and public and social engagement. Providing high quality GIS education and training using proprietary and open source geospatial tools is another focus of our company.

8/ 05 – 12/06 **CommEn Space (The Community & Environment Spatial Analysis Center), Seattle, WA**
GIS Analyst. Primary clients are conservation and public interest groups, and government agencies. Tasks include cartography, GIS analysis (e.g. for conservation planning and prioritization), coding of scripts for desktop use (VB and Arc Objects), development of web-mapping applications (e.g. database access for web mapping applications), and project management. Provided ongoing technical support to other GIS staff and researched newest technologies to advance CommEn Space's GIS knowledge and resources.

10/ 04 – 7/05 **SAIC (Science Applications International Cooperation), Bothell, WA**
Environmental Scientist and GIS Specialist. GIS services, aerial photo interpretation (land use interpretation) and mapping. Consultant in soil and groundwater remediation projects. Consultant for solid waste recycling projects for King County.

8/ 01 – 10/03 **University of Stuttgart, Germany, Department of Landscape Architecture and Ecology**
GIS-expert and specialist in environmental planning and soil conservation. Leading GIS specialist for the "gimolus" project (Development of web based e-learning modules for environmental studies). Development and management of the geodatabase. Programming of GIS functions (ArcObjects) and coupling with model based calculations. Setup and maintenance of the web servers and web based GIS. Consulting and training of other employees in GIS.

6/ 00 – 7/01 **GEF-RIS Inc., a private company specializing in GIS software Leimen, Germany**
Project manager, GIS consultant and programmer. Providing consulting and training to customers. Programming of GIS modules such as water supply and environmental management using a proprietary macro language. Participation in the conceptual development and advancement of GIS software.

4/98- 4/00	**University of Hohenheim, Germany, Department of Soil Science and Land Evaluation**
	GIS analyst and assistant project coordinator: Editing and coordination of the digital "Atlas of natural and agronomic resources of Niger and Benin" (West Africa). Created GIS based maps, database and the Web site presentation. Instructor for Geography and GIS seminars for visiting scientists of cooperating organizations from Benin. Feasibility survey for the "Map of natural heavy metal content in soils of southern Germany" (State Environmental Protection Agency).
9/97- 8/98	**Institute for Environmental Remediation and Protection, Inc. , a private company specializing in remediation of contaminated sites Leonberg, Germany**
	Consultant in soil and groundwater remediation projects. Including field work for surveying, sampling, analysis and remediation of contaminated sites (industrial sites, gas stations, waste disposal sites, etc.).

Education

University of California at Berkeley, Master of Science in Soil Science, May, 1997
Emphasis: Soil and environmental evaluation, agro-ecology, sustainable development, GIS

University of Stuttgart, Germany, Diploma (Master of Science) in Geography, February 1995
Minors in Geology, Soil Science, Landscape and Vegetation Ecology
Emphasis: Impact of human activities on natural environments, land use planning, environmental evaluation, geo-ecology

Computer Skills

GIS/maps:	MapServer, GeoServer, MapBender, MapStore, OpenLayers, Leaflet, GeoEXT, ExtJS, JQuery, TileCache, MapCache, QGIS, gvSIG, MapInfo, IDRISI, Microstation, Surfer, UDIG, OGR, GDAL, ArcGIS10.X+ 9.X, ArcView3.X, ArcInfo7.X, ERDAS Imagine, GoogleEarthEngine and many more
Databases:	PostgreSQL, PostGIS, MySQL, Oracle, MS SqlServer, MS Access, SQL
Graphics:	Photoshop, Designer, Fireworks, Illustrator
Web & scripting:	CSS, HTML, Java Script, SQL, XML, PHP, Python, SQL, VB, AML, Avenue, ExtJS, GeoEXT, JQuery
Other:	MS Office, Windows,Ubuntu + Debian Linux, Apache I+II, Tomcat, Web Server Administration

Language Proficiency Skills

German	perfect (native language)
English	fluent (9 years in school, resident in Seattle since 2004, dual citizen USA + Germany)
French	good (5 years in school, multiple stays in France)
Spanish	good (5 years in school, multiple stays in Spain and South America)

Further Interests

Basketball, cycling, backcountry skiing, reading, hiking, and photography