



Curriculum Vitae for Nicholaus Heinrich Huchzermeyer

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I hold a valid South African Code 8 driver's licence

Tertiary Education

Period	2015-2017
Qualification	Master of Science (MSc) Thesis examined and passed April 2017.
Thesis Title	A baseline survey of channel geomorphology with particular reference to the effects of sediment characteristics on ecosystem health in the Tsitsa River, Eastern Cape, South Africa.
Institution	Rhodes University, Department of Geography.

Period	2014
Qualification	Bachelor of Science Honours (BSc Hons)
Modules	Geographical Information Systems: Extended GIS, Geographical Information Systems: Experimental Learning, Geomorphology and Environmental Change, Frontiers in Geographical Thought.
Mini Thesis Title	Investigating the Connectivity of Gully Sediment Sources and Pathways in the Vuvu Catchment, Eastern Cape, South Africa.
Institution	Rhodes University, Department of Geography.

Period	2011-2013
Qualification	Bachelor of Science (BSc), Majoring in Geography and Geology
Institution	Rhodes University

Key Skills

<p>Geographical Information Systems (GIS)</p>	<p>Completed a GIS course, extended GIS course and a GIS experimental learning course through the Rhodes University Geography Department allowing me to gain theoretical and practical familiarity with the ESRI software, in particular ArcMap. I have developed my skills through my work experience</p>
<p>Geomorphology and fluvial habitats</p>	<p>Through my Masters research and work on Water Research Commission (WRC) projects I gained experience in geomorphology and fluvial habitats. Through my Honours research project I was commended for an effective piece of research that investigated a novel approach to gully formation in which I demonstrated a good capability for independent research.</p>
<p>Aquatic ecology</p>	<p>Through my Master's thesis I developed skills in aquatic ecology focusing on the influence of sediment on river habitats and ecosystem health with specific reference to macroinvertebrates.</p>
<p>Catchment systems & biophysical monitoring</p>	<p>Through my work I have gained experience in catchment management as well as developing and implementing a biophysical monitoring plan for the Upper Tsitsa River Catchment</p>
<p>South African Scoring System (SASS) Version 5</p>	<p>In February 2016 I attended a SASS 5 course held by GroundTruth. I received my SASS 5 Accreditation for the classification of aquatic macroinvertebrates in August 2016.</p>
<p>Veld management</p>	<p>Competent in veld management and grassland monitoring.</p> <p>In February 2019 I attended a Veld Management course and obtained 97% on the following unit standard: Implement a Natural Resource Management Plan (US ID: 116303, NQF Level: 4, Credits 3). This certificate of competence was issued under the jurisdiction of AgriSETA.</p> <p>I have used this knowledge in biophysical monitoring</p>
<p>Aquatic environment</p>	<p>I am confident working in the aquatic environment including large rivers. I am a competent swimmer.</p>
<p>Field work</p>	<p>Through my own research and aiding others I have gained experience in working long hours in the field in remote areas, accessing areas inaccessible by road with scientific equipment, working under harsh weather conditions and working independently.</p>
<p>Wetland Plants</p>	<p>In February 2019 I attended an Aquatic and Wetland Plant Identification course held by Cripsis Environment</p> <p>I have used this knowledge in wetland monitoring studies</p>
<p>Equipment skills</p>	<p>I am competent in the use of flow meters, level loggers (including installation), turbidity meters, water quality equipment and substrate quantification techniques.</p> <p>I am confident in the use of SASS5 equipment.</p> <p>I have become confident with the use of various types of surveying equipment, including a Geomax Zenith 10/20 Differential GPS (RTK survey), a Topcon Differential GPS (PPK survey)</p>

	and a Topcon Total Station as well as DJI Phantom drones.
Field based research and experience	I have experience in organising and leading extended field excursions into remote areas of southern Africa in both my own research as well as that of fellow students and colleagues.
Report writing and presentation	Good formal, informal and scientific writing and presentation skills in a professional environment.
Communication	Good formal and informal, written and verbal communication skills; skills which would be vital towards communicating ideas in my field of study or workplace.
Information searching	Practised in the use of various resources to access information e.g. libraries and internet literature databases.
Multilingual	Fluent in English, Afrikaans and German.
People Skills	Compassionate and patient, willing to learn and listen from people's ideas as well as willing to assist with problem solving. I work well in a team.

Work and Personal Experience

2017- Present	Junior Researcher	I am currently a junior researcher for the Tsitsa Project in which I fall part of the Sediment and Restoration team. The Tsitsa Project strives to restore functional landscapes to the benefit of local and downstream users. It prioritises limited resources for the maintenance of functioning, but threatened, ecological infrastructure over severely degraded systems. My main roles include the creation of spatial data sets of the location and condition of ecological infrastructure as well as the threats to ecological infrastructure in the Tsitsa River Catchment. Following on this I play an important role in setting out prioritisation and management data sets and reports. These are integral for decision making by managers within the greater project to avoid further degradation of the catchment. Finally I am part of a two person team who created and are implementing a biophysical monitoring plan for the Tsitsa River Catchment.
2017- Present	Independent consultant	Independent researcher and consultant for various projects in the field of environmental science and geography with a focus on geomorphological studies, catchment systems and GIS. Have also aided in a Wetland Assessment for Scherman Environmental: Aquatic & Environmental Management Consulting
2018	Surveyor	I was part of the ground team for a topographical aerial survey of 90 000 ha in Belize, Central America using Unmanned Aerial Vehicles (UAV's). This fell under an EU funded project with the aim to establish a drainage master plan for the Sugar Industry Research and Development Institute (SIRDI) sugarcane areas in an attempt to increase yield and the upliftment of the

		<p>farmers. Part of the project was to do a topographic survey of 90 000 ha of cane and jungle.</p> <p>My specific role was to establish ground control points, using a differential GPS, so that the aerial survey could be accurately georeferenced.</p> <p>This was the largest UAV commercial project to date.</p> <p>https://www.agrisenseinternational.com/</p>
2016-2017	Data capturer	<p>Digitised several GIS layers for the Tsitsa Project (DEA/NRM programme). Wetlands in sub-catchments T35A-E were digitised and classified. Headward erosion in and around wetlands in sub-catchments T35A-E were digitised. Dams in sub-catchments T35A and B were digitised and classified.</p>
2015-2016	Researcher: WRC Project	<ul style="list-style-type: none"> - Appointed as Researcher by the University of Fort Hare for WRC Project No K5/2433 in which I completed Deliverable 5-A Report on wet and dry season monitoring of river channel geomorphology. - Part of my MSc research contributes to WRC Project No K5/2423 in which I have completed a guide to monitoring the effects of sedimentation on instream habitats and associated aquatic organisms. This was included in Deliverable 5-Guidelines for productive and sustainable greening of the landscape, including monitoring and development of indicators.
2014-2016	Graduate assistant	<p>Tutoring and teaching undergraduate students in the Rhodes University Geography Department in the following subjects: Earth Science 101, Geography 1 and Geography 2.</p>
2015-2016	Surveyor	<ul style="list-style-type: none"> - Surveyor for MSc student Ryan Silbernagel, looking at the morphology of an artificial wetland system. - Conducting monitoring surveys for Professor K Rowntree, Karoo. - Created a guide for basic surveying using a Geomax Zenith Differential GPS for the Rhodes University Geography Department. - Surveyor and field trip assistant for various projects looking at gully erosion as a mechanism for wetland formation in two contrasting landscapes (the Karoo and the Krom River Wetland). Project leader Professor W.N Ellery.
2015-2016	Research assistant	<p>Research assistant for MSc student Pippa Schlegel looking at the spatial variation in modelled hydrodynamic characteristics associated with valley confinement in the Krom River Wetland, Eastern Cape.</p>
2015	Field assistant	<p>Installing monitoring equipment in the Tsitsa River for the Ntabelanga and Laleni Ecological Infrastructure Project (DEA/NRM programme).</p>
2015	Data capturer	<p>Captured cross-sectional data and drew up cross-sections for work conducted by Dr B van der Waal in the Hydraulic and Geomorphic assessment for EWR in</p>

		the Mara River, Kenya (UNESCO – IHE, Nile Basin Initiative and MaMaSe. 2015-2016).
2015	Research assistant	<ul style="list-style-type: none"> - Assisting MSc student Laura Bannatyne looking at catchment rehabilitation monitoring in the Tsitsa Catchment - Assisting MSc student Natalie Ellis conducting an aquatic eco-system habitat shift assessment in semi-arid, groundwater fed streams in the Karoo.
2014	Research assistant	<ul style="list-style-type: none"> - Aiding Honours student Pippa Schlegel with repeat surveying to quantify avulsion mechanisms in the Sand River, Eastern Cape. - Assistant for several Honours projects looking at aeolian and fluvial interactions as factors controlling the structure and function of a Headland Bypass Dunefield, St. Francis Bay, Eastern Cape. Project leader Professor W.N Ellery.
2014	Field assistant	Assistant for Professor W.N Ellery and Laura Bannatyne in the wetland delineation of a wetland near the Baywest Mall development, Port Elizabeth.
2014	Laboratory assistant	Conducting laboratory work for WRC project K5/2260 for project researcher, Dr B van der Waal. This included the processing and calculating of suspended sediment samples.
2012	Geologist's assistant	Gained work experience by assisting geologist, Lourens Greyling, in logging coal-seam cores in Mpumalanga Province.
2011	Project Assistant	Verification of GIS data in the Mpumalanga province for CSS (Conservation Support Services).
2009-2010	Research Assistant	Research Assistant with bi-annual field research, for Dr KDA Huchzermeyer, in the Olifant's River gorge in the Kruger National Park. I helped collect fish samples for a study assessing the prevalence of pansteatitis in the resident fish populations.

Personal background

I am a hardworking dedicated student born and raised in the farming community of Lydenburg, South Africa. My childhood was spent developing interests spanning the realm of nature. A varied and interesting tertiary education path equipped me with the requisite skills to work in various fields of geography, with specific reference to geomorphology, river habitats and aquatic ecology. I have experience in and also enjoy organising and leading extended field excursions into remote areas. This extends into my student and personal life. From 2013-2016 I was an active committee member for the Rhodes University Mountain Club and in 2014 I was elected chairman. Being an active part of this well-run outdoors society has given me experience in organisation and management skills, hosting events, leading large groups on hikes to remote areas, logistics and leadership skills. For many years I have enjoyed overland travel into Africa to explore new countries, physical environments, natural phenomena and cultures. More recently, in July 2017 my girlfriend and I set out to travel unsupported through Eastern Europe on our mountain bicycles, following the Carpathian mountain range. The trip lasted 8 weeks and covered over 3 000 km. We achieved our goal through endurance and perseverance!

References

Professor Kate Rowntree

Emeritus Professor

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