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## UCT researchers on epic journey of the Orange River

A trio of UCT researchers are on a two-month journey following the Orange River from Qacha's Nek to Alexander Bay. The researchers, who have embarked on the Senqu2Sea Expedition, are paddling an average of 40 kilometres a day often battling stormy weather and rapids.

"The aim of the expedition is to traverse the length of the Orange River, from Qacha's Nek in the majestic Maluti Mountains of Lesotho down to Alexander Bay on the barren sandy Atlantic Coast. We're undertaking some research which is unique to this type of venture: a true river mega-transect," said MSc graduate, Sam Jack.

The transect will provide an ecological census of the natural vegetation and ecosystems along the country's biggest waterway.

Jack is travelling together with UCT PhD student, James Puttick and statistical science lecturer, Ian Durbach.

The team will be compiling a baseline photographic record of the river and its surrounds by taking regular shots on the river, and from the river bank.

Puttick, who studies vegetation and climate change in eastern South Africa, has been taking photographs from his kayak at two-kilometre intervals. The GPS position of photographs will allow others to take pictures later, and assess the degree of landscape change in terms of development on the river banks and the extent and composition of the vegetation.

The team is also taking diatom samples of the slimy layer covering submerged rocks and macrophytes. This is seen as a proxy for water quality and the health of the river system. The expedition is being supported by UCT's Plant Conservation Unit, the Mazda Wildlife Vehicle Fund and the Arid Lands Node of the National Research Foundation's South African Environmental Observation Network (SAEON).

An oxygen isotope project, led by Roger Diamond of the Geology department at UCT, will receive water samples collected from the main tributaries feeding into the Orange River, as well as from the Orange River itself.

"This data will be interesting for exploring the different conditions that exist within different tributaries' watersheds during rainfall events," said Jack.

The trio of adventurers are clearly excited about their expedition, but it's not all plain paddling. It's been difficult to collect diatom samples. After flooding, the river silt has scoured the rocks of the thin layer of diatoms and high-water levels mean the rocks are further underwater.

They've already notched up an array of adventures along the way, including being caught in a thunderstorm in the middle of the night, a paddle breaking, falling out of kayaks while going down rapids and meeting fascinating people en route.

Thankfully, the team missed what their blog described as "really nasty" flooding to the seaward side of the Drakensberg when they set out on 12 January, but are expecting to hit "gnarly white water" on later stretches of the river.

They camp alongside the river and their meals have been improved following Jack's discovery of Boletus mushrooms under the groves of poplar trees along the banks.

Another highlight has been their encounter with people along the Lesotho stretch of the river, who greeted them enthusiastically "with much shouting and waving from the clifftops."

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