Exploring lakes in Vanuatu

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A research team from the Surface Waters Research and Management Department is investigating the earliest traces of human life in the tropical Pacific. In July 2017, the team undertook an expedition to Vanuatu in Melanesia. The researchers took sediment cores from the lakes and marshes on seven islands in order to test these for indications of the earliest human activities.

The earliest evidence of humans in Europe has already been thoroughly researched. Archaeological finds and lake sediments contain insights into human activities such as farming, animal husbandry and forest logging. In the tropical Pacific, however, existing research on the subject is scant. Sediment cores from Melanesian lakes should now provide in-depth insights into the time of the first human settlements on the islands, and above all how the settlements changed the island environment. Melanesia lies northeast of Australia and west of Polynesia.

Project leader Nathalie Dubois and her team found various lakes on the islands. Several were very small and nearly dried out, while others were completely overgrown with aquatic plants and looked more like football fields — so much so that the researchers were even able to walk on the plants. Underneath the plants, the water was about three meters deep, and the team managed to extract sediment cores of around 1.2 meters in length. From initial examinations, the sediments look very promising. They are approximately 1000 years old and contain large amounts of organic carbon. This points to erosion of the ground, which could be attributed to logging in the forests or animal husbandry. The next project phase will see detailed analysis of the sediment cores.

Nathalie Dubois studied oceanography and is looking at evidence of early humans in the tropical Pacific as part of her Swiss National Science Foundation professorship.

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PAGES (Past Global Changes)
PAGES brings together scientists from all over the world. Nathalie Dubois is the primary author of an international study by the PAGES task force “Aquatic Transition”, which is chiefly concerned with early traces of human life. Sediments from inland waters in every region of the earth provide insights into the first human activities and the resulting changes in aquatic systems.
Link to the Study

Related Links

Project MACRO

Lecture on 29 October 2017 at the ETH in Zurich

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