Start of a new Moroccan Middle and High Atlas Drilling Program

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Citation for published version (APA):

Published in:
Scientific Drilling

Citing this paper
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New Science Plan in Chinese to be Available

The science plan for the International Ocean Discovery Program (IODP, 2013–2023), “illuminating the Earth’s Past, Present, and Future”, now has the Chinese version. This Science Plan, originally published in English in June 2011, will guide multidisciplinary, international collaboration in scientific ocean drilling during the period 2013 to 2023.

To encourage more Chinese scientists to get involved in this international program and attract more attention from the public, the IODP-China Office has organized senior scientists to translate this Science Plan into Chinese. The translation will be published in early 2013.

“I sincerely hope and invite our Chinese colleagues to read this plan and propose bold new ideas and methods to advance our understanding of the Earth and participate in IODP expeditions of discoveries in the spirit of Zheng He”, Kiyoshi Suyehiro, the president of IODP-MI, offers his best wishes to Chinese scientists and writes the preface for the Chinese version of this science plan.

Start of a New Moroccan Middle and High Atlas Lake Drilling Program

In September 2012, new lake sediment cores were recovered from Lake Sidi Ali in the Middle Atlas mountains of Morocco. A German-British-Belgian team from Leipzig University and the universities of Potsdam, Osnabrück, Manchester and Ghent obtained a 20-m-long core from the 38-m-deep southwestern part of the lake and two parallel 9-m-long cores from the shallow northeastern sub-basin at 10 m water depth using a UWITEC coring device. Coring sites were selected following a detailed seismic sub-bottom sediment profiling survey.

Seismic surveys and short-core sampling were also conducted on lakes Tislit, Isli and Afourgh in the High and Middle Atlas mountains to prepare further drilling campaigns in 2013. However, the 2012 campaign focused on Lake Sidi Ali which was previously investigated by Prof. Henry Lamb (University of Aberystwyth) and his team in the 1990s. They recovered a 6-m-long core from a third very shallow sub-basin of the lake and conducted pioneering work on the mid and late Holocene lake and regional climate history. The new study of sediment cores from Lake Sidi Ali seeks to address glacial and late glacial millennial-scale cooling events in the western Mediterranean-Saharan transition zone, Holocene Rapid Climate Changes, and the regional pastoral-ism, forest clearance and fire activity history. Initial funding is provided to Christoph Zielhofer and Steffen Mischke by a grant from the Deutsche Forschungsgemeinschaft (DFG) and to William Fletcher by a grant from the Natural Environment Research Council (NERC).

First Phase of Scientific Drilling at Koyna, India

A major program including scientific drilling has been launched to investigate reservoir-triggered earthquakes in the Koyna area, located in the Deccan Flood Basalt Province of western India. As a prelude to setting up of a deep borehole observatory, drilling of a set of four exploratory boreholes surrounding the Koyna-Warna reservoir area (called Koyna) started in mid-December 2012. Each borehole is planned to a depth of about 1500 m, so that they penetrate the Deccan basaltic pile and go a few hundred meters in the underlying basement rocks. Measurements in the boreholes would help provide unprecedented information about the thickness and properties of the Deccan Traps in the area and the nature of the basement that has remained elusive so far. Scientific experiments to be carried out in the basement sections would enable precise subsurface imaging of the rock volume where earthquakes are occurring in Koyna.

Koyna Borehole-1 (KBH-1) is located ~2.5 km SSW of the Koyna Dam and is in close vicinity to the epicenter of the 1967 M6.3 Koyna earthquake (See the map on the next page). Starting on 17 December 2012, KBH-1 reached the granitic basement at a depth of 933 m on 17 January 2013. It went through several lava flows and inter-trappean red bed horizons. The thickness of the Deccan Traps is consistent with the inference from recent broadband seismic monitoring in the area that shows a conspicuous absence of earthquakes in the top ~1 km. Cores recovered from the borehole have revealed a flood basalt pile com-