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国际大陆科学钻探 (ICDP) 进展 [点此下载全文](#)

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摘要:

直接进入地球内部观察研究地球的成分、结构构造和各种地质作用是人类的长期梦想, 就目前人类的科学入地下进行实地取样与观察。科学钻探是获取地球深部物质、了解地球内部信息的最直接、最有效、最可靠的方法。以来, 已经在许多领域取得了重要成果, 发表了大量的文章。本文对科学钻探的发展过程、大陆科学钻探的背景与建立过程、组织结构、立项程序、立项准则以及研究领域做了简要概述。对国际大陆科学钻探近年来在坑及撞击过程研究、地球生物圈、火山系统和热流机制、地幔柱和大洋裂谷、活动断裂、汇聚板块边界和碰撞带要进展做了综述, 重点介绍了日本的云仙火山钻探项目、美国夏威夷火山科学钻探和圣安德列斯断裂深部观测项目实施的3个国际大陆科学钻探项目所取得的成果进展和中国的大陆科学钻探事业近期的主要活动。

关键词: [国际大陆科学钻探](#) [气候变化](#) [陨石撞击](#) [地球生物圈](#) [地幔柱](#) [活动断裂](#)

Advances of International Continental Scientific Drilling Program [Download Full Text](#)

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Abstract:

It has long been a dream for mankind to enter the deep Earth to sample and investigate the geological progresses. Until now, scientific drilling has been the unique method in our understanding the structures of the Earth. This paper try to give a brief introduction of the history, the development structure and management, the membership, the project development scheme of International Continental Scientific Drilling Program. Great advances have been brought about in many fields of earth sciences by continental scientific drilling. Based on the recent publications and website materials of ICDP, this paper summarize the main developments and Global Environments, in the Study of Impact Craters, in the GeoBiosphere, in Active Volcanic Hotspot Volcanoes, in Convergent Plate Boundaries and Collision Zones, and in Natural Resources. Fascinating scientific results of ICDP drilling at Mt. Unzen, Japan and the Hawai'i Scientific Drilling Project are also introduced in this paper. As one of the three founding members of ICDP, China has made great developments in continental scientific drilling; typical examples are the achievements of Chinese Continental Scientific Drilling (CCSD) and the progress of Lake Qinghai Scientific Drilling Project. The preliminary project of China -the Chinese Cretaceous Continental Scientific Drilling Project and the development of the project are also summarized in this paper.

Keywords: [International Continental Scientific Drilling](#) [climate change](#) [impact crater](#) [geobiosphere](#) [fault](#)