



行走南极：探索地球 最南端的奥秘











南极终年积雪，98%的大陆表面均被冰雪覆盖



南极是世界上最寒冷的大陆，最低温度为 -89.2°C



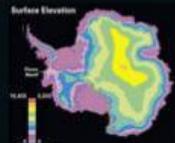
南极是世界上风最大的大陆，最大风速达100米/秒

ANTARCTICA

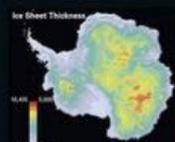
A NEW AGE OF EXPLORATION



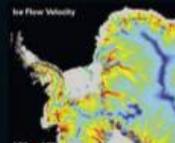
Extrêmes of climate and terrain found on no other continent confront all who venture to Antarctica. Almost a century ago iron men named Amundsen, Shackleton, and Scott raced exhaustion, starvation, frostbite, and each other to the South Pole. Planting Norway's flag, Amundsen won. Today's goal is knowledge. Satellite and ground-based observations help scientists understand the continent and its global climate impacts. The scope and detail achieved by Radarsat's recent Antarctic mapping missions "was once unimaginable," according to Ghassan Abtar, NASA's associate administrator for earth science. "Scientists and engineers have literally created new ways to see the remotest reaches of the planet."



ELEVATION OF THE ICE SHEET
 While Antarctica's ice sheet is the largest on Earth, it is also the most uniform. The continent's average elevation is 2,850 feet (870 meters). The highest mountains in Antarctica are the Transantarctic Mountains, which run across the continent from the South Pole to the tip of the Antarctic Peninsula. The highest peak is Mount Erebus, at 14,961 feet (4,568 meters).



MEASUREMENTS OF A PARADOX
 Nearly 98 percent of the world's ice is in Antarctica. The continent's ice sheet is the largest on Earth, covering an area of 14 million square kilometers (5.4 million square miles). The ice sheet is 2,200 meters (7,200 feet) thick on average. The ice sheet is 1,600 meters (5,200 feet) thick at the South Pole. The ice sheet is 1,000 meters (3,200 feet) thick at the tip of the Antarctic Peninsula.



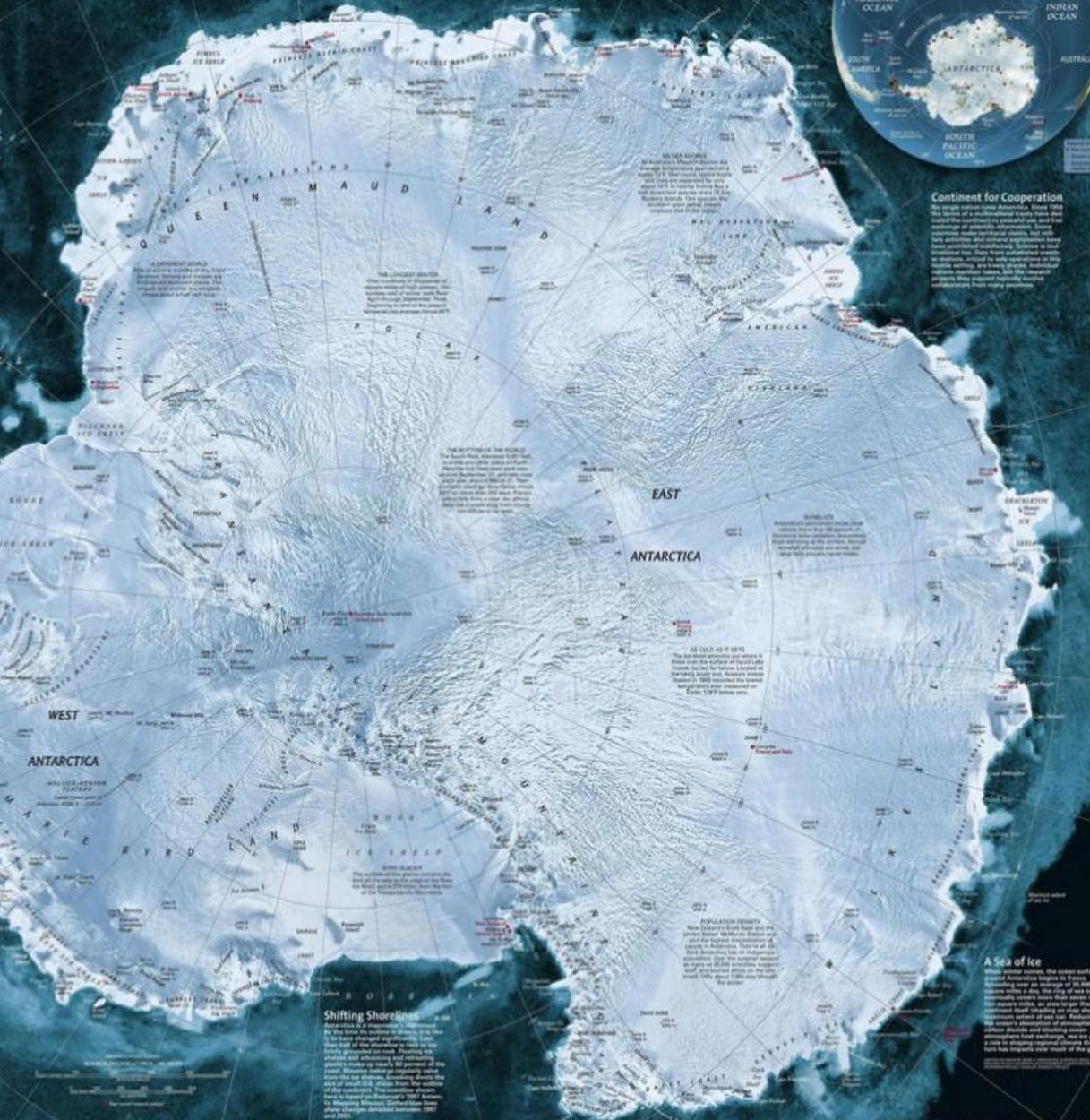
ICE ON THE MOVE
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ULTIMATE WINDS
 Antarctica's winds are the strongest on Earth. The continent's average wind speed is 18 kilometers per hour (11 miles per hour). The highest wind speeds are recorded at the South Pole, where winds can reach 100 kilometers per hour (62 miles per hour). The highest wind speeds are recorded at the tip of the Antarctic Peninsula, where winds can reach 150 kilometers per hour (93 miles per hour).

Radarsat Fills in the Blanks

Most of Antarctica's interior remained largely unexplored until the late 1990s, when satellite radar altimetry revealed surface features, but radar altimetry could not see through the ice sheet's surface. There is still a lot to be learned about the continent's interior. A major challenge is the continent's interior, which is largely unexplored. The continent's interior is largely unexplored. The continent's interior is largely unexplored.



Continent for Cooperation

The continent's remote location makes it a natural laboratory for studying the effects of global climate change. The continent's remote location makes it a natural laboratory for studying the effects of global climate change. The continent's remote location makes it a natural laboratory for studying the effects of global climate change.

南极大陆

中国地质科学院地质力学研究所南极考察历史分布图

长城站

第29次南极考察队(赵越/刘晓春)
 第32次南极考察队(赵越/张拴宏/裴军令)
 第31次南极考察队(刘建民/高亮)
 第29次南极考察队(赵越/刘晓春)
 第26次南极考察队(赵越)

第32次南极考察队(赵越/张拴宏/裴军令)
 第31次南极考察队(赵越/张拴宏/裴军令)
 第29次南极考察队(赵越/张拴宏/裴军令)
 第31次南极考察队(赵越/张拴宏/高亮)

中山站

第31次南极考察队(刘晓春/刘健/陈虹)
 第29次南极考察队(胡健民/王伟)
 第24次南极考察队(刘晓春/刘健/崔建军)
 第21次南极考察队(刘晓春/徐刚)
 第30次南极考察队(王伟)
 第26次南极考察队(韦利杰/陈虹)
 第22次南极考察队(胡健民)
 第15次南极考察队(刘晓春)

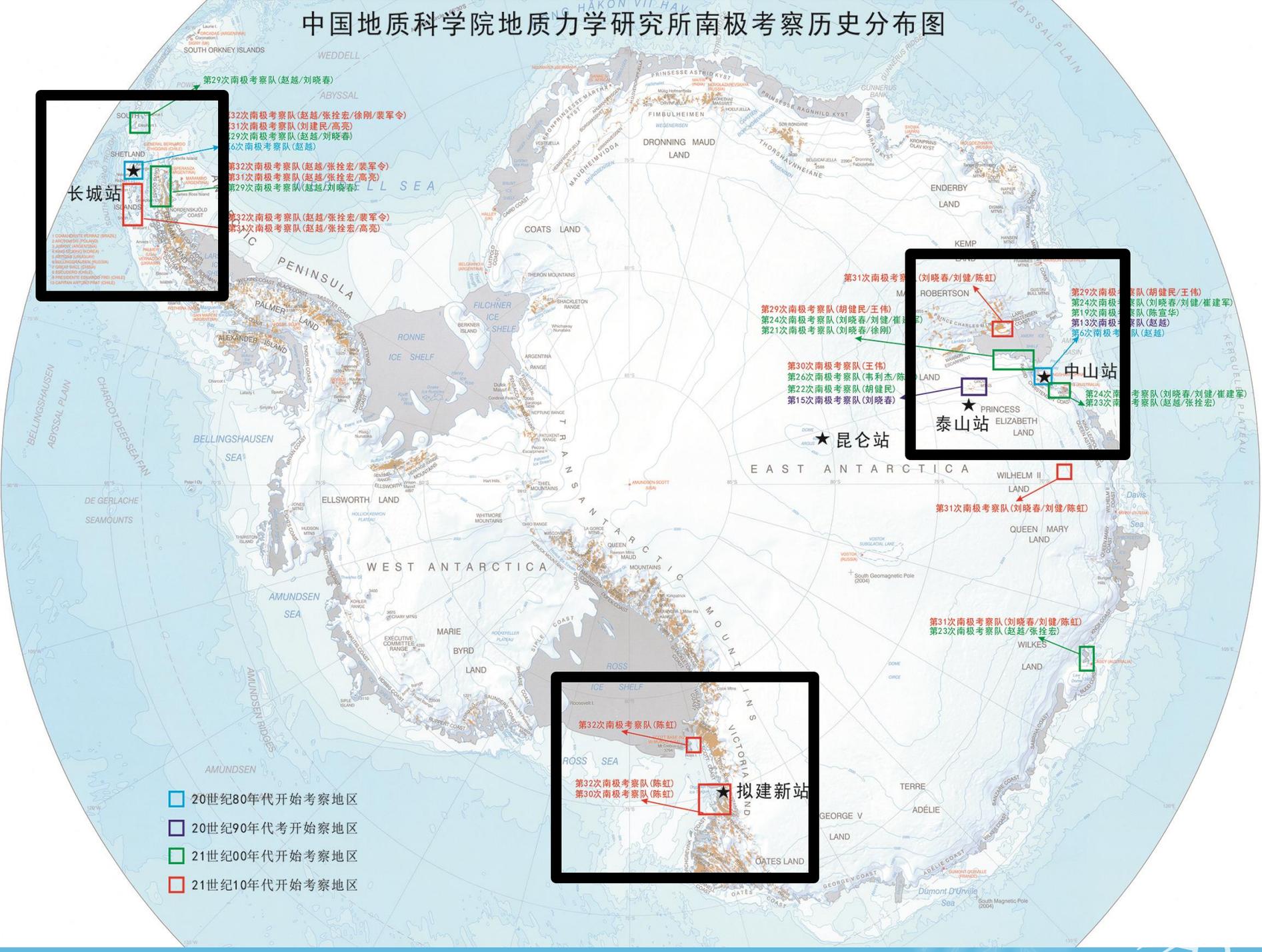
第29次南极考察队(胡健民/王伟)
 第24次南极考察队(刘晓春/刘健/崔建军)
 第19次南极考察队(陈宣华)
 第13次南极考察队(赵越)
 第6次南极考察队(赵越)

第24次南极考察队(刘晓春/刘健/崔建军)
 第23次南极考察队(赵越/张拴宏)

拟建新站

第32次南极考察队(陈虹)
 第32次南极考察队(陈虹)
 第30次南极考察队(陈虹)

- 20世纪80年代开始考察地区
- 20世纪90年代开始考察地区
- 21世纪00年代开始考察地区
- 21世纪10年代开始考察地区



ANTARCTICA

A NEW AGE OF EXPLORATION

NATIONAL GEOGRAPHIC

Extrêmes of climate and terrain found on no other continent confront all who venture to Antarctica. Almost a century ago iron men named Amundsen, Shackleton, and Scott raced exhaustion, starvation, frostbite, and each other to the South Pole. Planting Norway's flag, Amundsen won. Today's goal is knowledge: Satellite and ground-based observations help scientists understand the continent and its global climate impacts. The scope and detail achieved by Radarsat's recent Antarctic mapping missions "was once unimaginable," according to Ghassem Asrar, NASA's associate administrator for earth science. "Scientists and engineers have literally created new ways to see the remotest reaches of the planet."

Radarsat Fills in the Blanks

Most of Antarctica's interior was once blank on the world's satellite maps, but that's no longer the case. The Canadian satellite Radarsat-1 has provided the first satellite images of the continent's interior. The satellite's Synthetic Aperture Radar (SAR) can see through clouds and darkness, allowing it to map the continent's interior. The first images were released in 2001. The Canadian Space Agency (CSA) released the first images of the continent's interior in 2001. The satellite's SAR can see through clouds and darkness, allowing it to map the continent's interior. The first images were released in 2001.



Continent for Cooperation

The remote continent of Antarctica, once the domain of a few explorers, is now the subject of a global effort to understand its climate and environmental significance. The continent's unique environment, with its vast ice sheets and extreme weather, is a natural laboratory for studying climate change. The continent's unique environment, with its vast ice sheets and extreme weather, is a natural laboratory for studying climate change.

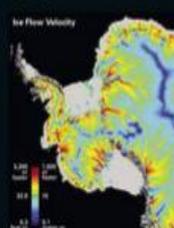
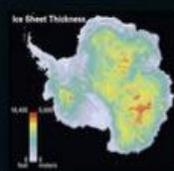
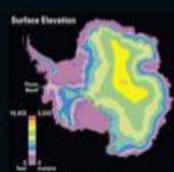
★ 长城站

★ 中山站

★ 泰山站

★ 昆仑站

★ 新站

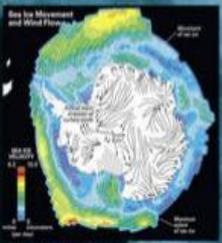


ELEVATION OF THE ICE SHEET
The ice sheet is the largest body of ice on Earth, covering an area of 14 million square kilometers. It is composed of ice that has accumulated over thousands of years. The ice sheet is the largest body of ice on Earth, covering an area of 14 million square kilometers. It is composed of ice that has accumulated over thousands of years.

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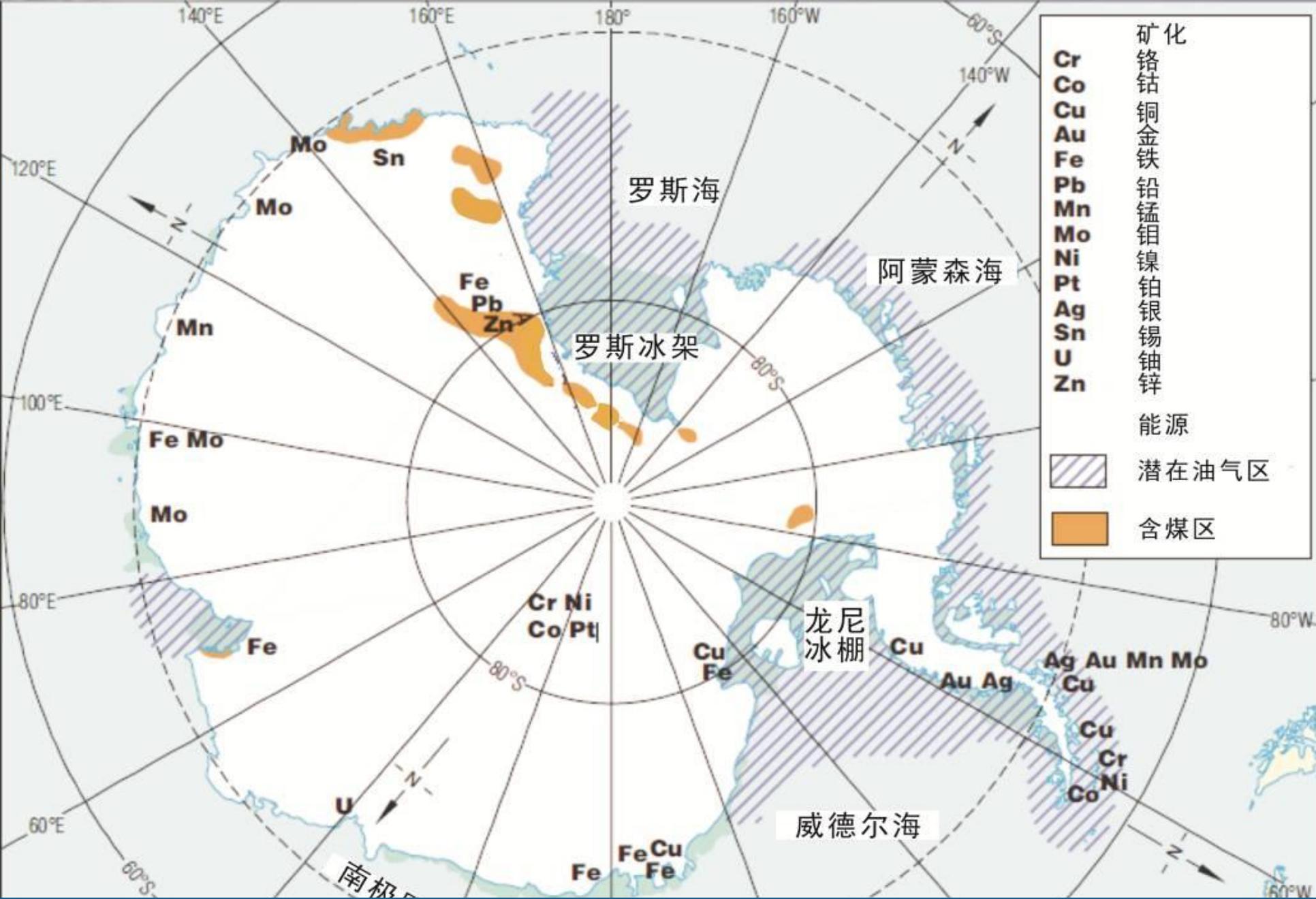


Shifting Shorelines

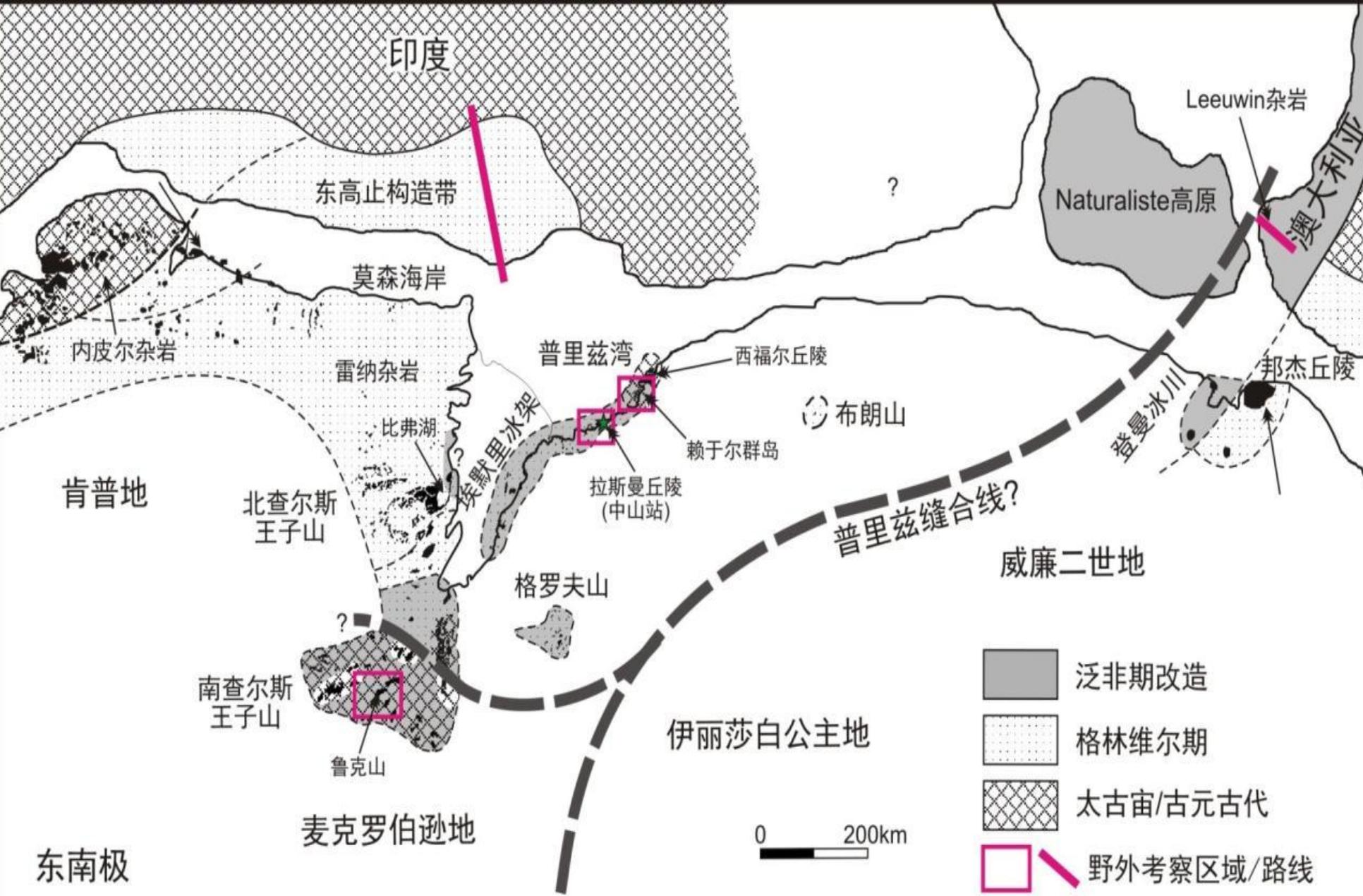
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A Sea of Ice

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南极大陆矿产与能源



最早识别出东南极大陆泛非期构造热事件



新华社:中国南极陨石拥有量世界第三

2016-04-16 09:20:37 来源: 科技日报社·中国科技网(北京)

540

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(原标题:我国南极陨石拥有量达12665块 居世界第三)

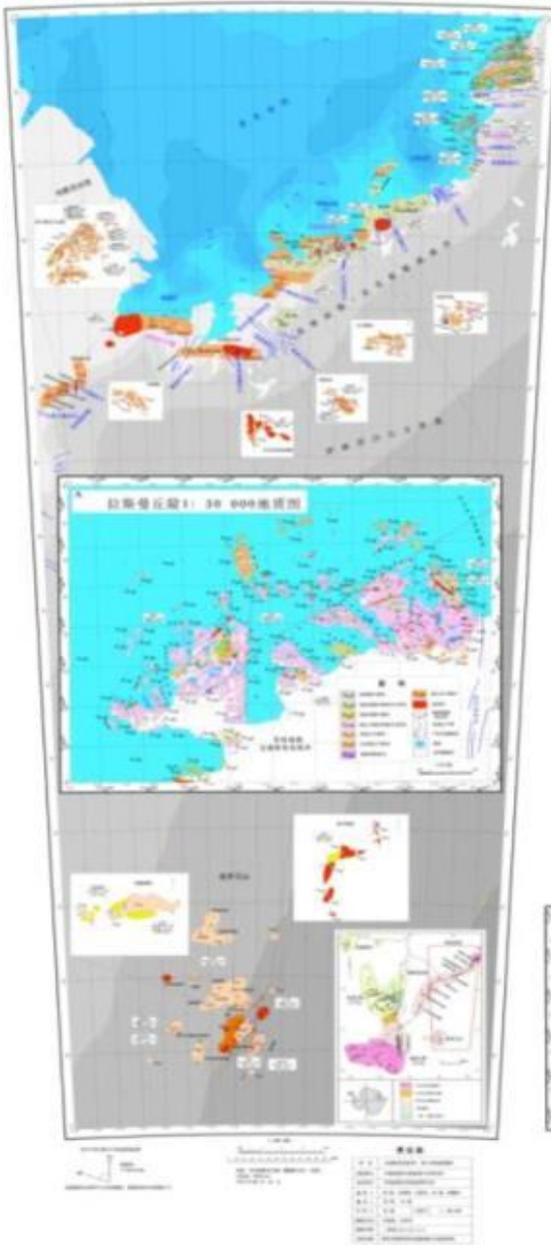
新华社上海电(记者张建松朱基钺)记者从近日召开的中国第32次南极考察队新闻发布会上获悉,我国在南极“格罗夫山宝库”新发现630块陨石,使我国南极陨石拥有量达到12665块,仅次于日本和美国。

我国南极陨石拥有量世界第三

新华社上海4月12日电(记者张建松朱基钺)记者从12日召开的中国第32次南极考察队新闻发布会上获悉,我国在南极“格罗夫山宝库”新发现630块陨石,使我国南极陨石拥有量达到12665块,仅次于日本和美国。

回收了我国第一块南极陨石

南极普里兹带1: 500 000地质图



图例

1:500,000

地质年代

1. 震旦纪 (Zhenzhan Period)

2. 寒武纪 (Cambrian Period)

3. 奥陶纪 (Ordovician Period)

4. 志留纪 (Silurian Period)

5. 泥盆纪 (Devonian Period)

6. 石炭纪 (Carboniferous Period)

7. 二叠纪 (Permian Period)

8. 三叠纪 (Triassic Period)

9. 侏罗纪 (Jurassic Period)

10. 白垩纪 (Cretaceous Period)

11. 古近纪 (Cenozoic Period)

12. 第四纪 (Quaternary Period)

13. 全新世 (Holocene)

14. 更新世 (Pleistocene)

15. 中更新世 (Middle Pleistocene)

16. 早更新世 (Early Pleistocene)

17. 晚更新世 (Late Pleistocene)

18. 冰期 (Glacial Period)

19. 间冰期 (Interglacial Period)

20. 冰消期 (Deglaciation)

21. 冰碛物 (Glacial Deposits)

22. 冰蚀物 (Glacial Erosion)

23. 冰缘沉积物 (Periglacial Deposits)

24. 冰缘侵蚀物 (Periglacial Erosion)

25. 冰缘沉积物 (Periglacial Deposits)

26. 冰缘侵蚀物 (Periglacial Erosion)

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38. 冰缘侵蚀物 (Periglacial Erosion)

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88. 冰缘侵蚀物 (Periglacial Erosion)

89. 冰缘沉积物 (Periglacial Deposits)

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95. 冰缘沉积物 (Periglacial Deposits)

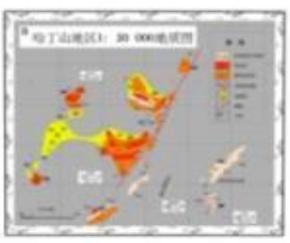
96. 冰缘侵蚀物 (Periglacial Erosion)

97. 冰缘沉积物 (Periglacial Deposits)

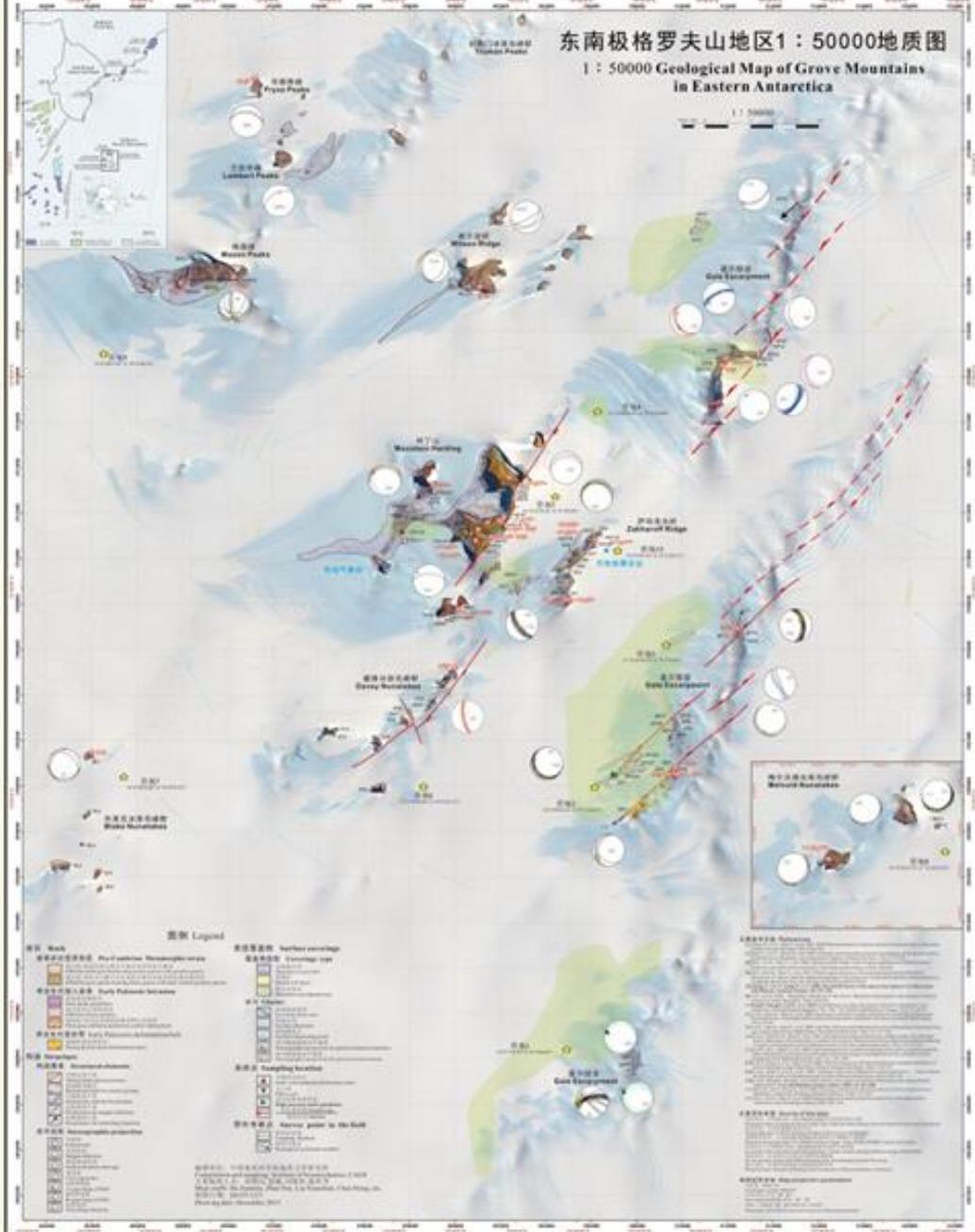
98. 冰缘侵蚀物 (Periglacial Erosion)

99. 冰缘沉积物 (Periglacial Deposits)

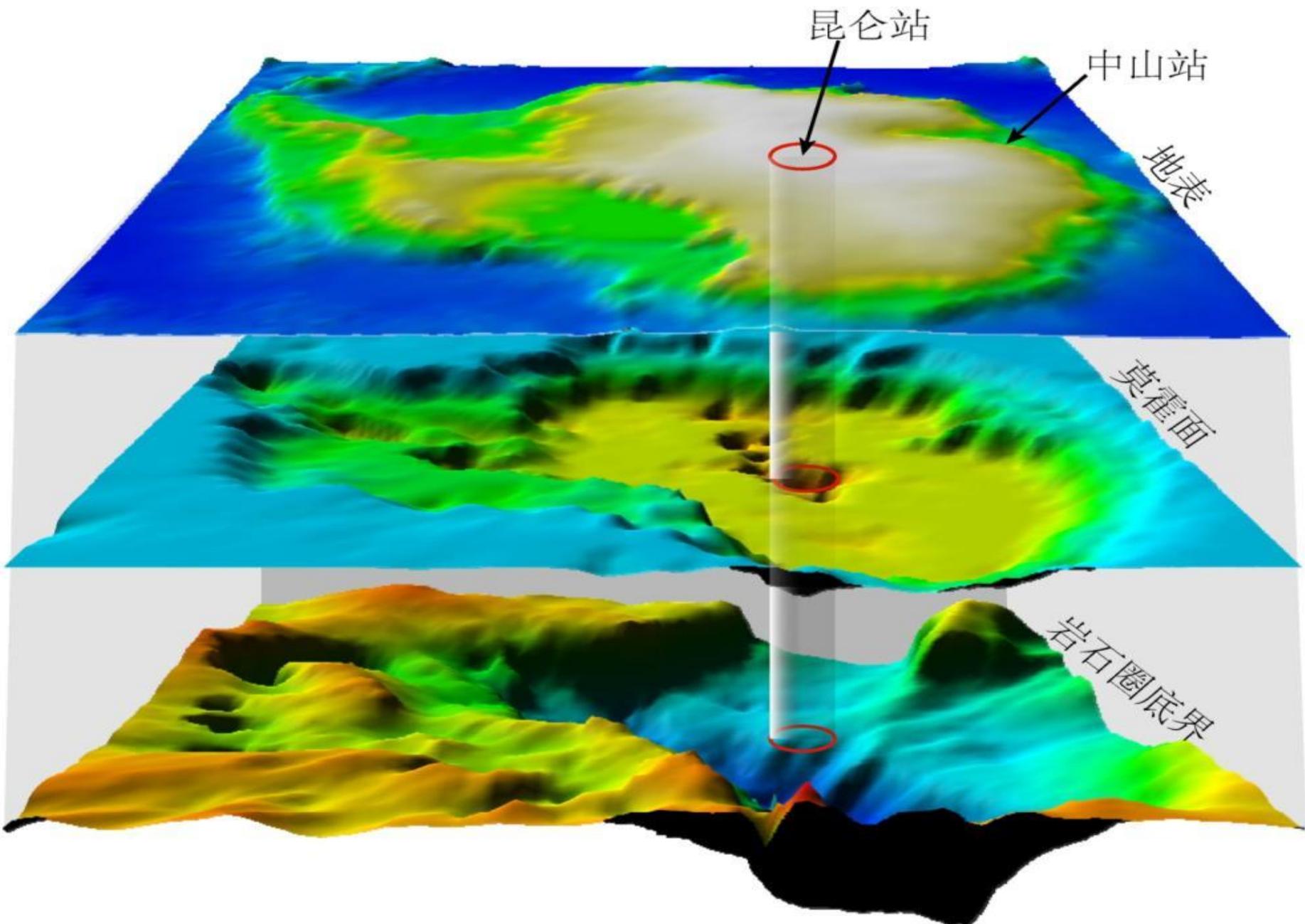
100. 冰缘侵蚀物 (Periglacial Erosion)



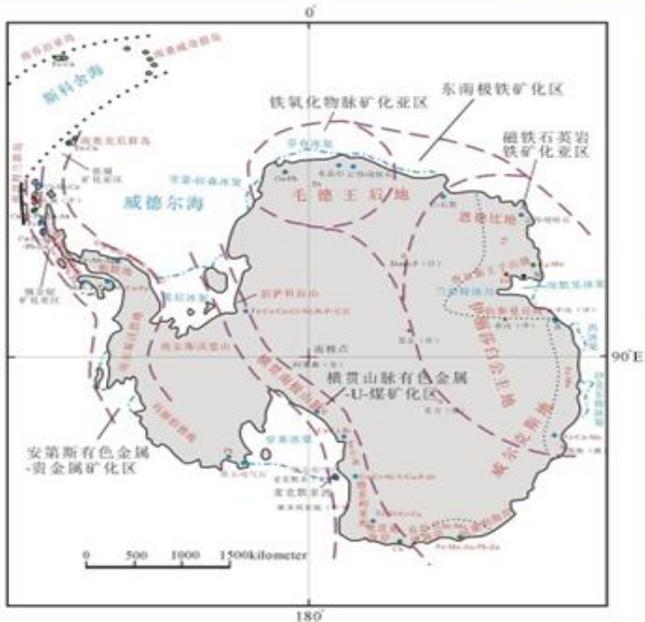
东南极格罗夫山地区1: 50000地质图
1: 50000 Geological Map of Grove Mountains in Eastern Antarctica



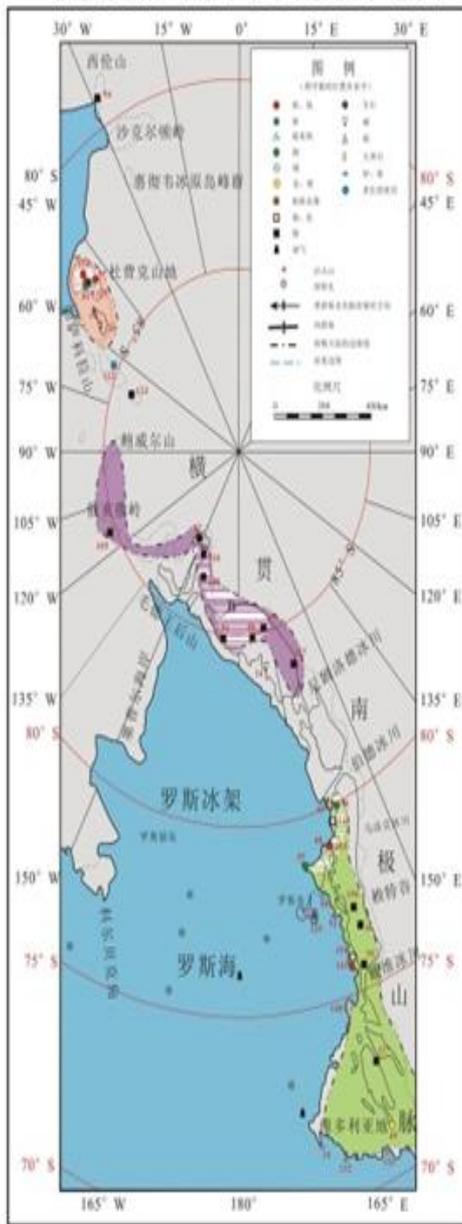
编制南极普里兹带1: 50万地质图和东南极格罗夫山1: 5万地质图



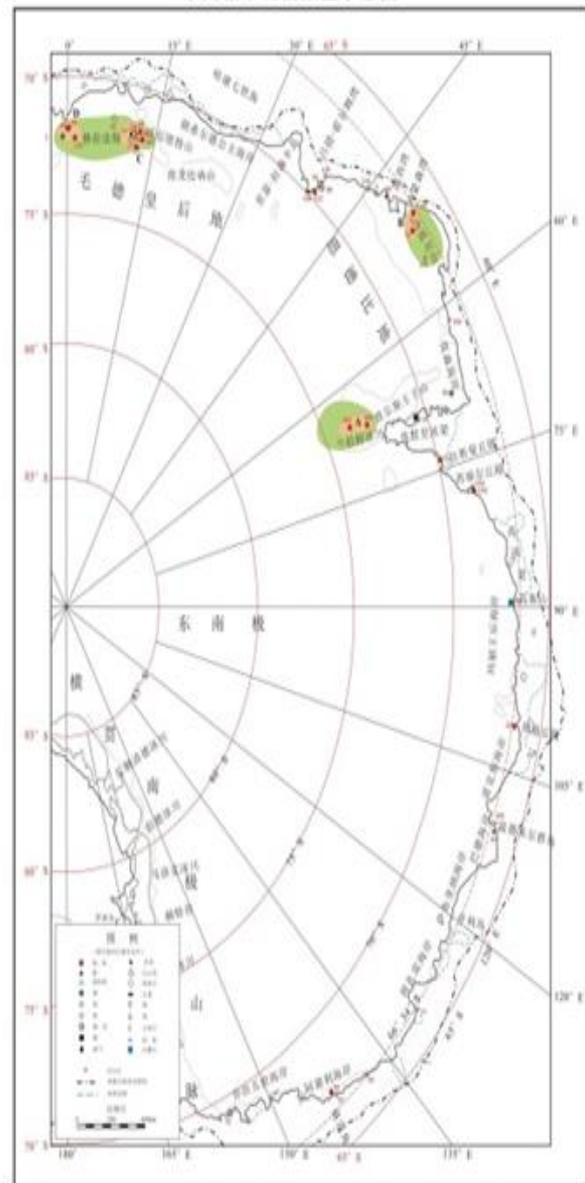
全世界首次绘制南极板块岩石圈厚度图、地壳厚度图等



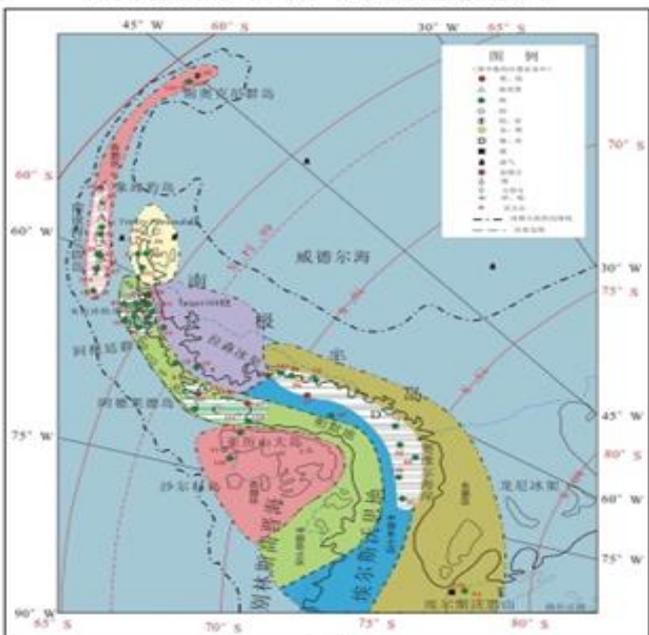
横贯南极山脉矿化富集区示意图



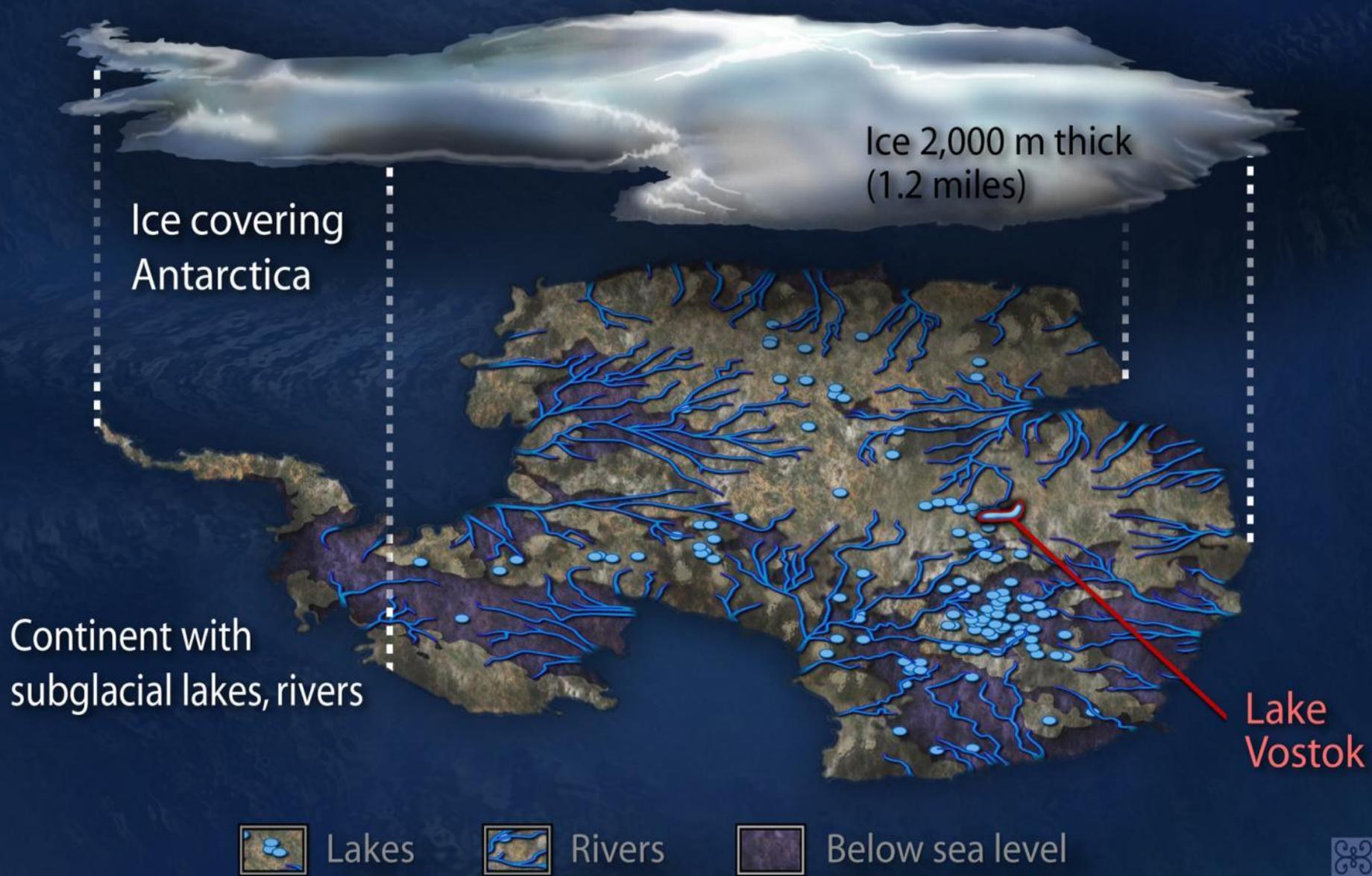
东南极矿化富集区示意图



西南极南极半岛矿化富集区示意图

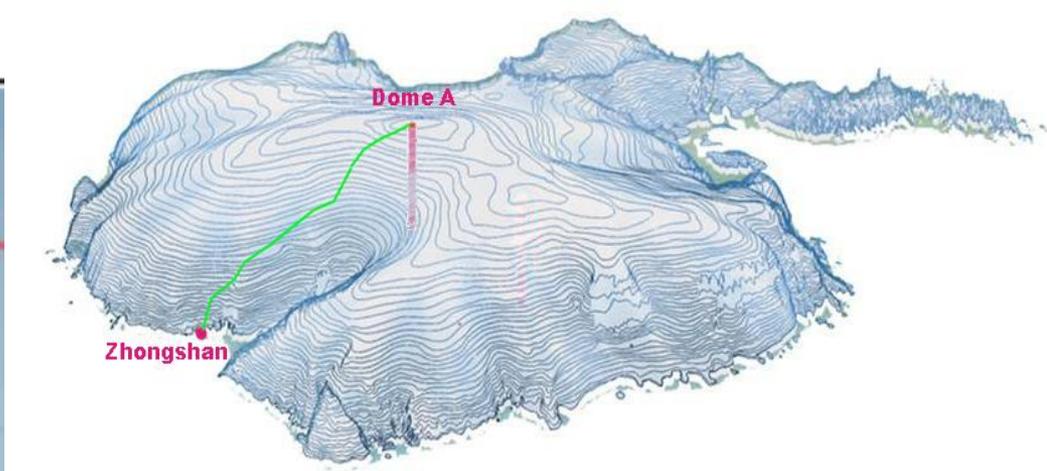
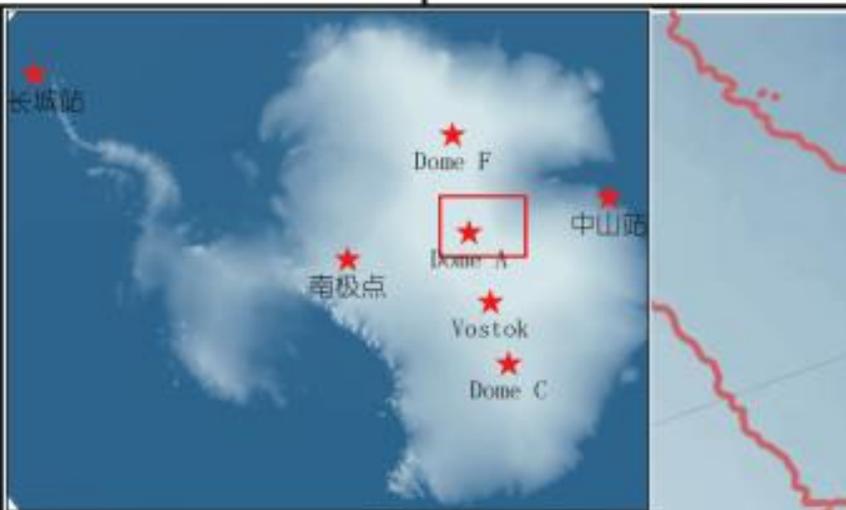


对南极矿产资源潜力进行综合评价



冰下地质研究

60°0'0"E



谋划冰下山脉地质钻



筹划进入南查尔斯王子山



罗斯海地区新站



期待乘坐“海洋六号”去南极

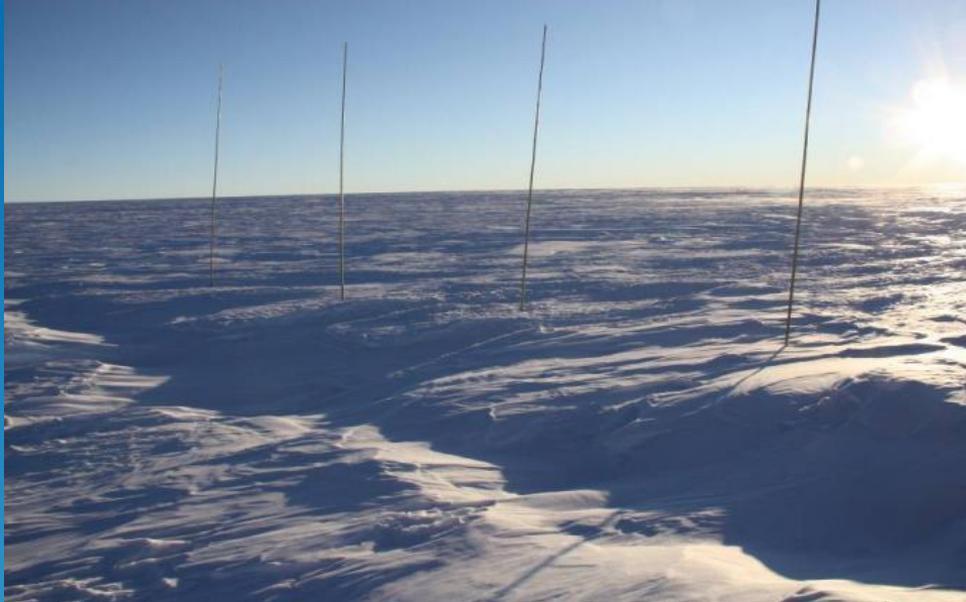




冰缝，最危险的敌人



南极内陆雪地车队



“你在格罗夫山的每一步，是你人生的第一步，也可能是最后一步。”



茫茫雪地



露头零散，路途遥远！



营救俄罗斯船只



雪龙船被困



冰山环绕



连续7个通宵监测



脱困瞬间的“闪电”



罗斯海新站选址



艰难行走



新华网

科技

> 正文

特写：难言岛上的86小时“科考传奇”

2014年01月18日 18:40:47 来源：新华网



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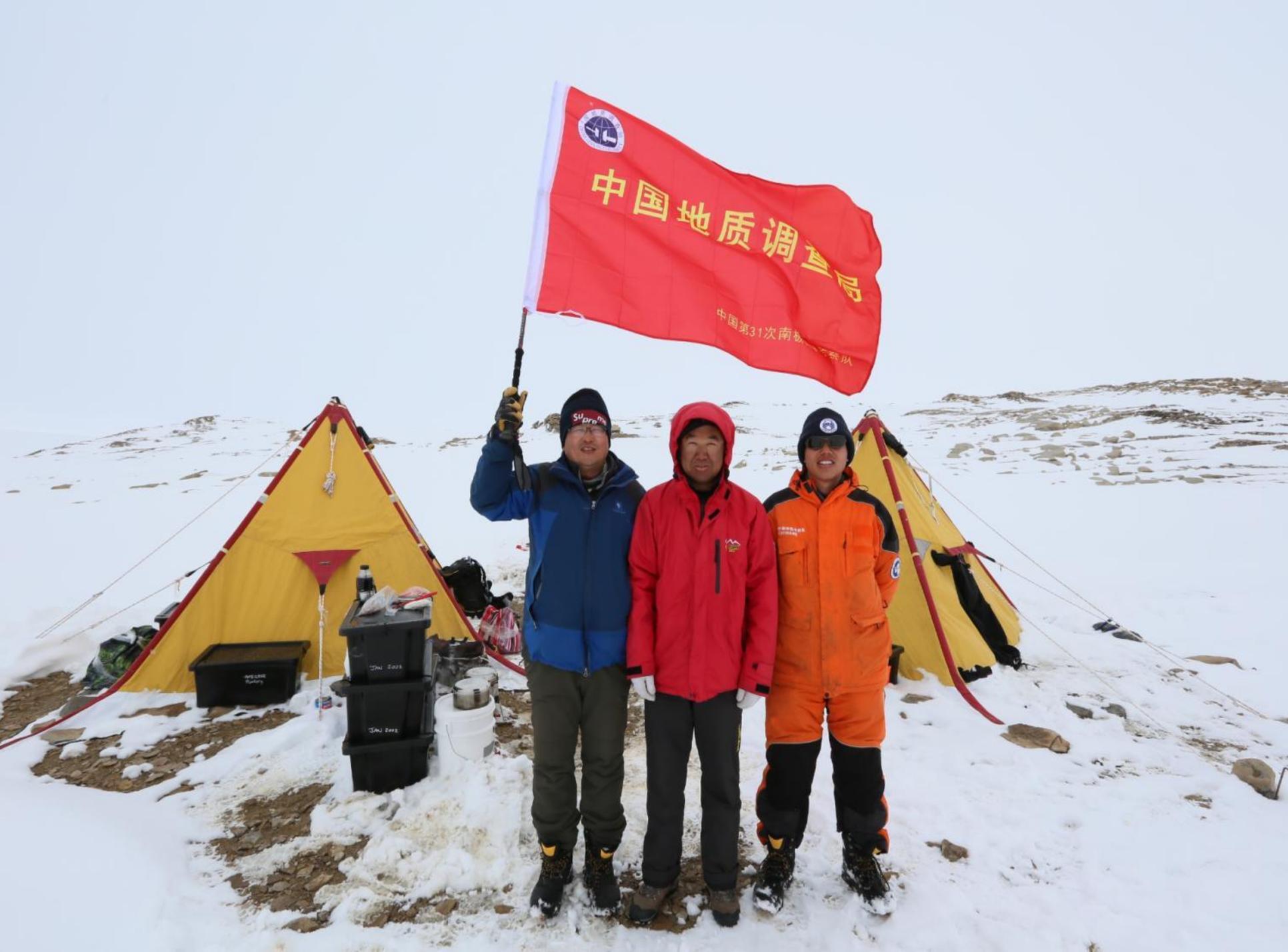


新华网“雪龙”号1月18日电（记者张建松）“雪龙”号因为援救俄罗斯被困船只及自身被困耽误了宝贵的科考时间，在我国新的南极科考站建站选址准备工作中，科考队员们不得不与时间赛跑，维多利亚地难言岛上原定8天的任务，仅用了86个小时就圆满完成。他们风餐露宿、昼夜拼搏，书写了一段“科考传奇”。



中国地质调查局
中国第30次南极科学考察队

中国地质调查局
中国第30次南极科学考察队



中国地质调查局
中国第31次南极考察队



中国
1998 - 2002

第五次
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