

Three scientific expeditions seek treasure under the ice in the Frozen Continent

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In a modern iteration of the great age of Antarctic exploration of the 19th and 20th centuries, three teams of scientists are rushing to reach not the South Pole like Roald Amundsen, Robert Falcon Scott and Ernest Shackleton, but lakes deep below the surface of the Frozen Continent believed to hold scientific treasures. That quest by Russian, British and American scientific teams for water samples is the topic of an article in the current edition of *Chemical & Engineering News*, the weekly newsmagazine of the American Chemical Society (ACS), the world's largest scientific society.

C&EN European Correspondent Sarah Everts explains that the Russian mission to [Lake](#) Vostok captured global headlines recently when the team bored 2.5 miles through Antarctic ice to reach the lake's ancient water, undisturbed for 15 million years. They want to analyze the lake for signs of life and clues about how life might survive in Earth's most inhospitable places – or on other planets. But that step must wait until late in 2012 when the Antarctic winter ends, allowing travel into the Frozen Continent.

But the Russians are only one team of several trying to understand what kind of life can survive in water beneath the Antarctic ice sheet and how these organisms might do it. The other two may yield even greater scientific treasures. One is an American team that plans to drill with hot water – rather than mechanically, as the Russians did – into a river of ice one half mile below the surface that carries [water](#) from several underground lakes to the ocean.

Using the same method, British [scientists](#) will try to reach Lake Ellsworth, almost two miles below the surface, which may have been isolated for a million years. They hope to make a complete survey of life and nutrient sources in Ellsworth, which is not yet possible for the deeper, colder and more ancient Lake Vostok.

More information: Scientists Scope Out Frigid Lakes - [cen.acs.org/articles/90/i9/Sci ... pe-Frigid-Lakes.html](http://cen.acs.org/articles/90/i9/Sci...pe-Frigid-Lakes.html)

Provided by American Chemical Society

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