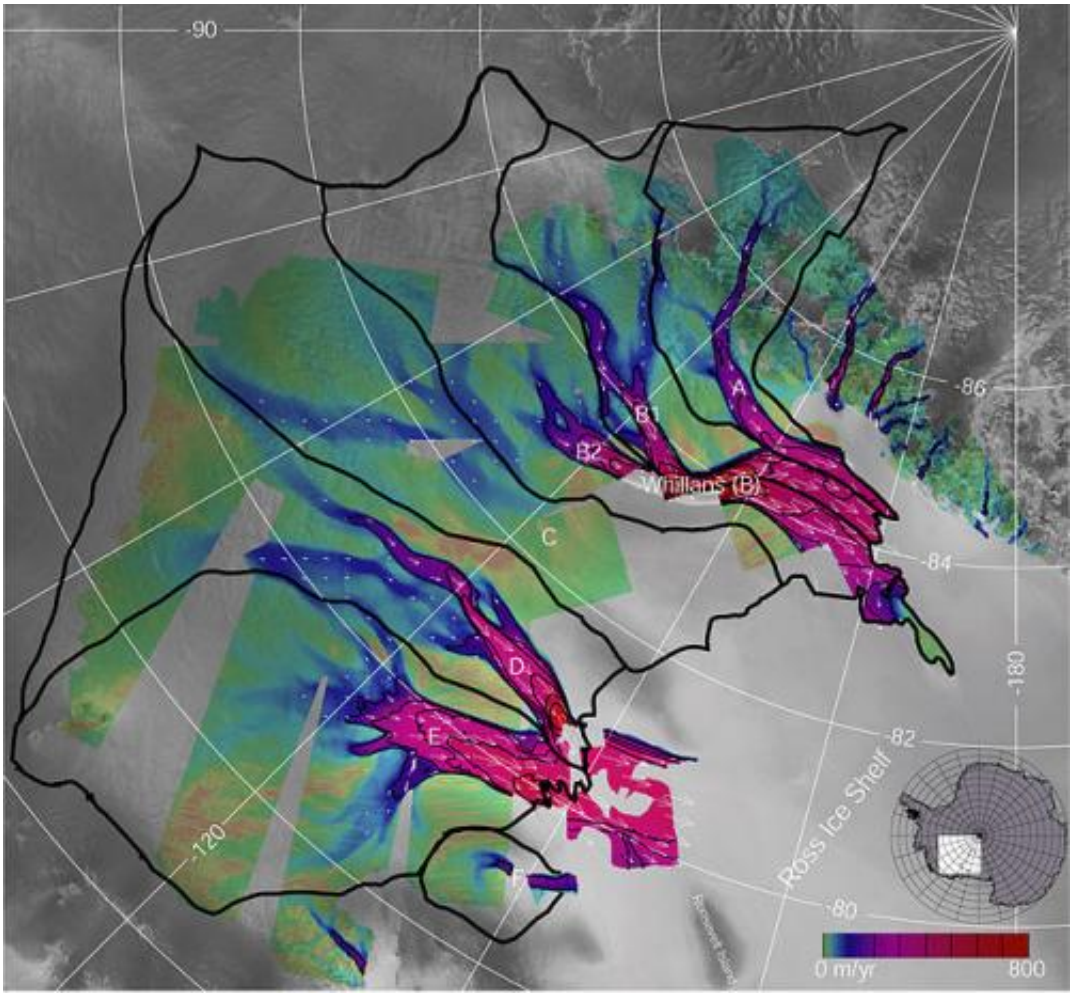
WISSARD team reaches subglacial Lake Whillans in Antarctica

January 28 2013, by Nancy Owano

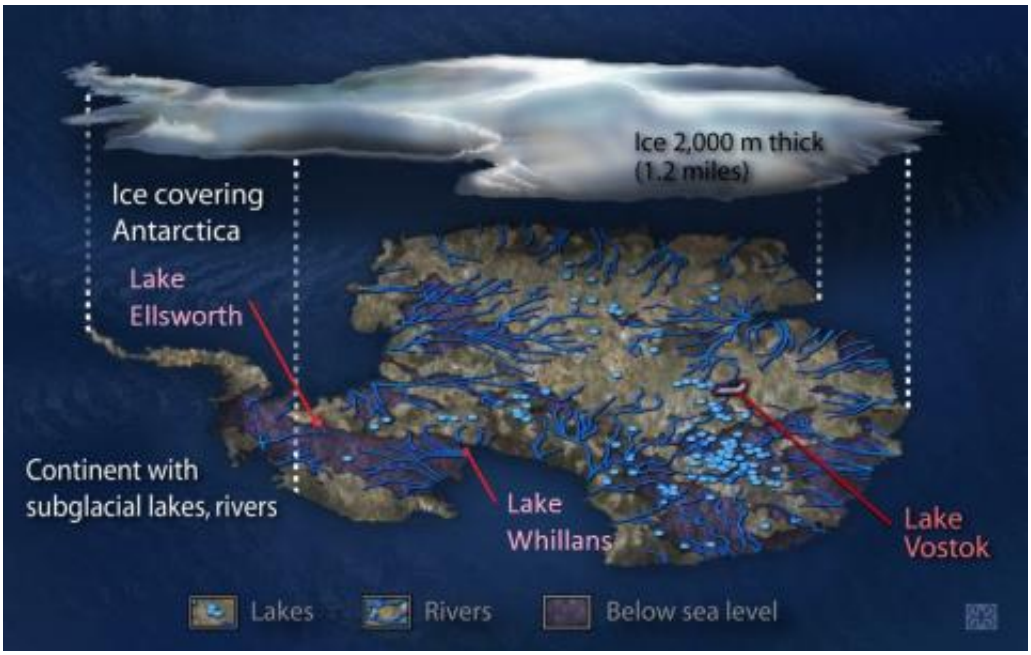


West Antarctic ice streams are lettered A-E. Red areas are fast-moving central ice streams. Blue areas show slower tributaries feeding the ice streams. Green areas depict slow-moving, stable areas. Thick black lines outline areas that collect snowfall to feed their respective ice streams. A. Mercer Ice Stream, B. Whillans Ice Stream, C. Kamb Ice Stream, D. Bindschadler Ice Stream, E. MacAyeal Ice Stream. Credit: NASA

(Phys.org)—This month is a turning point for ventures through recent years involving scientists trying to learn more about the buried lakes of the Antarctica. A team of scientists have been able to bore down into Lake Whillans, a body of water in the west of Antarctica, and buried almost 1km under the Antarctic ice. As described by the BBC, the lake is less of a lake and more of a dense system of delta-like streams.

The team's drill reached under the lake's ice, according to reports of the event, telling how scientists first realized that sensors on their drill system indicated a change in pressure, meaning contact had been made with the lake. They sent a camera down to confirm the contact.

How they did it: a team of ice drillers used a jet of hot water to melt a narrow hole into the lake through 2,600 feet of ice. An "embedded" journalist described the moments as confirmation that the lake had been reached unfolded "inside a steel shipping container parked on the ice sheet on four massive skis." He said 17 people inside the mobile control room watched a computer monitor as a video camera was lowered into the borehole. "The camera steered into the black void at the center of the screen; the smooth, round, undulating walls of ice-hole scrolled by on the edges."



Subglacial Antarctic Lakes. Credit: WISSARD Project

The significance of the event is in being able to look into the interior of a lake under the ice sheet of the Antarctica. Scientists have been interested in Antarctica's subglacial hydrological systems to understand the influence of the water's movement under the ice sheet. They have recognized how "giant blisters" containing water that rapidly expand and contract lie beneath the ice sheet. Fed by a complex river network, the subglacial reservoirs force the ice overlying them to rise and fall.

The recent team's efforts are applauded by. Dr. David Pearce from a UK team involved in similar efforts in the Antarctica. He was quoted in the BBC News as finding the breakthrough by the American team exciting. He said he viewed the U.S. and British projects as complementary. He also said he would not be surprised if the Whillans team were to find marine organisms or evidence of marine incursion.

The team responsible for the recent success is the WISSARD project

(Whillans Ice Stream Subglacial Access Research Drilling), which is funded by the U.S. National Science Foundation's Office of Polar Programs.

More information: www.wissard.org/
phys.org/wire-news/120903201/s … ntarctic-subgla.html