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The Hidden World Beneath Earth's Polar Ice Sheets

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Antarctica is the highest, driest and coldest continent on earth. It holds 90% of our world's ice and 70% of its freshwater. If the ice melts sea level will rise about 60 m (about 200 ft) and inundate more than five million square miles of land. The early explorers referred to it as a place devoid of life. The idea that the Antarctic ice sheet was lifeless persisted for more than 80 years. Recent research has now shown that huge river basins and some of our planet's largest lakes exist beneath more than 2 miles of Antarctic ice. Discoveries over the past few years have now proven that subglacial ecosystems in Antarctica form the largest wetland on our planet. Given the dark and cold conditions presented by this environment, we do not find cattails and red winged blackbirds, common to surface wetlands; instead the environment is completely microbial. These organisms mine the energy in rocks to obtain energy to support their existence, while at the same time mobilizing nutrients that fuel life in the coastal regions of Antarctica. Professor Priscu will present the events leading up to these discoveries and how they have transformed the way we view the Antarctic continent.