Largest undersea observatory is planned

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Canadian and U.S. scientists are planning a project that could turn hundreds of thousands of square miles of sea floor into an undersea observatory.

Scientists are limited in ocean research, primarily because today's underwater instruments lack power and bandwidth to deliver more than spotty science.

The scientists believe they can remedy the problem with round-the-clock data delivered daily from scientific instruments on the sea floor. That unprecedented engineering project is called the North-East Pacific Time Series Undersea Networked Experiments, or NEPTUNE.

"In a sense it would be as if dozens of spots on the sea floor had Internet ports and power outlets," writes Peter Fairley in the November issue of IEEE Spectrum magazine.

By 2007, NEPTUNE planners hope to have laid an optical fiber and power cable from Canada's Vancouver Island, stretching several hundred miles into the ocean. Attached to the cable will be clusters of power and communications hubs to which instruments such as hydrophones, current sensors and high-definition video cameras can be attached.

U.S. funding has yet to materialize, so Canadian scientists must start building NEPTUNE alone, but as a smaller project than originally conceived.