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Underwater networking should move beyond cables researchers at the University of Buffalo propose as they start testing their first wireless internet modems designed for underwater use.



Of course these are not any regular modems-- the oversized (18kg) bright yellow devices use high-pitched chrips, not radio, to push what amounts to an aquatic version of the TCP/IP networking protocol. Their use? Bringing the Internet of Things to watery realms.

The use of acoustic signals is crucial, since while radio works poorly underwater sound waves penetrate water better with superior range.

“A submerged wireless network will give us an unprecedented ability to collect and analyze data from our oceans in real time," lead researcher Tommaso Melodia says. “Making this information available to anyone with a smartphone or computer, especially when a tsunami or other type of disaster occurs, could help save lives.”

The team hopes to create a network of underwater modems, each sending data from sensors on the sea floor (such as tsunami or pollution detectors) to surface boys. In turn the buoys convert the acoustic signals into radio waves for beaming to satellites.

Admittedly data rates are not the highest (the researchers say the maximum is "a few" Kbps), but they should be enough to push warning messages.

The researchers will reveal more of their findings once they present a paper titled “The Internet Underwater: An IP-compatible Protocol Stack for Commercial Undersea Modems" at the International Conference on Underwater Networks & Systems, Taiwan.

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