



National Oceanic and
Atmospheric Administration
U.S. Department of Commerce

International Section

Submarine Cables

It is a common misconception that most global communication is accomplished via satellite. In fact, over 95 percent of international data and voice transfers are currently routed through the many fiber optic cables that crisscross the world's seafloors. See [U.N. Env't Programme World Conserv'n Monitoring Ctr., Submarine Cables and the Oceans: Connecting the World, at 3, UNEP-WCMC Biodiversity Series No. 31 \(2009\)](#) [↗](#) [hereinafter "UNEP Report"]. The earliest submarine cables carried telegraphic traffic. The first successful trans-Atlantic submarine cable – a simple copper wire – became operational in 1866, delivering about 12 telegraphed words per minute. As technology and laying techniques improved, the submarine network expanded greatly. In September 1956, the era of submarine coaxial telephone communication began when two coaxial cables capable of carrying multiple voice channels came into service linking London and North America. Finally, in 1988, the first transoceanic fiber-optic cable was installed linking the U.S., the U.K and France. Thereafter, the number of submarine fiber-optic cables [proliferated](#) [↗](#) as they rapidly outperformed satellites in terms of the volume, speed, and economics of data and voice communication.

Help improve this site

Submarine cables are also an important means of power transmission—particularly in light of the ongoing development of offshore alternative energy generation facilities, such as wind farms.

Submarine cables clearly play a critical role in global communications. For the United States, they provide connectivity between the contiguous United States and Alaska, Hawaii, American Samoa, Guam, the Northern Marianas, Puerto Rico, and the U.S. Virgin Islands – as well as connectivity with the rest of the world. They also support critical commercial, economic, and national security endeavors, and they carry a majority of civilian, military, and government offshore communications traffic.

The success of submarine cables owes much to treaties that have been negotiated since 1884. Submarine cables are also subject to domestic regulations by most nations, including the United States which has a broad suite of domestic regulations applicable to cable-laying, maintenance, repair and removal operations.

Last updated March 5, 2024

Help improve this site