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# Regulation and Protection of Submarine Cables

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# International legal regime generally



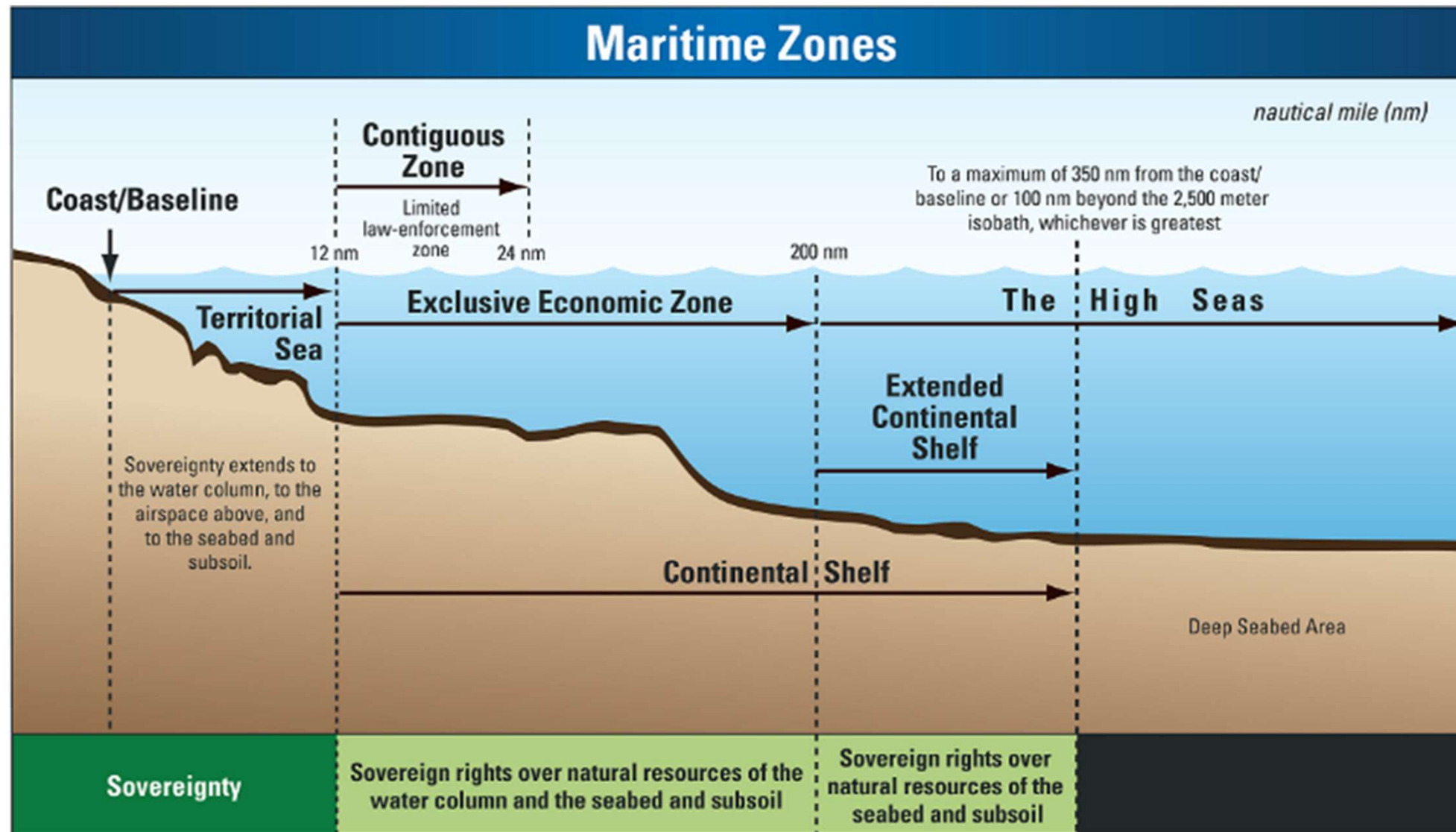
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- Various international treaties dating back to 1884 guarantee unique freedoms to lay, maintain, and repair submarine cables—freedoms not granted for any other marine activities—and restrict the ability of coastal states to regulate them.
  - Convention for the Protection of Submarine Telegraph Cables (the “1884 Convention”)
  - Geneva Convention on the High Seas (signed in 1958)
  - Geneva Convention on the Continental Shelf (signed in 1958)
  - United Nations Convention on the Law of the Sea (“UNCLOS,” signed in 1982), which addresses jurisdiction over submarine cables and cable protection in 10 articles
- Principles articulated in these treaties have since been recognized as customary international law:
  - The freedom to install and maintain submarine cables on the continental shelf, subject to reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources; and
  - The freedom to install and maintain submarine cables in the exclusive economic zone (“EEZ”) and on the continental shelves of all states.
- Submarine telecom cables therefore differ significantly from other EEZ activities, such as fishing, mining, and production of hydrocarbons and renewable energy, as UNCLOS grants high-seas freedoms for the former and sovereign rights to the coastal state for the latter.

# Maritime zones under UNCLOS



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# UNCLOS and cable protection



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- A state should adopt laws and regulations necessary to provide that:
  - The **breaking or injury by a ship flying its flag** or by a **person subject to its jurisdiction** of a submarine cable or pipeline beneath the high seas done willfully or through culpable negligence shall be a punishable offence. UNCLOS art. 113
  - If persons subject to its jurisdiction **who are the owners of a submarine cable or pipeline** beneath the high seas, in laying or repairing that cable or pipeline, cause a **break in or injury to another cable or pipeline**, they shall bear the cost of the repairs. UNCLOS art. 114
- All states “shall have due regard [for] cables [and] pipelines already in position.” UNCLOS art. 79.5.

# UNCLOS and the marine environment



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- UNCLOS does not grant coastal states general jurisdiction over environmental matters in the EEZ or on the continental shelf.
- Instead, UNCLOS provides that states shall take all measures consistent with the treaty to prevent, reduce and control pollution of the marine environment from any source (including those to protect and preserve rare or fragile ecosystems) and to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other states and their environment. UNCLOS art. 194.
- States may conduct environmental assessments of activities within the coastal state's jurisdiction or control that threaten substantial pollution or significant and harmful changes to the marine environment. UNCLOS art. 206.
- Submarine cable installation and repair (whether telecom or power) do not cause pollution in the marine environment and do not threaten substantial pollution or significant and harmful changes to the marine environment.

# United States and UNCLOS



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- Although the United States is not a party to UNCLOS (it has signed the 1994 Implementing Agreement), it observes UNCLOS (other than Part XI) as customary international law.
- Presidential Proclamation Nos. 5030 (1983) and 7219 (1999) expressly stated that the establishments of a U.S. EEZ and contiguous zone, respectively, did not infringe on the high-seas freedoms to lay and repair submarine cables.

# U.S. licensing and permitting of submarine telecom cables



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- **Federal Communications Commission (“FCC”).** Landing and operation of a submarine cable in U.S. territory requires the grant of a cable landing license pursuant to the Cable Landing License Act of 1921, 47 U.S.C. § 34. Pursuant to Executive Order 10530 (1954), the FCC administers licensing, while the Department of State.
- **Committee for the Assessment of Foreign Participation in the United States Telecommunications Services Sector (“Team Telecom”).** Team Telecom conducts national security and law enforcement reviews of FCC cable landing license applications and proposes conditions to FCC licenses.
- **Army Corps.** Construction requires authorization under Section 10 of the Rivers and Harbors Act of 1899 (either individual permit or authorization under Nationwide Permit 57) and Section 404 of the Clean Water Act (to the extent cable crosses wetlands); typically encompasses inputs from other agencies, including National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, under Marine Mammal Protection Act, Endangered Species Act, Magnuson-Stevens Fisheries Management and Conservation Act, and National Historic Preservation Act.
- **State and Local Authorizations.** States and localities impose varying environmental and land use permitting requirements and sometimes require easements. States have authority to review proposed federal action to issue consistency determination under Coastal Zone Management Act.

# U.S. approaches to cable protection and resilience



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- U.S. Government lacks a body, policy, or process for submarine telecom cable protection and resilience.
- There is no White House or interagency body to reconcile conflicts between policy objectives for submarine cable protection and resilience, energy development, environmental and cultural resource protection, sand and gravel mining, and cabotage.
- Although the U.S. Department of Homeland Security is responsible for critical infrastructure in the telecom sector, it has done little with submarine cables.
- Team Telecom focuses on malicious threats associated with foreign ownership.
- Regional planning body activity has been inconsistent and often inadequate.
- EIAs and EISs are poor tools for trying to address spatial planning and infrastructure protection.
- U.S. Government has not preempted state and local regulation that could interfere with federal objectives with submarine cable protection and resilience.
- Other federal agencies and other marine industries are often unaware of, or ill-informed about, submarine cables.
- Statutory penalties for willful or culpably negligent damage to submarine cables are de minimis and have not been updated since the 19<sup>th</sup> century.



# Risks of uncoordinated renewable energy development



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- Direct disturbance of, or damage to, cables
- Impeded access to water column and seabed for repair, which can delay repair
- Clustering and route foreclosure, which can magnify risks



# Methods of telecable protection: pre-installation



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- Cable owners seek to follow the **shortest viable route** between landing points.
- Route planners seek **flat and uninteresting seabed** that avoids geographic features with steep gradients, seamounts, hydrothermal vents, or fracture zones.
- Route planners consider route adjustments to address seabed characteristics and other ocean activities.
- Route planners also seek **geographically diverse routes and landings** in order to minimize incident impact.
- Operators conduct desktop studies and marine seafloor surveys and engage with other ocean stakeholders at the earliest possible stage, including renewable energy projects.

# Methods of telecom cable protection: post-installation



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- Dissemination of route information
  - Stakeholder liaison and education
  - Monitoring and automatic identification systems
  - Separation distances
  - Cable protection zones
  - Marine spatial planning
  - Cable-fishing committees
  - Crossing agreements
  - Civil and criminal liability for damage
  - Private legal claims and litigation
  - Robust physical and cybersecurity measures to secure infrastructure and communications
- ***Industry self-help is insufficient, however, as some risks can be addressed solely by or jointly with governments, hence ICPC's promulgation of the Best Practices.***

# ICPC *Best Practices*: general principles



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- Focus on **statistically-significant risks** where government action could have the greatest impact on risk reduction;
- Promote commercial and regulatory environments that encourage **multiple and diverse** domestic and foreign submarine cables connections;
- Promote **transparent regulatory regimes** that expedite cable deployment and repair according to well-established timeframes;
- **Consult with industry** to understand industry technology and operating parameters and to share data regarding risks;
- Complement existing **industry best practices**;
- Recognize that laws and government policies themselves can sometimes exacerbate risks of damage and reduce resilience; and
- **Promote high-seas freedoms** to encourage submarine cable deployment and repair;
- Engage with other states on a global and regional basis, as other states' actions can greatly affect an individual state's own connectivity.

# Best practices relevant to protection on the U.S. OCS



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- **Measures to reduce fishing and anchoring risks**, including spatial restrictions, designated anchorages, vessel identification technologies, and penalties for non-compliance
- **Default separation distances** between submarine cables and other marine activities, allowing closer proximity with direct coordination of affected parties
- **Policies promoting geographic diversity of routes and landings** to minimize risk that an incident will impair all communications on a particular route or to a particular country
- **Appropriate regulatory frameworks** that expedite installation and repair, recognize high-seas freedoms, and use the best available science
- **Current nautical charts** to show all submarine cables at all ocean depths, with option not to chart near-shore facilities in order to promote cable security
- **Effective cable protection laws** to ensure compensation of cable owners for damage and to deter future damage
- **Marine stakeholder consultations and marine spatial planning** to identify potential conflicts early and facilitate coordination
- **Sharing of risk and incident data** between governments and submarine cable operators to identify gaps, improve resilience, and identify malicious acts by state and non-state actors

# Spatial separation



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- The physical characteristics of submarine cables and the operating parameters of cable ships and tools (including plows, grapnels, and ROVs) establish the spatial requirements for submarine cable activities.
- To install and repair submarine cables and minimize outage time, submarine cable operators need access to the ocean surface, water column, and seabed around a submarine cable by a cable ship and associated equipment.
- ICPC recommends that absent coordination and agreement that submarine cables be spaced from other cables and marine activities by 750 meters for water depths up to 75 meters and three times the depth of water at greater depths.
- The U.S. Communications, Security, Reliability and Interoperability Council IV (“CSRIC”) submarine cable working group (which included the FCC, BOEM, FERC and industry representatives) recommended that submarine cables be spaced from other cables and marine activities by 500 meters for water depths up to 75 meters and at least two times the depth of water at greater depths.
- Submarine cable operators recognize that in some cases, such separation may not be achievable.
- These recommendations may need to be revised to address new challenges posed by floating wind turbines.



# Route foreclosure

- Significant percentage of the U.S. coastline is now designated (or soon will be) as national marine sanctuaries, with adjacent areas designated for renewable energy development.
- Such designations foreclose routes from consideration, forcing cable owners to install cables along crowded routes.
- Calls for further offshore wind projects in northern and central California, as well as in the Atlantic, heighten the need to ensure that route diversity is considered early in the planning process.



# North American Submarine Cable Association advocacy



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- BOEM should promote early awareness and coordination with telecom cables, before renewable project operational and financing plans are formalized; reliance only on the COP Guidelines is insufficient.
- BOEM should account for existing and planned submarine cables when developing call areas—and consult with FCC.
- BOEM should develop standard mitigation guidelines to ensure adequate spatial separation.
- BOEM should revise lease and grant documentation to:
  - Notify grantees of potential consequences of damage to submarine cables
  - Expressly require coordination (rather than consultation) with affected submarine cable stakeholders
  - Identify proximate submarine cables, and require proximity agreements where necessary
  - BOEM Should develop and maintain a submarine cable stakeholder engagement page to increase awareness and facilitate coordination—similar to what BOEM has in place for the commercial fishing industry



# International Cable Protection Committee (“ICPC”)



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- Founded in 1958, ICPC is the world’s preeminent global organization for:
  - Advancing freedoms to install and maintain submarine telecommunications and power transmission cables, and
  - Mitigating risks of damage to those cables.
- ICPC has more than 180 private-sector and government members from more than 60 countries and:
  - Works with governments, other marine industries, international organizations, and NGOs to promote cable awareness, cable protection best practices, and effective international agreements;
  - Commissions peer-reviewed research on the environmental characteristics of cables; and
  - Promulgates recommendations for cable operators.
- In July 2021, ICPC launched its *Government Best Practices for Protecting and Promoting Resilience of Submarine Telecommunications Cables*; these address risks that cable operators cannot easily mitigate with system design or their own extensive protection measures during the operating phase
- For more information, visit [www.iscpc.org](http://www.iscpc.org)

# North American Submarine Cable Association



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- Founded in 2000, NASCA is the regional cable protection committee for North America and coordinates closely with the ICPC.
- NASCA has 24 members and represents only submarine telecom cable interests.
- NASCA engages extensively with BOEM, FERC, NOAA, and other federal and state agencies on matters of cable protection, resilience, and regulation.
- For more information visit, [www.n-a-s-c-a.org](http://www.n-a-s-c-a.org)





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