Evolving the Implementation of UNCLOS with the Times

Thoughts on how current regulations are hindering ocean observation for societal benefit and how a change could support efficient ocean observation in the European Union for the Ocean Pact

Society's need for ocean observation for sustainable development was not fully understood more than 40 years ago when the UN Convention of the Law on the Sea (UNCLOS) was negotiated. Today, there are different requirements: ocean observation is not just for basic scientific research, but is necessary to support Blue Economy industries, inform society about ocean health and inform policy makers on climate change. In addition, the current system is not scalable to support technological advantages with many different types of technologies and vessels now available to expedite the delivery of crucial ocean observation data.

Within the framework of European Union (EU) legislation, there is no one overarching legal instrument that covers the regulation of ocean observing. The legal and policy frameworks surrounding these ocean activities are complex and can be binding or non-binding for the Member States and/or citizens of the EU. This leads to loss of investment in ocean observing efforts and the inefficient use of resources; it also impacts efforts for timely reaction to ocean events and thwarts the ability to take advantage of opportunities for data collection. The result is less observations and thus insufficient information on ocean issues needed to support EU regulations, directives and initiatives, such as The EU Mission "Restore our Ocean and Waters by 2030" and The European Ocean Pact to ensure the health, resilience, and productivity of the oceans and thus the prosperity of the EU's coastal communities.

UNCLOS is not compatible with the operational reality of observing! Since its adoption in 1982, we now have:

- Broader and more urgent mandate: providing regular information for weather, climate, ocean health and for the blue economy
- New technologies for ocean observation: e.g. vessels of opportunity, drifters, floats, robots and sensors

What Could the EU Solution Be?

The regulation of ocean observation depends on the purpose for which one collects ocean data. The EU 'may set up joint undertakings or any other structure necessary for the efficient execution of' research in the EU (TFEU, Art. 187). This could provide a basis for harmonisation of the rules that are applicable to ocean observations, not only between the Member States but also within.

Staying within the framework of UNCLOS Part XIII: Marine Scientific Research

The current situation:	How to move forward in support of the Ocean Pact:
COASTAL	
Coastal States need to give consent to conduct marine scientific research on their continental shelves or in their exclusive economic zone (UNCLOS, Art. 246(2)) but this is not qualified as express consent as it is in the territorial sea. Under normal circumstances, however, the Coastal States should give consent and they will have to ´establish rules and procedures ensuring that such consent will not be delayed or denied unreasonably´ (UNCLOS, Art. 246(3)).	*Bilateral or regional agreements* could contain simplified procedures for obtaining consent, or could create a notification scheme, following the example established for Argo floats (IOC Assembly Resolution EC-XLI.4). These agreements could encourage ´the availability of research results (including data), participation, assistance, training, transfer of technology, etc.´ (Soons 1982, 269; Soons 2007, 147). Homogenous political and economic circumstances might help the creation of these agreements (Soons 1982, 269; Soons 2007, 147), thus the European Union could be an exemplar for other regions; neighbouring states and research collaborators could be accepted as part of the agreement.
States conducting the research need to provide required information to the Coastal State at least six months in advance of the project start date (UNCLOS, Art. 248). If the Coastal State does not react before the project commences, the grant of consent is implied (UNCLOS, Art. 252).	Establish a "Marine Science Research (MSR) Clearance Office" to harmonise and standardise this process at the EU level, which would reduce the current six-month lead time stipulated in Art. 248 to as little as one month (Long 2012, 479).
Many states' regulations are fully consistent with UNCLOS but not necessarily consistent with each other as there is no explicit requirement for consistent interpretation and implementation of international rules.	Implement a *standardised form* such as the one provided by the United Nations Division on Ocean Affairs and the Law of the Sea; this could be adapted for the purpose of use within the EU (Long 2012, 479). If these forms could be available in an on-line system, the applicant would have the possibility to track the progress of the clearance.

The current situation:	How to move forward in support of the Ocean Pact:
NOT "MARINE SCIENTIFIC RESEARCH"?	
Fish stock assessments, remote sensing, hydrographic surveys, and operational oceanography (Argo floats and other forms of sustained ocean observation) do not fall under the international rules applicable to marine scientific research. This means that when gliders are used to collect data on hurricanes or other weather phenomena in an exclusive economic zone, 'information necessary to prevent and control damage to the health and safety of persons' (UNCLOS, Art. 242(2)), the Coastal State is expected to allow deployment of such equipment (Nordquist *et al*. 1991, 472).	Revise the regulation: All observations conducted for the same purpose in the same manner could have the same regulation no matter how the observing takes place. Revising the existing law to accommodate this "one-regulation-for-all" would provide the opportunity to structure a governance framework more along the lines of the Global Ocean Observing System's Essential Ocean Variables (EOVs). Every EOV could then have its own appropriate regulatory framework. However, this seems like an unrealistic option at the moment due to the large changes needed.
SUBSIDIARITY	
According to the principle of subsidiarity, the EU can generally *only* regulate when the aim of the regulation – or policy – can *better* be achieved on the European level. That means that if Member States would be able to achieve the goal themselves, the EU would not be allowed to act.	Maintain an EU regulation: The EU level is the better choice (Long 2012, 485 & 486), but its policy and legislation regarding ocean observation must be harmonised and standardised. Such policy or regulation will then still have to be proportional and should not go beyond the goal in mind (Long 2012, 486).
DATA	
In some cases, the lack of understanding of the data and their necessity might contribute to an increased chance of withholding consent by the Coastal State. Following bilateral or regional arrangements, a potential next step is a project under the auspices of an intergovernmental organisation. Art. 247 of the Law of the Sea Convention suggests that a Coastal State that is a member of such an organisation is deemed to have authorised projects under the auspices of that very organisation. So far, only the Intergovernmental Oceanographic Commission (IOC) has implemented this provision for its own use, but it has never been used (Soons 2007, 157-159). It is open to other organisations to make use of the option in Art. 247.	Leverage EMODnet: EU Regulation 508/2014 defined European marine observation and data network (or 'EMODnet') as a 'network that integrates relevant national marine observation and data programmes into a common and accessible European resource' (Art. 3(2)(4)). The European Maritime and Fisheries Fund (EMFF) may give to the 'initiatives to co-finance, purchase and maintain *marine observation systems and technical tools for designing, setting-up and running an operational European marine observation and data network system* which aims to facilitate the collection, acquisition, assembly, processing, quality control, re-use and distribution of marine data and knowledge, through cooperation between Member States and/or international institutions concerned' (EU Regulation 508/2014, Art. 83(2)(c); emphasis added).
COORDINATION	
According to Art. 123(c) UNCLOS, ´States bordering an enclosed or semi-enclosed sea should cooperate […] to coordinate their scientific research policies and undertake where appropriate joint programmes of scientific research´. Examples might include the Arctic Ocean, and the Baltic, Black and Mediterranean seas.	Harmonise the European rules on ocean observation to extend the coverage for all littoral states of European seas such as the North, Baltic, Mediterranean and Black seas and possibly the Caribbean Sea.

In Summary

Evolving the implementation of the current UNCLOS regulations is needed to accommodate today's needs to address societal issues and Blue Economy industry, and to account for improved technical capabilities. The ambitions of The European Oceans Pact could streamline processes and make the EU an exemplar to demonstrate what could be achieved in a global level framework.

While the Horizon Europe funded project TRICUSO is focused on research in the Southern Ocean, its objectives to use innovative techniques and technology are being developed in Europe and therefore would benefit from a modified framework as per the above recommendations, as would many research projects and groups, like SOOP, operating on a global scale.

SOOP
Shaping an Ocean Of Possibilities
for science-industry collaboration

SOOP – Shaping an Ocean Of Possibilities for industry-science collaboration is funded by the German ministry of science and education and aims to enable ocean observations on non-science infrastructure, for the benefit of society and the Blue Economy.

TRICUSO

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