

The high seas and the deep oceans: Resources, representations and regulatory governance (3ROceans)

Oceans today are beset by a variety of problems, ranging from habitat devastation, depletion of fish stocks and acidification, to the many intricate and interconnected effects attributable to climate change. Oceans are a global matter of concern. While the severity of these problems are widely acknowledged, established protocols of governance seem inadequate to deal with the complex set of challenges we are facing today.¹ The failure to establish a regulatory regime to safeguard and care for what lies beyond national borders and jurisdiction, what is typically referred to as “the high seas and the deep oceans”, is particularly acute, prompting the Global Ocean Commission to compare the governance of the area with a “failed state”.² Existing regulatory measures and control procedures stem from a heterogeneous body of international agreements and treaties, regional and nation-specific regulations as well as private norms. Despite these multiple-layered, tightly woven webs of activity-shaping laws, rules and standards, a number of gaps and loopholes still exist. The outcome is a regulatory system simultaneously characterized by regulatory complexity *as well as* insufficiency of governance.³

Beside legal dilemmas and competing political interests, the challenges related to the use and regulation of the high seas and deep oceans cannot be disentangled from the cultural context in which they are formulated and implemented. However, an understanding of these decisive conditions is frequently absent in the analyses of the governance crisis of the high seas and deep oceans.⁴ From the mapping of the high seas during the age of discovery, by way of the surveys of the deep oceans of the 19th and 20th century, to the present charting of underwater mineral deposits as well as monitoring of the world’s ecological situation; institutions, technologies, practices and imaginaries, all underpin our use of the oceans. These epistemological and institutional conditions are what we term the *resource modalities* of the oceans, a concept we use to underline the shifting political, economic, and scientific perceptions of the seas. Understanding the ocean as a multi-layered space shaped by distinct modalities enables us to compare the various usages of the oceans and to discern their interactions.

Using resource modalities as a conceptual platform, we propose a multidisciplinary study of the relationship between the representations and regulatory governance of the high seas and deep oceans and their resources. Combining legal, aesthetical and historical approaches, the project will explain how, gradually transformed by human use, the high seas and the deep oceans took on the features of a *medium* to be used, a valuable *asset* to be exploited, and a governable *territory* to be controlled. However, these modalities are neither complete nor mutually exclusive. Instead, they form layers in the human history of the oceans, temporarily overlapping, interlinking, sustaining as well as clashing with each other. What looks like uniform bodies of water, are in fact historical composites of contiguous and culturally conditioned *resource-spaces*, the exploitation of which was made possible by their representations and regulations, technologies and sciences. As various

¹ Kristina M. Gjerde et al., “Ocean in Peril: Reforming the Management of Global Ocean Living Resources in Areas beyond National Jurisdiction,” *Marine Pollution Bulletin*, 74, no. 2 (September 30, 2013): 540–51.

² *From Decline to Recovery: A Rescue Package for the Global Ocean*, Global Ocean Commission, (2014).

³ Rosemary Rayfuse and Robin Warner, “Securing a Sustainable Future for the Oceans Beyond National Jurisdiction: The Legal Basis for an Integrated Cross-Sectoral Regime for High Seas Governance for the 21st Century,” *The International Journal of Marine and Coastal Law* 23, no. 3 (September 1, 2008): 399–421.

⁴ Michael Roe, *Maritime Governance and Policy-Making* (Springer, 2013).

resources have been dominated by different modalities at different times, the historicity of the marine and maritime resources must be understood as integral to their regulations and representations.

We propose to study how the high seas and the deep oceans have, over the centuries, been transformed from a barrier to a resource to be controlled, exploited and regulated. Our project reaches back to the age of discovery, from about 1500, and combines studies spanning the enlightenment, modernity and contemporary concerns. It is organized along three mutually supporting and interlocking work packages. Each work package is concerned with one resource modality, highlighting its specific origins, possibilities and limitations, but also its continuous transformations. In turn, each work package consists of a number of individual studies highlighting a particular constellation of how the sea has been understood and how it has been sought controlled, regulated and governed. The work packages will explain the modality transformations of the oceans through the use of multidisciplinary methods and approaches.

Work package 1 *Medium* analyzes the transformation of the sea from being a barrier to a highway. It investigates the intersection of shipping regulations and their representations in early modernity, during the Enlightenment and in the 1800s. Work package 2 *Asset* explores how the representation of the deep sea as a treasure trove of riches has led to calls for international regulation of their exploitation and extraction. Work package 3 *Territory* investigates how scientific and technological representations have shaped parts of the high seas into sovereign spaces under national jurisdiction, and others into commons.

Background

The high seas, meaning those areas of the oceans beyond the reach of national jurisdiction, have a long history as an area where liberty rules: already in 1609, the Dutch philosopher Hugo Grotius argued for *mare liberum*, or “free seas”. Today, 168 of 194 nation states has ratified the UN Convention on the Law of the Sea (UNCLOS), a treaty that is a descendent of Grotius’s first appeal towards retaining the oceans as a place of liberty. It sets rules for everything from shipping to territorial disputes, deep-sea mining and fishing. It introduced the regime that allows coastal states to utilize the resources of waters and seabed up to 200 nautical miles from their coasts and provided definitions of the boundaries of the continental shelf a state is entitled to govern. It is “a constitution for the oceans”, and the main instrument that regulates the relationship between the oceans as a medium, as asset and as a territory.⁵

The governance of the high seas is neither uniform nor static, but consist of multiple layers of overlapping, competing and evolving rules and standards. While issues regarding disputed economic zones and the reach of the continental shelves are still contested, the urgent need to address the state of the oceans at an international level is now forcing the UN towards the development of new regulatory mechanisms in addition to the law of the sea. This will in particular address many of the environmental issues that were left out of the UNCLOS treaty. For now, this has culminated with a resolution made by the UN General Assembly to develop a new and legally binding instrument “on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction”, which in time can expand the reach of international maritime

⁵ “Statement of Ambassador Tommy T. B. Koh”, 11 December 1982, reprinted in *The Law of the Sea: Official Text of the United Nations Convention on the Law of the Sea* (United Nations, New York: 1983): xxxiii.

law considerably.⁶ Furthermore, as the EU over the last 10-15 years significantly has transferred competence related to maritime policy to its realms in concerns ranging from maritime safety to environmental issues, new regional regulatory levels has been created, only adding to the complexity of ocean governance.

The importance as well as the complexity of governing the oceans has eventually attracted scholars of various stripes. It is now a subject in a variety of social sciences, such as political science, international relations, international and environmental law, political geography, political economy and economics. The dilemmas related to the areas outside national jurisdiction have in particular resulted in a substantial amount of research. The many economics-influenced studies analyzing fisheries as a typical case of the “tragedy of the commons” are particularly emblematic.⁷ Furthermore, as the law of the sea convention was the outcome of one of the largest and most difficult global negotiations ever hosted by the UN, and deeply influenced by both the East-West and North-South conflicts of the Cold War era, its processes and outcomes have been scrutinized by researchers interested in international regimes.⁸

Despite this, the literature on the regulation and governance of the resources of the oceans typically treat the problems in a sectorial and narrow manner. The result is that the regulatory governance of fisheries, minerals and shipping are dealt with separately, as well as within the confines of a specific discipline, whether economics, political geography or international relations. This lack of integration has resulted in research that is just as fragmented and incomplete as the complex regulatory system that is the subject of analysis.

However, the increasing awareness of the complexity of the multilayered regulations that span the oceans coincides with a general “governance turn” in a number of the social sciences. One particular example is the current emphasis on governance in international relations (IR), often pointing towards the complex of systems of rule-making, political coordination, and problem solving that transcends states and societies. This literature is often referred to as “global governance”. Although the ocean at present is a peripheral subject within this literature, many of the issues typical of the global governance literature are similar to the pressing issues regarding the oceans.⁹

However, much of the writing on global governance is overtly presentist. It fails to appreciate the historical development of regulatory practices that are far older than the UN and the post-war international order. In the case of the ocean, what today is taken as typical to the novel regime of global governance, such as the apparent increase in importance of private governance, already featured in the 19th century as private and public bodies intermingled and were authoritative in the regulation of merchant shipping as well as subsea telegraph cables.¹⁰

Even though recent historical scholarship has demonstrated how different cultures produce different, and often contradictory, views of the ocean, combinations of this cultural affinity to the

⁶ United Nations General Assembly Resolution A/RES/69/292, 19 June 2015.

⁷ Garrett Hardin, “The Tragedy of the Commons,” *Science* 162, no. 3859 (December 13, 1968): 1243–48.

⁸ Martin Glassner, *Neptune’s Domain: A Political Geography of the Sea* (Boston: Routledge, 1990).

⁹ James N. Rosenau, “Governance in the Twenty-First Century,” *Global Governance* 1, no. 1 (January 1, 1995): 13–43; Elizabeth R. DeSombre, “Globalization, Competition, and Convergence: Shipping and the Race to the Middle,” *Global Governance: A Review of Multilateralism and International Organizations* 14, no. 2 (May 15, 2008): 179–98.

¹⁰ Rodney Bruce Hall and Thomas J. Biersteker, eds., *The Emergence of Private Authority in Global Governance* (Cambridge, UK ; New York: Cambridge University Press, 2003).

sea and the governance of “the spaces in between,” e.g. the ocean, are still outside the purview of current historical scholarship.¹¹

An antidote to the presentist tendency of much writing on “global governance” and the sectorial narrowness typical to resource-oriented economics and legal studies, can be found in recent political geography. However, Philip Steinberg’s book *The Social Construction of the Ocean* still remains one of the few full-length treatment of human-marine interactions that treats the ocean space both historically and socially.¹² However, Steinberg’s work captures only a part of the complex regulatory realities of ocean governance, and needs to be complemented by studies investigating the legal, aesthetic dimensions of how the different parts of the ocean have been understood and used in different societal and cultural contexts. That is what this project aims to achieve as we approach the ocean as a multi-layered resource-space shaped by distinct modalities.

Hypothesis, approaches and methods

This research project springs from the overarching hypothesis that deep-seated cultural representations decisively shape how the high seas are regulated and governed, and thereby influence the parameters for resource extraction and ocean use. As such, the oceans are understood not merely as physical objects or topographical points, but as spaces for cultural transformations. We approach this by investigating the following general research questions: How persistent are the representations of the oceans? Do earlier forms of representations create regulatory systems that significantly alter the utilization of various marine resources? How do the regulations, ocean use and resource extraction spill back into their representations? By answering these research questions, this project will attend to the history of the transformations of the high seas; from a barrier to a highway, from an unfathomable void to a treasure trove of riches, and from an unregulated space to one where the authority of nation states clashes with the utopian ideal of the commons enshrined in international law. It also attends to the current governance crisis of the high seas and the deep oceans.

We contend that to understand how cultural conditions have been constitutive of ocean resources, historical, aesthetic and legal studies of specific junctions of representations and regulatory governance are required. By *representations*, we imply the stock of values, ideas, beliefs, and practices shared among the members of groups and communities and expressed through a wide range of primarily visual or discursive media.¹³ As such, knowledge is contingent upon models, theories and diagrams, as well as books and paintings, technologies of representation that shape and influence human interaction with the natural habitat. Maps, logbooks and the pings of the sonars are prevalent examples of the complex cultural processing of the oceans.

By *regulatory governance*, we imply a similarly broad conceptualization, making room for historical antecedents to both the “regulatory state” and the contemporary era of global governance.¹⁴ This includes efforts that regulate access to, use of and resource extractions from the high seas and deep oceans, including legislature, bureaucratic rules, private norms and international

¹¹ Michael S. Reidy and Helen M. Rozwadowski, “The Spaces In Between: Science, Ocean, Empire,” *Isis* 105, no. 2 (2014): 338–51.

¹² Philip E. Steinberg, *The Social Construction of the Ocean* (Cambridge ; New York: Cambridge University Press, 2001).

¹³ Stuart Hall, *Representation: Cultural Representations and Signifying Practices* (New York: Sage Publications, 1997).

¹⁴ Edward L. Glaeser and Andrei Shleifer, “The Rise of the Regulatory State,” *Journal of Economic Literature* 41, no. 2 (June 2003): 401–25.

agreements spanning the fragmented governance structures that over time have shaped the use of the oceans. Similarly, we apply the term resources in a broad fashion, including the different ways the surface, what lives in the water column and what lies on and beneath the seabed, have been harnessed and used. As such, we include both the biological, geological and spatial resources of the oceans, overcoming the disciplinary myopia that affects much of the existing scholarship regarding the high seas.

By explaining the transformation of what we term the *resource modalities* we adhere to a tradition within institutional economies working from the thesis that “resources are not; they become.”¹⁵ Following in the tradition of Erich Zimmermann, modality transformations are understood as the process of resources “becoming”. However, the interplay of representations and regulations highlighted in this research project adds a cultural bent to the many research traditions that has followed Zimmermann.¹⁶ As such, the ways the ocean has been turned into various resources are to be understood as being mediated through their representations.

The research project is organized in such a manner that we are able to explain how the high seas took on the modalities of a medium, an asset and a territory, and following this, which possibilities these features have created and eventually, which limits they hold. The general research questions related to how representations of the oceans change, their regulatory implications and dynamics are analyzed in regards to their *modality functions* as *origins*, *possibilities* and *limits*. We approach this through studies of legal dilemmas, historical changes and aesthetical formations. The project is organized in three work packages each attending to a particular modality and is equipped to search out the limits of the specific modality, but also facilitate comparison between the formation and transformation of each modality. The following describes each individual sub-project, its approach and methods. An overview of how this is organized is given in figure 1 below.

	1 Medium	2 Asset	3 Territory
Origins	From Mare Oceanum to The High Seas Knut Ove Eliassen (NTNU)/ Phd student (NTNU) Isabel Capeloa Gil (UCP)	Treasures from the Deep Mats Ingulstad (NTNU)	How our oceans got numbered Gard Paulsen (NTNU)
Possibilities	Mapping the Sea in the age of the Enlightenment Ellen Krefting (UiO)	Ocean Space Visions for an Alternative Energy Future Thomas Brandt (NTNU)	Underwater Cultural Heritage as a Claim on the Commons Lucas Lixinski (UNSW)
Limits	Retaining Liberty, Representing Novelty Håkon With Andersen (NTNU)	The Law of the Sea Convention and the concept of Common Heritage of Mankind Tirza Meyer (NTNU)*	Freedom of the Seas in the 21 st Century Rosemary Rayfuse (UNSW)

Figure 1: Themes, organization and projects. * Ongoing pilot study, does not require additional funding.

¹⁵ Erich Zimmermann, *World Resources and Industries* (New York: Harper & Bros., 1951).

¹⁶ Thomas R. De Gregori, “Resources Are Not; They Become: An Institutional Theory,” *Journal of Economic Issues* 21, no. 3 (1987): 1241–63.

Work package 1 Medium

This work package analyzes selected regulatory and representational aspects of three critical periods that made the high seas and the deep oceans took on the features of a medium to be used; early modernity, the enlightenment and the 1800s. The work package consists of three separate sub-projects that attend to the origins, possibilities and limits of the ocean as medium. Together, the projects will analyze the transformations the representations of the oceans have undergone over time and how this has formatted the knowledge as well as the utilization of the oceans, not the least in the sense of a medium to be used and controlled. The cultural imaginaries that manifested themselves in visual representations of the ocean, in travelogues, and in fiction will be studied in their interplay and negotiations with the charting protocols, the different regulatory systems and the naval technologies. The individual studies are described briefly below.

From Mare Oceanum to The High Seas: Representations and appropriations

Principal investigator: Knut Ove Eliassen. Other participant: Isabel Capeloa Gil

Eliassen will study how technology, power and representation paved the way for the transformation of the high seas into a medium from the beginning of the modern era. Three studies will investigate how the cultural imaginary of the west have intervened with the large bodies of water that surround the continents, and turned them into epistemological, political and economic objects. The first will analyze the travelogues of the early discoveries and their relation to the epistemology and politics of early cartography and the rise of geography as a discipline (Eliassen).¹⁷ The second study will focus on the sea novel from James Fennimore Cooper by way of Herman Melville to C. S. Forrester and its impact on the changing concepts and understanding of the high seas, their resources and territorial politics (Eliassen). A third study will focus on the history of hydrography from the early charts of late renaissance to contemporary mapping and representational technologies (Gil). A PhD. study will take as its starting point the transformations and negotiations of the dominant modes of representing the ocean aesthetically and analyze the political and epistemological implications of the same.

Mapping the Sea in the age of the Enlightenment

Principal investigator: Ellen Krefting

Krefting will focus on the debates on maritime security and risk assessment in France during the Enlightenment (from Colbert to Napoleon). She will in particular study one of the major sites for maritime governance and production of representations of the sea, Le Dépôt de la marine, established in 1720. Its purpose was to raise the level of security for French navigators, by assembling all existing maps, travel journals, memoirs, astronomical observations and topographical operations. In 1773, Le Dépôt was granted monopoly of the production of sea maps in France. The study will investigate how this initiative was informed by conceptions of security and risk, and what its immediate impact was on representations of the sea during the French Enlightenment, and hence also on governance.

Retaining Liberty, Representing Novelty

Principal investigator: Håkon With Andersen

¹⁷ Franco Moretti, *Atlas of the European Novel, 1800-1900* (London: Verso Books, 1999).

Andersen will look at how a new technology made its way and transformed the oceans as medium in the nineteenth century. The steam engine made the oceans much more accessible as the wind no longer restricted movement. With steam and increase in shipping new problems came to the fore, like the danger of collisions. Engineers came to replace shipmasters and as value increased so did the need for insurance. With insurance came the need for evaluation and international certificates and hence the rise of private classification companies. Towards the end of the 19th century, national interests started to manifest themselves at the high seas, first concerning emigrant ships, but later fights over load lines and other types of national regulations and controls ensued. Most of these attempts to regulate ended in international agreements, such as the traffic regulations of 1889, which tried to balance national demand and international competition regulations in a way that preserved freedom of the seas.

Work package 2 Asset

This work package analyzes the regulatory and representational aspects of how parts of the high seas and the deep oceans took on the features of an asset to be traded and commoditized, focusing in particular on minerals of the deep ocean and wave energy. Together, the work package will analyze the durability of oceans representations as an asset and how presentations of the ocean as a medium created regulatory systems that significantly altered the utilization of the ocean. The individual studies are described briefly below.

Treasures from the Deep: Regulating the Imaginary Markets for Marine Minerals

Principal investigator: Mats Ingulstad

Marine minerals are not like other minerals, they are now considered as a part of the common heritage of mankind and subject to a separate legal regime. When the regime was established the pervasiveness of representations of the ocean as endlessly bountiful led to speculation that the marine minerals would outcompete the traditional miners, leading to calls for regulatory action to allocate market shares between land and sea-based industries. These initiatives intersected with the emergence of the UN in the 1970s as a champion for the sovereign right of third world producer states to establish commodity cartels to regulate the production, prices and distribution of their key raw material exports. This project investigates how these two competing paradigms of resource ownership, state sovereignty and common heritage, both indicated that the Convention of the Law of the Sea should become something more than just a Constitution for the Ocean, and it analyses the causes and consequences of the failure to turn it into a global Charter for minerals extraction encompassing both land and sea.

Ocean Space Visions for an Alternative Energy Future

Principal investigator: Thomas Brandt

Brandt's sub-project will provide knowledge about the challenges facing renewable energy system technologies based on marine science and engineering. In these innovation processes the ocean figured as both a part of nature that must be rendered legible through scientific representations, and a territory where visions of global sustainable futures could be located.¹⁸ Drawing on theory and

¹⁸ For discussions of science as representation, see Andrew Pickering, "The Mangle of Practice: Agency and Emergence in the Sociology of Science," *American Journal of Sociology* 99, no. 3 (1993): 559–89; Bas C. van Fraassen, "Representation: The Problem for Structuralism," *Philosophy of Science* 73, no. 5 (2006): 536–47; Stephen M. Downes, "Models, Pictures, and Unified Accounts of Representation: Lessons from Aesthetics for Philosophy of Science,"

methodology from the history of science, engineering and technology we will analyse previously unused primary sources, oral history and public administration records related to ocean wave energy conversion in 1970s to 1990s Norway. Our aim is to trace the historical development of some pertinent instances of how the ocean space was sought transformed into a resource in the visions for an alternative energy future.

Work package 2 also includes a pilot study of phd-student Tirza Meyer on the history of The Law of the Sea Convention and the concept of “Common Heritage of Mankind.” She is analyzing how idealism and political realism clashed during the conceptualization of this convention through a detailed study of the two main advocates of the idea, Arvid Pardo and Elisabeth Mann Borgese.

Work package 3 Territory

This work package analyzes the regulatory and representational characteristics of the modality transformation that made the ocean were assigned features typical of *territories* that were to be governed by national sovereignty, or on the other hand, by international agreements. Its focus is on the 20th century and present-day challenges. The work package focuses in particular on the interplay between scientific representations of the oceans and the evolution of sovereign resource spaces. The work package consists of three separate sub-projects that will approach both historical and contemporary concerns. The individual studies are described briefly below.

How Our Oceans Got Numbered

Principal investigator: Gard Paulsen

This sub-project will analyze how modelling and mathematical representations of the oceans became legitimate and authoritative in controversies over sovereignty and territorial rights in the post war period. It will investigate the portrayal of the seafloor, the estimation of fish stocks and the modelling of ocean circulation as partaking in the conceptualization and confinement of the high seas, including the jurisdiction of the continental shelves by costal states and establishment of the economic exclusive zones. The project will in particular analyze how communities formed around the use of computers in widely dispersed scholarly fields such as marine engineering, oceanography and marine geology, and eventually gained authority in the regulation of ocean use. As such, it is pertaining to problems and approaches of the history of science and technology, as well as science and technology studies (STS), probing the question of the role of expertise in policymaking and regulatory practice.

Underwater Cultural Heritage as a Claim on the Commons: International Cooperation and a Move Against the Commodification of the Sea Resources

Principal investigator: Lucas Lixinski

This project will focus on the evolution of legal regimes thinking about cultural resources located underwater. In 2001, the UNESCO General Conference approved the Convention for the Protection of the Underwater Cultural Heritage (UCHC), which is the most thorough treaty regulating cultural resources located underwater. This came about as a response to technological change in deep seabed exploration, and is an attempt at curbing commercial salvage of shipwrecks and the common law regime that had been developed for it. The UCHC attempts to regulate the commons by invoking general principles of the law of the sea, but with a view to prevent the commercial

Perspectives on Science 17, no. 4 (October 9, 2009): 417–28. For the ability of scientific representations to render the ocean legible, see Helen M. Rozwadowski, “Introduction,” *Isis* 105, no. 2 (2014): 335–37.

exploitation of underwater cultural heritage. In that respect, the UCHC makes a claim to the commons that sits uneasily with law of the sea regimes, and it also conveys an image of the oceans as a repository of historical knowledge. By representing the oceans as a repository of culture that must be preserved, this turns the ocean into a resource that does not belong to any state in particular. The cooperation principles enshrined in the UCHC will serve as a case study of how alternative and non-exclusive constructions of sovereignty can be operationalized in legal regimes.

Freedom of the Seas in the 21st Century

Principal investigator: Rosemary Reyfuse

This project aims to identify the contemporary content of the principle of the freedom of the seas. Despite its acceptance as a fundamental principle of the law of the sea, the precise content of freedom remains subject to conflicting interpretations and applications. Increasing claims by states seeking both to limit access to and the conduct of activities in, ocean areas have serious implications for the exercise by all states of their freedom of the seas. This project seeks to analyze and evaluate the impact of these claims.

3. The project plan, management, organization and cooperation

The project will run for four years, commencing in November 2016. The joint final output is an anthology on the resource modalities of the oceans in historical perspective, published by a high-ranking academic press and a special issue in a high-quality journal. The PhD-candidate will produce one PhD-thesis manuscript, in addition to an article-length contribution to the anthology. In addition, the results from the sub-projects will be published in leading academic outlets.

The project started in November 2016 with a number of workshops in Trondheim that engaged local researchers and project participants. A possible cooperation with the cluster of excellence “Future Oceans” at the Kiel University was discussed at a scoping meeting in December.

In autumn 2017 the project will organize a workshop on the methodological issues concerning all of the three work packages, gathering all national and international participants at the Shetland islands. The workshop will be organized in cooperation with the NAFC Marine Centre at University of the Highlands and the Islands. This will aim at the development of common methodological tools and approaches to unpack the relationships between representations and regulatory governance of the high seas and deep oceans.

In autumn 2018, the project will organize a conference together with the Research Centre for Communication and Culture (CECC) of the Catholic University of Portugal, tentatively organized at the Azores.

In August 2019 we will host an international conference at NTNU on the regulatory crisis of the high seas and deep oceans and its resources from a humanities perspective. Participants will be recruited through an open call for papers (CFP) and existing networks.

In parallel to these conferences the project will explore various digital methods of cooperation and research that will be concerned with one specific representation of the oceans, discussing its legal, historical and aesthetical aspects. The contributions will be edited by project members and made available online through a special project website. The intention is to facilitate a continuous work on a book intended for the general public.

Furthermore, together with the Scandinavian Institute of Maritime Law of the University of Oslo, we will organize a limited numbers of workshops fostering further integration of 3ROceans and current legal affairs. The first workshop is planned to take place in 2017.

The nature of the research projects, the participation of international researchers as well the related workshop and conference activities ensures the international character of the project. The

Phd candidate will apply a FRIHUMSAM mobility stipend to spend a semester abroad. The Faculty of Law at the University of New South Wales, Sydney, has offered to host a visiting researcher in a strong environment with competencies in the law of the seas and governance of the oceans. The project will also collaborate with the Scandinavian Institute of Maritime Law at the Faculty of Law, University of Oslo through mutually sustaining activities, such as the establishment of a policy forum.

A brief outline of the planned events is in the table below. Additional events, such as the organizing of sessions at relevant conferences

<p>2017</p>	<p>Conflicts and boundaries at sea: Representations and regulations (to be decided) Exploratory workshop organized with Future Oceans, University of Kiel (May)</p> <p>VII Lisbon Summer School for the Study of Culture – Global transitions Participation in teaching activities and tentative scoping meeting (Lisbon, June 26 – July 1, 2017)</p> <p>3ROceans – methodological issues Main workshop organized together with the University of the Highlands and the Islands (September)</p> <p>Maritime governance, policy issues (to be decided) Exploratory workshop organized together with the Scandinavian Institute of Maritime Law at the Faculty of Law, University of Oslo</p>
<p>2018</p>	<p>3ROceans – resource modalities in history Conference organized together with Research Centre for Communication and Culture (CECC) of the Catholic University of Portugal, at the Azores.</p>
<p>2019</p>	<p>3ROceans – final conference Conference organized at the Norwegian University of Science and technology, Trondheim.</p>

Figure 2: Planned events.

Dissemination

Given the importance attached by the UN to the development of new regulatory mechanisms to achieve sustainable use of maritime resources in the areas beyond national jurisdiction, this project will make a concerted effort to disseminate our findings beyond academia by employing a two-pronged strategy. First, the project will establish a regular forum for discussion of current legal and regulatory challenges. We have already identified interest to participate in such a forum among maritime law experts as well as from the world largest ship classification society, DNV GL. The first workshop will be organized together with Scandinavian Institute of Maritime Law of the University of Oslo. We are also working towards establishing a separate industrial-Phd-fellowship together with DNV GL, making further interaction between the research project and industry possible.

The participation by Rosemary Rayfuse also ensures access to relevant international regulatory bodies and commissions. Furthermore, this forum will draw on the large range of marine research and education at the NTNU, combining interest in the cultural conditions of ocean use and their technological aspects. In addition to these initiatives targeting the general public, policy actors and business interests, we will submit articles to high-quality journals in legal studies, aesthetics, history of science and technology, environmental and political history and political economy.

We intend to publish the highest quality contributions from the conferences and workshops in the appropriate form, preferably as conference proceedings or special issues in high-quality journals, and the CFP will specify topics of particular interest for inclusion in an edited volume or special issue. The project manager will edit the contributions. The PhD-candidate will produce one PhD-thesis manuscript, in addition to contribution to the conferences. The final output is the proceedings from the three conferences, either published as an edited volume or a special issue in a suitable journal, and one illustrated book intended for the general public on the topic of ocean representations.