# EDITORIAL Nº 4 / 2019: 2019 FEATURED THEME OCEANS AND THE NATIONAL AND INTERNATIONAL AGENDA

**ALEXANDER TURRA**[1]
**PEDRO ROBERTO JACOBI**[2]
**ZENAIDA LUISA LAUDA-RODRIGUEZ**[3]

Oceans! Their vastness and mysteries, their importance and deleterious effects have been slow to make them a priority on the international and national agenda. Incognito and sometimes inhospitable, it has surrendered to the position of carrier of many negative effects on humanity. The report of the Intergovernmental Platform on Biodiversity and Ecosystem Services, published in 2019, revealed that the five major problems of marine biodiversity are associated with climate change, habitat loss, overfishing, invasive species and pollution, including the issue of marine litter. This warning had already been given shortly after World War II and was channeled and catapulted from specific to global situations throughout the United Nations Conferences, from Stockholm (1972), Rio de Janeiro (1992), Johannesburg (2002, Rio +10) until again Rio de Janeiro (2012, Rio +20).

This change came as a consequence of the growing knowledge about the importance of oceans to humanity. At the time of the Millennium Ecosystem Assessment and its developments, the concept of ecosystem services, which emerged in the 1990s, reached a new level in promoting dialogue between science and society. Therefore, what was known about the oceans and their role in the processes that govern life on the planet, directly and indirectly, was expanded. In particular, the role of the oceans in climate regulation has been revealed. Moreover, in 2008 a group of researchers based in Santa Barbara, USA, led by Benjamin Halpern, brough innovations by considering the use of ecosystem services in conjunction with environmental quality indicators in what was called the Ocean Health Index.

In other words, the concept of sustainable use of the oceans, that already presented itself as a basic reference in the processes that were being built internationally, was materialized. The most important of these processes was called the "Regular Ocean

1. Member of the Editorial Executive Secretariat of Ambiente & Sociedade Journal. Professor of the Chair UNESCO for Ocean Sustainability. Marine Management, Ecology and Marine Conservation, Department of Biological Oceanography - Oceanographic Institute of the University of São Paulo. https://orcid.org/0000-0003-2225-8371

2. Chief Editor of the Ambiente & Sociedade Journal. Full Professor at the Faculty of Education and Professor at the Pós-Graduate Program in Environmental Science, both of the University of São Paulo. https://orcid.org/0000-0001-6143-3019.

3. Member of the Editorial Executive Secretariat of Ambiente & Sociedade Journal. PhD in the Post-Graduation Program in Environmental Science, University of São Paulo. https://orcid.org/0000-0003-2432-0255.

Quality Assessment Process, including Socioeconomic Aspects", with the first global ocean assessment being published in 2015. That same year, the United Nations launched the 2030 Agenda and created the Sustainable Development Goals (SDGs) by revisiting the Millennium Development Goals. Among the objectives is one that is dedicated to the oceans: ODS 14 - life on water. In spite of this, the transverse character of the oceans was clear because their importance is reasonably explicit in all other SDGs.

The year of 2017 was an outstanding one for the oceans. The occurrence of the United Nations Oceans Conference was a milestone on the international agenda and strategically engaged different actors in aimed at ocean sustainability. The possibility of voluntary commitments by countries, NGOs and companies has triggered a snowball of initiatives, all aimed at this purpose. The World Report on Ocean Science was also published at that year, providing an accurate diagnosis of recent advances and remaining challenges. Among them was the diagnosis that the capacity of information generation and scientific production for the oceans varied widely between countries. Thus, it was identified that a major worldwide effort would be needed to produce "the science we need for the ocean we want". In response, the Decade of Oceanic Science for Sustainable Development was proposed by the United Nations to be between 2021 and 2030.

This background reveals that the pursuit of ocean sustainability relies heavily on solid and comprehensive scientific knowledge. Among the gaps that still remain, it is considered fundamental to promote interaction experiments between science and decision-making and share their results in order to work on the concepts and praxis of social learning and post-normal science. Science communication strategies for decision makers and society as a whole are also a relevant aspect in completing a holistic and concatenated view of possible avenues for broadening the social relevance of oceanographic research. New areas of knowledge have emerged, such as the "Blue Economy" and citizen science. Although these and other steps are being taken worldwide, they need to be encouraged in some countries, including Brazil.

In fact, the World Report on Ocean Science revealed that Brazil has shown a significant growth in marine science knowledge production, consolidating a prominent role in Latin America and the South Atlantic. On a global scale, Brazil ranks as the 11th country in number of published scientific articles. Ocean research had been seen as a priority, but it still suffers from the low level of internationalization and the scarcity and fluctuations of funding sources, intensified by the new government's political vision.

Although Brazil is seen as an emerging country in this context, there remains much to be done in order to understand and manage oceans in a sustainable way. In addition to advancing on research, it is necessary to broaden society's knowledge on the oceans and, in particular, on the use of scientific knowledge in decision making. To overcome this challenge, a new way of thinking and doing science must be stimulated.

The UNESCO Chair for Ocean Sustainability was created in 2018, in collaboration with the Oceanographic Institute and the Institute for Advanced Studies at the University of São Paulo, as an action that aims to catalyze these fronts. The UNESCO Chair aims at integrating networking efforts by stimulating interdisciplinary and integrated research, promoting oceanic culture and broadening dialogue between the marine sciences, so-

ciety and public policy. Together with several other initiatives that have emerged in the country, the Chair aims to strengthen society's participation and control on the pursuit of ocean sustainability.

The Chair and Environment & Society elected the theme "Oceans and the Challenges of Interdisciplinarity and Research Integration" for the Featured Theme of the 2019 volume. Considering the need to deepen the understanding and practice of interdisciplinarity in oceanographic research, this volume brought, throughout the year, texts that exemplify and problematize integrative approaches, both among traditional oceanographic sciences, as well as between them and other areas of knowledge, such as the social sciences. This is expected to stimulate a legion of theoretically robust and socially committed scientists to promote the "Future We Want", as advocated at Rio +20.

However, Brazilian society is experiencing a dramatic moment of bad news for environmental conservation. A crude oil spill that spreads across the nine Northeastern states. The pollutant has been identified in a range of more than 2,000 kilometers from the Brazilian coast since August 2019. The volume lost in the ocean is much larger because only a part remains on the surface, or just below it, forming the pasty material that is impacting beaches, mangroves and coral reefs.

This Oil is highly toxic to biodiversity, with lasting consequences for the health of marine organisms and those who consume them. This is already considered the worst disaster of all times on the Brazilian coast, in terms of geographic extension and failure of the government response. The federal government showed a lack of coordination and articulation with the other levels of the federation, as well as transparency with society.

Without losing sight of the importance of these facts, the publishers also want to present our readers with some good news. It was held in Brasilia, with the key support of the Center for Sustainable Development, the IX ANPPAS Meeting. The theme of the meeting was Connections, Democracy and Sustainability. More than 400 researchers from all over Brazil composed 20 Working Groups and 15 Round Tables. The Roundtables addressed topics focused on various aspects: emphasizing interdisciplinarity and the dialogue of knowledge around climate change, agroecology, environmental governance at regional, national and global levels, socio-environmental disasters, the links between water, energy and food, the urban environment and socio-ecological systems in their various realities (Amazon, Cerrado, Semi-arid, Atlantic Forest).

The meeting also emphasized Brazil's current moment, on which the government has been continuously promoting attacks against its science, technological development and innovation in the country, further intensifying the strangulation of Brazilian science. This accelerates the alarming reversal of the promotion of Brazilian science, deeply jeopardizing the production of knowledge. It should be noted that 90% of national scientific production is centered on universities. The fundamental purpose of science is to provide means to overcome the main problems and challenges of society, and ANPPAS is part of this essential agenda to stimulate and promote knowledge.

In order to open this new and final group of articles, and in consideration of the relevance of the theme of this editorial, we present our **Featured Themes** section, with

the theme **"Oceans"**. The following is a summary of all articles in this section that have been published throughout this year.

The article: **Maritime Spaces and their Geography**, by *Gisela Aquino Pires do Rio*, presents a set of relevant themes in the maritime spaces research agenda: a) circulation; b) borders and limits; c) resources; and d) environment, linked to broader issues such as international networks and flows, spatial regulation, conflicts and tensions, vulnerability of land-sea interface zones.

The authors *Ana Flavia Barros-Platiau and Leandra Regina Gonçalves*, in the article: **Antarctica and ABNJ in the Anthropocene: challenges to the sustainable management of marine genetic resources?**, employing an interdisciplinary approach in international relations, legal sciences literature and environmental organizations, conclude that the 2030 Agenda needs to include companies (global players) to improve the effectiveness of future regulations in the face of new technology-related challenges for sustainable biodiversity management and access to marine genetic resources.

Assuming that naturalistic knowledge (NK) conforms to the definition of complex adaptive system (CAS), the authors *Luciana Loto, Ronaldo Lobão, Edson Pereira Silva and Cassiano Monteiro-Neto*, in the article: **Fishermen Ecological Knowledge and Complex Adaptive Systems: an interpretative model for small-scale fisheries**, propose to structure and interpret NK as a type of CAS, in order to reduce the incommensurability between the different formal sciences and the NK. For this, the authors use the CAS as a structuring metaphor.

Conducting a participatory diagnosis on how marine litter is viewed by groups of adults with direct links to the coastal environment, the authors *Daiana Proença Bezerra and Valeria Ghisloti Iared*, in the article: **Relations of various social actors with marine debris in the Municipality of Cananeia, SP,** conclude that the development of their research provided moments of social learning and broadened the understanding of the theme and its complexity, enabling its participants to identify themselves as decision makers and acting on this reality.

Finally, closing this section, the article: **The Valo Grande Channel in the Cananeia-Iguape Estuary-Lagoon Complex (SP, Brazil): environmental history, ecology and future perspectives**, by *Helbert Medeiros Prado, Marcelo Schlindwein, Rui Sergio Sereni Murrieta, Daniel Rodrigues do Nascimento Junior, Eliel Pereira De Souza, Marilia Cunha-Lignon, Michel Michaelovitch De Mahiques, Paulo Cesar Fonseca Giannini and Riguel Feltrin Contente*, presents a synthesis of one of the biggest environmental disasters of the Brazilian coast. The authors indicate that part of the transformations generated may be reversible if the channel is closed, as determined by court decision. However, such a measure should be accompanied by a monitoring program aimed at its long-term effectiveness.

As original articles, the paper: **Territory, Memory and Gender: The Meanings of Women's Political Participation in Atenco, Mexico**, by *Jacqueline de Lourdes Quintana Muñoz*, analyzes women's participation in defending the territory in face of the airport project, a social conflict in San Salvador Atenco, Mexico, between 2001 and 2002. It concludes that, in their daily lives, women have experienced a transformation of gender relations through simultaneous involvement in political struggle.

**Agroecology and social classes, an approach based on the works by György Lukács and Michel Clouscard**, by *Benedito Silva Neto*, presents an analysis of class interests in the agroecological field, involving the peasantry and intellectual workers (researchers, teachers and technicians), designated as part of the "new middle class". The paper shows that the hegemony of the political-ideological positions of this new class has generated a tendency of agroecology to integrate with agribusiness, to the detriment of the interests of the peasantry.

Through a literature review and a case study on the Urban Agriculture Program (UA), in the metropolitan region of Rio de Janeiro State, the authors *Thayza Oliveira Batitucci, Fabio Souto Almeida, Erika Cortines and Ângela Alves Almeida*, in the article: **Agriculture in urban ecosystems: a step to cities sustainability**, analyze the interactions of agricultural activities in the urban ecosystem and conclude that UA functions as a balancing mechanism with urban ecosystem components.

In the article: **Health risks perception in the context of the construction of a Petrochemical Complex in Brazil**, the authors *Marcela de Abreu Moniz, Cleber Nascimento do Carmo, Sandra Hacon and Crystiane Ribas Batista Ribeiro* conducted a cross-sectional study with 240 individuals in southeastern Brazil . They found that adult individuals with a high level of education and residence around the petrochemical complex better understand the health risks and few benefits resulting from the construction of this venture than the group of residents from the area farthest from this zone.

Using a matrix of Forces, Opportunities, Weaknesses and Threats, semi-structured interviews, a Priority Matrix and an Action Plan, the authors *Adria Marielen Paz Sousa, Biane Silva Bridges Bridges, Maria Jociléia Soares Da Silva, and Thiago Almeida Vieira* identify and assess the point of view of non-member residents of the Tapajós National Forest Mixed Cooperative, with the primary objective of applying forest management through community activities; in the article: **Cooperativism in forest communities in the Amazon: what do non-members say?**

In the article: **Riverine communities and Belo Monte power plant: deterritorialization and influence on the cultivation of edible plants**, the authors *Geysiane Costa e Silva and Flávia Araújo Cristina Araújo Lucas* evaluate the importance of food plants in maintaining the lifestyle of the riverside affected by the Belo Dam Monte, in a scenario of social and environmental changes. They interviewed 60 Family Units and detected a strong tradition and dependence that families maintain on the riverside way of life and food production.

*Roberto Donato da Silva Junior, Laura De Biase and Francisco Martellini*, in the article: **On dialogues and existences: a possible contribution of Anthropology to Agroecology**, problematize the "dialogue of agroecological knowledge" and prospect the conditions that anthropology has for treatment of the problems presented. They argue that this epistemological basis does not account for the complex interactions produced between the agents in question and contributes to a hierarchical and asymmetrical power relationship.

Analyzing the dynamics of transformations in the city of Sorriso-MT, which has become the largest producer of grain in the country in the last 40 years, *Jussara Giaretta, Danielle Storck, Manoel Santos Filho, Joselaine Souto Hall Silva and Dionei José Silva* eva-

luate agricultural activity growth in this municipality, the reduction of areas of natural vegetation and connect the growth of production with aspects of economic and social development; in the article: **Advancement of agricultural activity on natural vegetation areas in national Agribusiness capital**.

The article: **Socioenvironmental indicators of fishermen from Lagoa de Cima and Marsaxlokk Village**, by *Frank Pavan de Souza and Marcos Fabio Freire Montysuma*, presents an analysis of the social and environmental indicators of fishing communities, one located in Lagoa de Cima, in the municipality of Campos dos Goytacazes, RJ, in Brazil and the other in Marsaxlokk in the Republic of Malta. The authors conclude that the influence of social and environmental aspects reflects the situation in which each community lives and perceives a divergence as to the credibility of the interviewees about the public power.

Seeking to understand the perceptions of students of Youth and Adult Education about the Doce River, after the environmental disaster caused by the Fundão dam rupture, the authors *Gilda De Melo Marques and Maria Celeste Reis Fernandes de Souza* show that the perceptions of the subjects on the river are marked by cartographies of fear, arising from environmental degradation before and after the disaster, health concerns, family budgeting and job losses. This is in the article: **The perception of adult and young adult students on the river Rio Doce - Cartographies of fear**.

Finally, in the article: **Extreme events, climate change and adaptation in the State of São Paulo**, *Gabriela Marques Di Giulio, Roger Rodrigues Torres, Maria Vasconcellos, Rosa Mancini, Diego Rafael Braga and Maria Carmen Lemos* present and discuss the information provided by municipal agents about the occurrence and impacts of extreme weather events in the municipalities of São Paulo, the perception about climate change and the actions and responses in face of it. These data allow us to expand our knowledge of how the largest Brazilian state, in terms of population and economics, has advanced in addressing climate change and the main obstacles that hinder the adaptation of cities.

Therefore we close Volume 22 of Ambiente & Sociedade Journal. We thank all our editorial staff, referees, authors and our readers for their constant support to our work and we renew our commitment, for the following year, to continue promoting and disseminating the development of science, especially in Brazil, with quality and competence.

We wish you all a good read!

http://dx.doi.org/10.1590/1809-4422asoceditorialvu2019L4ED
2019;22:e0006
Editorial