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MARIPOLDATA Ocean Seminar

Epistemic Infrastructures of Knowing the Sea: The Case of Maritime Domain Awareness

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Guest Speaker: Professor Dr. Christian Bueger

Christian Bueger is Professor of International Relations at the University of Copenhagen, an honorary professor at the University of Seychelles and a research fellow at the University of Stellenbosch. He is also one of the directors of the SafeSeas research network on maritime security. He is currently part of two larger research projects: The AMARIS project, which analyzes maritime insecurity in Ghana, and the TOCAS project on blue crime governance in the Indo-Pacific. His research draws on ideas from practice theory and the sociology of science to understand changing patterns of knowing and governing the oceans.

We welcome Professor Christian Bueger to the second MARIPOLDATA Ocean Seminar, who will share insights into his ongoing work on Epistemic Infrastructures of Knowing the Sea at the case of Maritime Domain Awareness (MDA).

Reading Material for the Session:

Bueger, Christian. 2020. A Glue That Withstands Heat? The Promise and Perils of Maritime Domain Awareness. In *Maritime Security: Counter-Terrorism Lessons from Maritime Piracy and Narcotics Interdiction*, ed. Edward Lucas and Thomas Crosbie. Amsterdam: IOS Press DOI 10.3233/NHSDP200065

The monthly **MARIPOLDATA Ocean Seminar Series** offer a virtual space to get information and engage in exchanges on ocean governance issues, through presentations by international experts from academia, governments, international organisations and civil society.

To register: Please contact ina.tessnow-vonwyssocki@univie.ac.at, indicating your name and institution.

More information: [MARIPOLDATA Ocean Seminar Series](#)

1. General Context

- Maritime Domain Awareness is often seen as the “silver bullet” to solve maritime security threats
- However, the knowledge production and construction of validity and certainty of the maritime domain is understudied
- There is a need to study the influence or power of actors in constructing knowledge and analyze implications for ocean governance and MDA

2. An Introduction to Maritime Domain Awareness (MDA)

Reading 1: Bueger, Christian. 2020. A Glue That Withstands Heat? The Promise and Perils of Maritime Domain Awareness. In *Maritime Security: Counter-Terrorism Lessons from Maritime Piracy and Narcotics Interdiction*, ed. Edward Lucas and Thomas Crosbie. Amsterdam: IOS Press DOI 10.3233/NHSDP200065.

Maritime domain awareness refers to the knowledge we have on activities that take place in certain marine areas – originally the territorial waters of a coastal state or the adjacent waters, but increasingly also the High Seas. Identification, tracking and evaluation of maritime activity for example through data collection, sharing and analysis enabled by technologies, such as satellite, communication or computer technology leads to such awareness of the maritime domain.

MDA enables international maritime security cooperation to address maritime security threats, such as piracy, illegal fishing, smuggling or maritime terrorism.

The text introduces the origin and evolution of MDA, showing the development of regional maritime domain awareness and cooperation.

It looks at regional MDA through inter-governmental information sharing centers, mapping the gradual evolution of MDA structures leading up to an emerging transnational network set up over the past two decades.

While MDA started within national intelligence, it shifted towards a more global approach to obtain knowledge on the maritime domain, driven by the establishment of international governance frameworks (such as The United Nations Convention on the Law of the Sea - UNCLOS);

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transnational security threats, technological developments and resulting surveillance priorities and activities; as well as capacity building efforts.

These phenomena transformed the way MDA was produced and is now more institutionalized and global. As a result, regional cooperation through information sharing centers emerged.

Examples of these centers include:

- 2006, the Virtual Regional Maritime Traffic Centre (V-RMTC) was launched with a Data Fusion Centre based in Santa Rosa, close to Rome, enabling data sharing within “communities” of up to 24 different states.
 - 2009 an Information Fusion Centre (IFC) was launched in Singapore
 - Centers in East Africa and the Western Indian Ocean region
 - the Regional Maritime Fusion Center in Madagascar
 - India
 - (planned) centres in Peru and Fiji
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There are several theoretical assumptions on why states support such regional MDA cooperation including:

1. **Instrumental maritime security benefits** - such as countering piracy in their coastal waters, but also detecting crimes on the high seas
2. **Building trust and cooperation** - through a collective securitization process in which different actors agree on shared threats and priorities
3. **Geo-political interests and hegemonial claims** - which can be seen through competition over who organizes MDA through which systems.

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There are, however also a number of **technological, social and organizational challenges and obstacles** to MDA.

These include limits to Automatic Identification System (AIS) data which is only available of larger vessels; lack of national capacity for data collection, sharing and analysis; lack of data, as well as the challenge to identify relevant links and evaluation of “too much data”; not to speak of data sharing difficulties due to mistrust among states or confidential or protected data. Moreover, the fusion of data from different organizations (produced under different mandates, affirming distinct values) can lead to misinterpretation or loss of data.

3. Epistemic Infrastructures of Knowing the Sea: The Case of Maritime Domain Awareness

Presentation by Prof. Dr. Christian Bueger

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4. Questions & Discussion

Conceptualization of Epistemic Infrastructures

The concept of epistemic infrastructures offers an open and fluid framework to study the practices and activities of knowledge production. In contrast to the concept of “communities of practice”, the concept does not aim to draw clear boundaries of inclusion and exclusion. Thus, there is no need to define “borders” of epistemic infrastructures, but rather offers an opportunity to allow for “floating boundaries”. Any regime ties an epistemic infrastructure, as actors within the regime need to agree on a particular problem, as well as an envisaged solution to be found. Oftentimes, regimes can also have competing values, running in the background, particularly emerging over time.

Differences between MDA centers

While the shift to a rather institutionalized and global MDA approach can be observed, regional MDA centers are still different in their operations, in their use of technology and focus areas regarding the geographical scope and types of data collected. Some centers have a high technological standard and put emphasis on monitoring with advanced technologies. Other centers, however, are very dependent on human intelligence, including human observations on coasts and at sea, phone calls and non-automatized communication.

Forms of knowledge

Depending on how to define knowledge, there are different forms of knowledge that can be named, including the categorization of amateur vs. expert knowledge; the inclusion of traditional and indigenous knowledge; different styles of knowledge production or different disciplines, all of which could be considered in the production of maritime domain awareness.

Information sharing and Industry Interaction

There is a co-dependence between MDA and the shipping industry. MDA depends on the shipping industry for data collection and industries receive the MDA reports. Such a relation is not without tensions as regards obligations of sharing and receiving of information from both sides. The emergence of private risk companies can be observed; and implications of declaring a certain area “high risk” would entail higher prices for insurance when trespassing.

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Merging of different data sources

The fusion of different data sources can lead to problems of data misinterpretation or data loss. The assumption that different organizations and regimes produce different knowledge, depending on their mandates and embedded values let the question emerge what knowledge is actually aimed at and what is meant to be achieved. In this regard, “the more the better” approach might not hold for gathering maritime data, when difficulties in merging and analyzing arise. Oftentimes, MDA centers rely on open data, however some data sources are private/secret and distrust between data producers can exist, which further challenges the integration of data.

Literature recommendations within the session

- Christian Bueger, Making Things Known: Epistemic Practices, the United Nations, and the Translation of Piracy, *International Political Sociology*, Volume 9, Issue 1, March 2015, Pages 1–18, <https://doi.org/10.1111/ips.12073>
- "Tides of History: Ocean Science and Her Majesty's Navy, by Michael S. Reidy." *Canadian Journal of History*, 43(3), pp. 529–530
- “Ocean Science and the British Cold War State”, 2018, by Samuel A. Robinson. *Palgrave Studies in the History of Science and Technology*. Palgrave Macmillan. DOI 10.1007/978-3-319-73096-7
- Ruggie, J. (1975). International responses to technology: Concepts and trends. *International Organization*, 29(3), 557-583. doi:10.1017/S0020818300031696

We thank Prof. Dr. Christian Bueger for his insights and all Ocean Seminar Series Participants for engaging in the discussion

[Here](#) is an overview of the program for the Ocean Seminars Series of the first half of 2021.

We are looking forward to the upcoming Sessions!

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Ina Tessnow- von Wysocki, February 2021