



## One Ocean Expedition by the Norwegian tall ship Statsraad Lehmkuhl

One Ocean Expedition is a global project, and a recognized part of the UN’s Ocean Decade. The main goal of the expedition is to create attention and share knowledge about the crucial role of the ocean for sustainability in a global perspective. It encourages cooperation across borders for a more sustainable ocean and serves as a reminder that the ocean itself knows no borders.

We share the visions and desired outcomes of the Ocean Decade and use our ship to inspire and engage. Where the Ocean Decade focuses on “the science we need for the ocean we want”, we also focus on the “people we need for the ocean we want”. One Ocean Expedition aims to reduce the gap between science and the public, and to create hope for future generations.

Statsraad Lehmkuhl is one of the largest and oldest tall ships still in active use, and she is run by a non-profit foundation. She carries a permanent crew of around 30 and up to 130 voyage crew/students.

### Background

In April 2023, the Norwegian tall ship, Statsraad Lehmkuhl, returned home to Bergen, Norway after the first One Ocean Expedition — a 20-month long circumnavigation of the world. The expedition was a brilliant showcase of the UN’s sustainable development goals, involving 40 international partners from public sector, education, research, innovation, and commerce. The 110- year-old sailing ship, now equipped with state-of-the-art research instruments, served as a floating university, bringing on board students and scientists from all over the world to discuss and study ocean matters. In the many ports along the way, the ship hosted conferences, receptions, high- level meetings and diplomacy events.

### One Ocean Expedition 2025 – 2026: Northwest Passage

The next One Ocean Expedition begins in April 2025, when Statsraad Lehmkuhl departs from Bergen, Norway, on the last day of the One Ocean Week conference. The 12-month expedition will take the ship to various ports in Europe, including Nice, France, where it will be a part of both the One Ocean Science Conference and the UN Ocean Conference (UNOC2025), before setting sail for its Arctic adventure, going from Greenland through the Northwest Passage to the west coast of North America. In Inuit Nunangat, the expedition will have stopovers in Gjoa Haven and Cambridge Bay. This Arctic

portion of the expedition will be a significant contribution towards the UN's Ocean Decade, providing the younger generation of students and researchers first-hand knowledge about Arctic regions. The University of Tromsø (UiT) The Arctic University of Norway, will develop and lead the educational and scientific program for this portion of the expedition, in close cooperation with partners and authorities for the waters we are sailing in.

## **Educational and scientific program: Future Arctic Pathfinders - A journey through the Northwest Passage**

As part of the One Ocean Expedition, UiT The Arctic University of Norway has chartered the vessel to sail through the Northwest Passage in the autumn of 2025. The backbone of the voyage will be a 10 ECTS interdisciplinary course open for master's students and doctoral fellows, with the title "Future Arctic Pathfinders - A journey through the Northwest Passage".

The course will be in English, and it will be open to both Norwegian and international participants. In addition, UiT and partners will develop a dedicated research program specially designed for the voyage through the Northwest Passage. The course will be designed to be project-based and with high focus on developing inter- and transdisciplinary collaboration skills, personal reflections, and practice in dealing with complex issues related to the consequences of human-induced climate change, focusing on the overarching vision and purpose of the project: to raise awareness and share knowledge about the role of the ocean in sustainable development from a global perspective. Indigenous knowledge and perspectives, conventional science, and societal challenges at large will inform the course content. The target audience will be students and fellows who are socially engaged, adventurous, and wish to be part of the solution to major societal challenges related to climate change and sustainable use of the ocean (in a broad sense).

The course will run twice, first from Nuuk to Cambridge Bay in August 2025 and then from Cambridge Bay to Anchorage in September 2025, with 60 participants being enrolled for each run. We also want to invite Indigenous knowledge holders and elders to ensure the transmission of diverse perspectives and knowledges about the Arctic and foster cultural exchange. As such, the course becomes a platform for sharing diverse perspectives, experiences, and ways of knowing, enriching the educational journey for all the participants.

In addition, we plan three high-level events with prominent stakeholders at the ports in Nuuk, Cambridge Bay, and Anchorage. We will focus on Arctic Council related themes in Nuuk, given that Denmark has the Chairship of the Arctic Council at the time of our visit, recently handed over from Norway. In Cambridge Bay, we want to listen and learn about the diverse local and Indigenous perspectives about the Arctic. At last, in Anchorage, we will focus on climate and security. The Norwegian Embassies in Denmark, Canada, and USA are supporting these events. At these events, our ambition is to gather representatives of Indigenous and local communities, highly ranked politicians, representatives from local, regional, and national authorities, private sector, and academia.



*The planned route for the One Ocean Expedition 2025-2026. UiT is responsible for the leg through the Northwest Passage, starting in Nuuk on August 5<sup>th</sup> and ending up in Anchorage on October 4<sup>th</sup>, 2025.*

The voyage represents an excellent platform for research. Most likely, other ships will escort the Statsraad Lehmkuhl from Nuuk to Anchorage. Thus, at any given time there will be two ships from where research can be conducted. The research plan is still to be developed, but we foresee a wide range of study areas including biodiversity, microplastic, physical oceanography, human health, marine studies, atmospheric studies, governance, socio-economic aspects, imaginaries and much more.

Finally, the expedition will be linked with the Norwegian national research initiative Arctic Ocean 2050 and the forthcoming International Polar Year in 2032/33. The students and Indigenous and local youth that we aim to bring with us today, will in 2032 be Arctic academics and knowledge holders that we rely on to provide the insight and knowledge we need for a sustainable management of a rapidly changing Arctic. These future researchers and decisionmakers will greatly benefit from the inter- and transdisciplinary competences and anticipatory skills that we will help develop as part of the voyage through the Northwest Passage. This will be the true legacy of the voyage.

### Expedition itinerary – Northwest Passage

The One Ocean Expedition starts from the ships' home port Bergen on 7<sup>th</sup> of April 2025 and is expected to return to Bergen almost 12 months after on the 17<sup>th</sup> of April 2026. The legs of the 12-month voyage are chartered by different institutions.

UiT The Arctic University of Norway has chartered the leg through the Northwest Passage and sail through the homelands of Inuit, Yupik, Unangan and Athabaskan peoples. UiT will embark the ship in Nuuk on August 5<sup>th</sup> 2025 and end their voyage in Anchorage October 4<sup>th</sup>, with planned stops in:

- Miitimatilik/Pond Inlet (August 14<sup>th</sup>) **OR** Resolute/Qausuittuq (August 17<sup>th</sup>) (for border and immigration – weather and ice depending)
- Uqsuqtuuq/Gjoa Haven (August 22-26<sup>th</sup>)

- Ikaluktutiak/Cambridge Bay (August 29<sup>th</sup> to September 2<sup>nd</sup>)
- Siqnazuaq/Nome (for US border and immigration)
- Dgheyay Kaq'/Anchorage (October 4<sup>th</sup>)

## Potential research through the Northwest Passage & Collaborative research opportunities

Researchers from One Ocean II are interested in contributing to a better understanding of the Arctic biome, as well as the future challenges local and global communities are facing by climate-driven changes in the Arctic marine ecosystems, pollution, and other anthropogenic stressors. The research may also incorporate socio-economic and -political aspects, including law, of a changing Arctic marine environment. Our aim is to identify local Arctic challenges and make them visible on a wider public scale. We recognize that research activities on land and in the homeland waters of Inuit, Yupik and Unangan can only be carried out with consent by Indigenous rights holders and should be based on co-creation. Therefore, we would like to invite for collaboration in the development of the project and the establishment of a research plan that links western and Indigenous knowledge and that is relevant and useful for local communities. We would also like to invite elders on board the ship during a prolonged stop on land, for teaching onboard, and there are possibilities for outreach and exchange events, especially in Cambridge Bay, which can also be discussed further. We would like to stress that this is also a learning process for us, and we are eager to listen.

### Natural sciences

Statsraad Lehmkuhl and the One Ocean II (OOII) offer excellent opportunities to conduct research related to marine ecology and taxonomy, and to perform biodiversity assessments on small to large scales using state of the art molecular and monitoring techniques, such as analysis of environmental DNA. Researchers can perform near real time analyses during the cruise by taking advantage of infrastructure for data communication and sea observation on board the vessel. The tall ship, Statsraad Lehmkuhl enables unique opportunities for conducting research without interference from engine and propeller noise, for studying e.g. marine mammals. Research could evolve around (but is not limited to):

- Assessment of fish and zooplankton populations
- Biodiversity assessment using physical sampling, morphological and molecular (environmental DNA) analyses
- Biotechnology: exploring marine bioactive compounds and analysing marine hydrocarbon-metabolizing microorganisms
- Epidemiology and impact of diet transitions in Indigenous populations
- Health studies: impact of onboard watch system on health and wellness of OOII participants
- Physical oceanography: understanding changes in sea ice thickness
- Technology: safe and sustainable operations in remote areas with demanding weather conditions

### Socioeconomics and –politics, including law, in the Arctic

Potential OOII participants related to both research and teaching cover a range of scientific disciplines that all have a strong Arctic focus. Research and teaching with a focus on social sciences could be of interest for amplifying voices of Indigenous rights holders to a larger scientific and public audience. Some potential themes could be:

- Arctic Memoryscapes – documenting changes in Arctic coastal and underwater heritage

- Information literacy by integrating Indigenous knowledge, experiential learning, and Extended Reality technologies
- Ocean literacy: understanding and stewardship of marine environments through integrating diverse knowledge systems and emotional literacy
- Bridging knowledge systems for Arctic coastal management: document, revitalize, and integrate management and conservation practices of Indigenous peoples, and assess the changes experienced in their livelihoods because of governmental climate change adaptation and mitigation measures
- Creative futures thinking using experiential learning and worldbuilding through the course running on-board
- International relations: interplay between the Arctic and Arctic local and Indigenous societies with global political, economic, security processes
- Arctic linguistic landscapes
- Didactics: students' perspectives on teaching and learning processes in collaborative interdisciplinary project work