

Global network to eavesdrop on oceans quieted by COVID

April 8 2021, by Patrick Galey



Travel and economic downturns due to Covid-19 has seen falls in maritime traffic, sea floor exploration and other human interference, creating "a unique moment" to gather data on the oceans' sonic landscape

Scientists will take advantage of an unprecedented fall in shipping

activity to listen in to the world's oceans and study how manmade noise affects marine ecosystems, the project organisers said Thursday.

Travel and economic downturns due to COVID-19 have seen falls in maritime traffic, sea floor exploration and other human interference, creating "a unique moment" to gather data on the oceans' sonic landscape, they said.

The scientific community has already identified more than 200 non-military hydrophones—aquatic listening devices capable of picking up low-frequency signals from hundreds of kilometres away—worldwide, and aim to link up a total of 500 to capture signals from whales and other marine life.

Sea animals use sound and natural sonar to navigate and communicate across vast swathes of ocean.

While numerous previous studies have identified a link between manmade marine noise and changes in species behaviour, the precise links remain poorly understood.

"Assessing the risks of underwater sound for marine life requires understanding what sound levels cause harmful effects and where in the ocean vulnerable animals may be exposed to sound exceeding these levels," said Peter Tyack, professor of Marine Mammal Biology at the University of St Andrews.

Researchers hope to create a global, open source data repository with information gathered from hydrophones across the planet to measure and document the effects of noise on the behaviour of sea life.

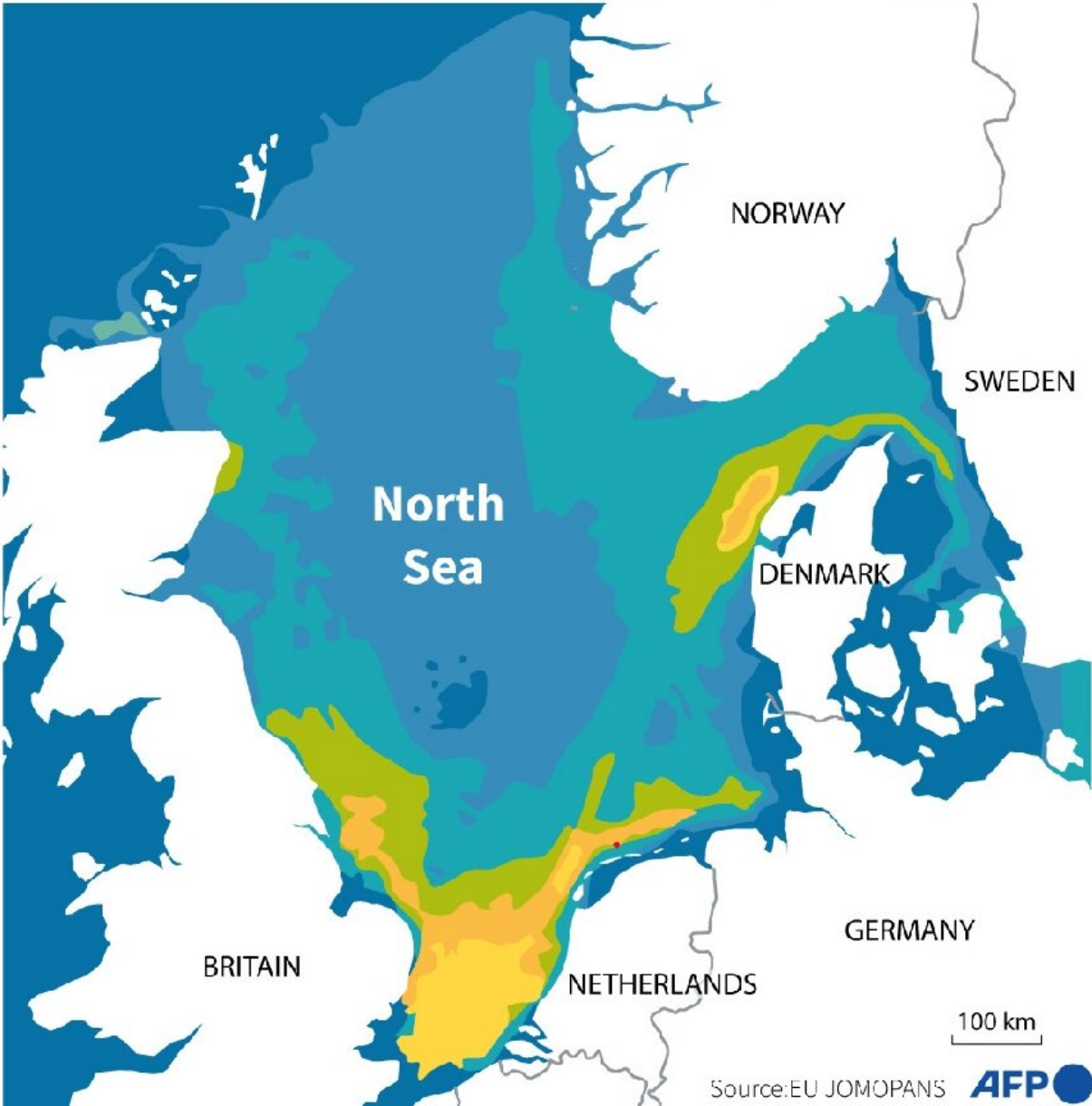
Software under development led by the University of New Hampshire (MANTA) will allow collaborators to compare and visualise ocean audio

data.

In addition, the Open Portal to Underwater Sound (OPUS) is being tested by the Alfred Wegener Institute in Bremerhaven, Germany, to promote the use of the data.

Marine noise pollution

Shipping main cause of additional underwater noise decibels
Difference between total noise 0 5 10 15 20 25 30
and natural noise levels (2019)



Marine noise pollution

'Year of quiet ocean'

The team said that the pandemic had presented a window of opportunity for maritime study equivalent to the period of above ground nuclear testing between 1945 and 1980.

Those tests created traces of elements that spread widely and provided major insights into ocean biology.

"The oceans are unlikely to be as quiet during April 2020 for many decades to come," said project originator Jesse Ausubel, director of the Program for the Human Environment at The Rockefeller University.

"The COVID-19 pandemic provided an unanticipated event that reduced sound levels more than we dreamed possible based on voluntary sound reductions."

Following the launch in 2015 of the International Quiet Ocean Experiment (IQOE), the number of civilian hydrophones operating in North America and Europe has increased dramatically.

That project also designated 2022 as "the Year of the Quiet Ocean".

While the researchers said the levels and scope of monitoring equipment had ramped up in recent years, they called for more acoustic instrumentation across the Southern Hemisphere.

"The shocking global effect of COVID-19 on human additions of noise to the oceans can spur maturation of regular monitoring of the soundscape of our seas," said Ausubel.

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