

# Researchers find undersea gas leaks off Israel's coast

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(Phys.org)—The terms "gas" and "sea" for many will invoke associations of reserves, business, and a lot of money. Whatever the association, most of the efforts in Israel's energy field are being directed at gas buried deep under the Mediterranean seabed. Now a new geophysical study, the first of its kind in Israel, has uncovered a system of active gas springs in the Haifa Bay seabed, at relatively shallow depths, only a few dozen meters below the surface.

The study, published in the journal *Continental Shelf Research*, describes the entire system, from its sources under the sea floor through the natural springs emerging from the seabed.

"This is a natural laboratory for researching [gas emissions](#) from the sea floor – natural springs and less natural ones. We are only beginning to understand their contribution to climate and [ecological change](#)," said Dr. Uri Schattner of the Leon H. Charney School of Marine Sciences at the University of Haifa, who led the research.

The first evidence of gas springs emerged from examining a map of the sea floor off Israel's northern coast. A joint effort between the University of Haifa and the Israel Oceanographic and Limnological Research Institute revealed no less than 700 spots in the seabed that looked like possible gas springs. The researchers' suspicions intensified when [seismic data](#) identified pockets of gas beneath the seabed.

Based on this evidence, researchers went out to sea four times to collect more data from the seabed and from under the sea floor. "Geophysical information enables us to research beneath the sea floor and map out the entire system, from the gas sources to their penetration of the sea waters," said Dr. Schattner.

However, what they found exceeded all expectations. A gas deposit of 72 square kilometers was found on the continental shelf, at depths of between 37 meters to 112 meters. While many of the gases remain in the reserve, some still manage to escape into the sea.

"We don't know yet what kind of gas we're talking about, but its role in undermining the stability of the seabed is clear," said Dr. Michael Lazar, a member of the research team. "This means that any discussion of marine infrastructure development must seriously relate to this shallow gas stratum." Israel's Energy and Water Ministry is expending a great deal of effort on formulating National Master Plan 37H, which, among other things, deals with the transportation of gas produced from deep-sea drilling to pressure-reducing facilities. These will be located on the [continental shelf](#), in the sea, from where the gas will be transported to

the coast.

"Now we are beginning to understand that there is no substitute for thoroughly researching the stability of the sea floor to prevent an infrastructure failure, since any leak could cause an ecological disaster," said Dr. Schattner.

During the coming months, the researchers will be making another expedition to the springs, this time with a team of biologists and geologists. This unique combination of experts from the Leon H. Charney School of [Marine Sciences](#) will be able to provide a better understanding of the type of [gas](#) involved and its influence on marine life near the [sea floor](#).

"Every research trip challenges and fascinates us anew," said Dr. Schattner. "This time we'll be going out with a few vessels, each of which is dedicated to different types of surveying and sampling."

Provided by University of Haifa

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