

In this quarter, the OTZ team's work was featured at the UN's COP27 conference, where it shared the crucial role that the ocean twilight zone plays in global climate. This milestone, which brought our research to global policymakers, was testimony to the value of your investment in the OTZ project and your trust in us to deliver timely, socially-relevant results.

For the twilight zone,



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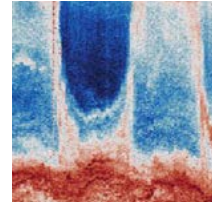
OTZ featured at UN's COP27 change conference

Thanks to a new Ocean pavilion that WHOI co-sponsored at this international event, OTZ scientists were able to present their work to tens of thousands of high-profile visitors, including John Kerry and Queen Letizia of Spain. The ocean was a central theme at COP for the first time thanks, in part, to OTZ Project policy engagement over the past five years.

[SEE HOW FAR WE'VE COME](#)

Underwater “tides” could affect animals in the twilight zone

OTZ PhD student Zhaozhong Zhuang suggests that underwater “waves” can push twilight zone animals around en masse as they migrate between the zone and the surface each night. As a result, they may not descend to the same place they left—a phenomenon that could affect the animals’ ability to shuttle carbon from the surface into the deep ocean.



[RIDE THE WAVE](#)

Meet the researcher behind this new finding

As a child, Zhaozhong Zhuang imagined becoming an astronomer, uncovering secrets of the universe by looking at distant, unreachable stars. By high school, though, it dawned on him that he could study another universe right under his nose—the opaque waters of the global ocean.



[MEET ZHAOZHONG](#)

Twilight Zone in the media

PHYS.ORG

[The ocean’s twilight zone is filled with life, but there is a big risk of overfishing](#)

THE SCIENCE TIMES

[Lifeful Ocean’s Twilight Zone Can Possess Hazard of Overfishing According to Study](#)

LIVE SCIENCE

[Ocean’s ‘Twilight Zone’ Traps Greenhouse Gas](#)

NEWSWEEK

[Sea Snakes Are Taking Refuge in the Twilight Zone and No One Knows Why](#)

NEWSWEEK

[Deep-sea Jelly Glows Blood-red to Hide in Blackness of the Twilight Zone](#)

Published papers

DEEP SEA RESEARCH

[Biogeographic Variations In Diel Vertical Migration Determined From Multi-Frequency Acoustic Backscattering In The Northwest Atlantic Ocean](#)

Wiebe, P.H., Lavery, A.C., and Lawson, G.L.

OCEANOGRAPHY

[Advances in Environmental DNA Sampling for Observing Ocean Twilight Zone Animal Diversity](#)

Govindarajan A.F., Adams A., Allan E., Herrera S., Lavery A., Llopiz J., McCartin L., Yoerger D., Zhang W.



OCEAN TWILIGHT ZONE

Q4 2022 REPORT



Creature feature: lanternfish

Light-producing organs called photophores line the head, underside, and tail of the aptly-named lanternfish. Although these help it to attract mates and confuse predators, they won't protect the massively abundant fish from commercial fishing nets. If those are used in the twilight zone at a large scale, it could have devastating results on the mid-ocean—and on global climate.

[SEE THE LIGHTSHOW](#)