

Hydrothermal Vents: Resources for Educators

Activities & Modules

- [Investigation: Life on a Hydrothermal Vent](#) - NOAA Ocean Exploration activity
- [Investigation: How Black Smoker Vent Chimneys Form](#) - NOAA Ocean Exploration activity
- [Living on a Chimney](#) - OET STEM Learning Module
- [Virtual Vents Video Commentary](#) - SOI lesson plan

Information Sheets

- [Hydrothermal Vents](#) - NOAA Ocean Exploration factsheet
- [Chemosynthesis](#) - NOAA Ocean Exploration factsheet
- [What's the difference between photosynthesis and chemosynthesis?](#) - NOAA Ocean Exploration Ocean Facts
- [What is the difference between cold seeps and hydrothermal vents?](#) - NOAA Ocean Exploration Ocean Facts
- [Dive & Discover: Hydrothermal Vent Basics](#) - WHOI information sheet
- [Introduction to Vent Geology](#) - MIT information sheet
- [Introduction to Ships of Exploration and their Strategies for Ocean Exploration](#) - NOAA Ocean Exploration information sheet

Presentations

- [Deep Sea Dialogues: Hydrothermal Vents](#) - NOAA Ocean Exploration video interview
- [Ocean Encounters: Oceans Beyond Earth](#) - WHOI webinar

Images & Videos

- [Oases of Life](#) - NOAA Ocean Exploration from 2016 Deepwater Exploration of the Marianas Expedition
 - [Hydrothermal Vent](#) - (short version of above)
- [Hydrothermal Vent & Tubeworm Discovery](#) - NOAA Ocean Exploration from 2011 Galapagos Rift Expedition
- [Seeps, Vents, and Volcanoes](#) -- NOAA Ocean Exploration video playlist
- [Seeps, Vents, and Volcanoes](#) -- NOAA Ocean Exploration image gallery
- [Exploring Gigantic Hydrothermal Vents](#) - OET image gallery
- [Highlights: Hydrothermal Vents](#) - OET video playlist
- [Behind the Scenes - Chemosynthesis](#) - OET video
- [Interdisciplinary Investigation of a New Hydrothermal Vent Field](#) - SOI image and video gallery
- [Virtual Vents](#) - SOI image and video gallery
- [Microbial Mysteries](#) - SOI image and video gallery
- [Unknown Ocean - Deep Sea Vents](#) - ISC/NOAA Ocean Exploration video

- [The Astronaut of the Deep Blue](#) - BBC video
- [How Giant Tube Worms Survive at Hydrothermal Vents](#) - Ed Yong video series by I Contain Multitudes
- [The Amazing Beggiiatoa: The Adventures of Zack and Molly](#) - ECOGIG Ocean Ecosystem research video series

Articles & Publications

- [The Discovery of Hydrothermal Vents](#) - WHOI's Oceanus magazine article

Recent Expeditions and Discoveries

- [Hydrothermal Lost Cities: Mid Atlantic Ridge 2023](#) - Schmidt Ocean Institute
- [Interdisciplinary Investigation of the Pescadero Basin: Mexico 2021](#) - Schmidt Ocean Institute
- [Scientists Discover New Ecosystem Underneath Hydrothermal Vents: East Pacific Rise 2023](#) - Schmidt Ocean Institute

Additional Resources

- [Instructional Model](#) - OpenSciEd's unity sequencing infographic for exploring phenomena
- [Vents and Volcanoes](#) - NOAA Ocean Exploration theme page with relevant education resources
- [Vent locations](#) - NOAA Science on a Sphere dataset

Organizations

- [NOAA Ocean Exploration](#)
- [Ocean Exploration Trust](#)
- [Schmidt Ocean Institute](#)
- [Deep Ocean Education Project](#) - Collaborative education website featuring resources from the organizations listed above