

A new laboratory to investigate the impact of multiple drivers on ocean life

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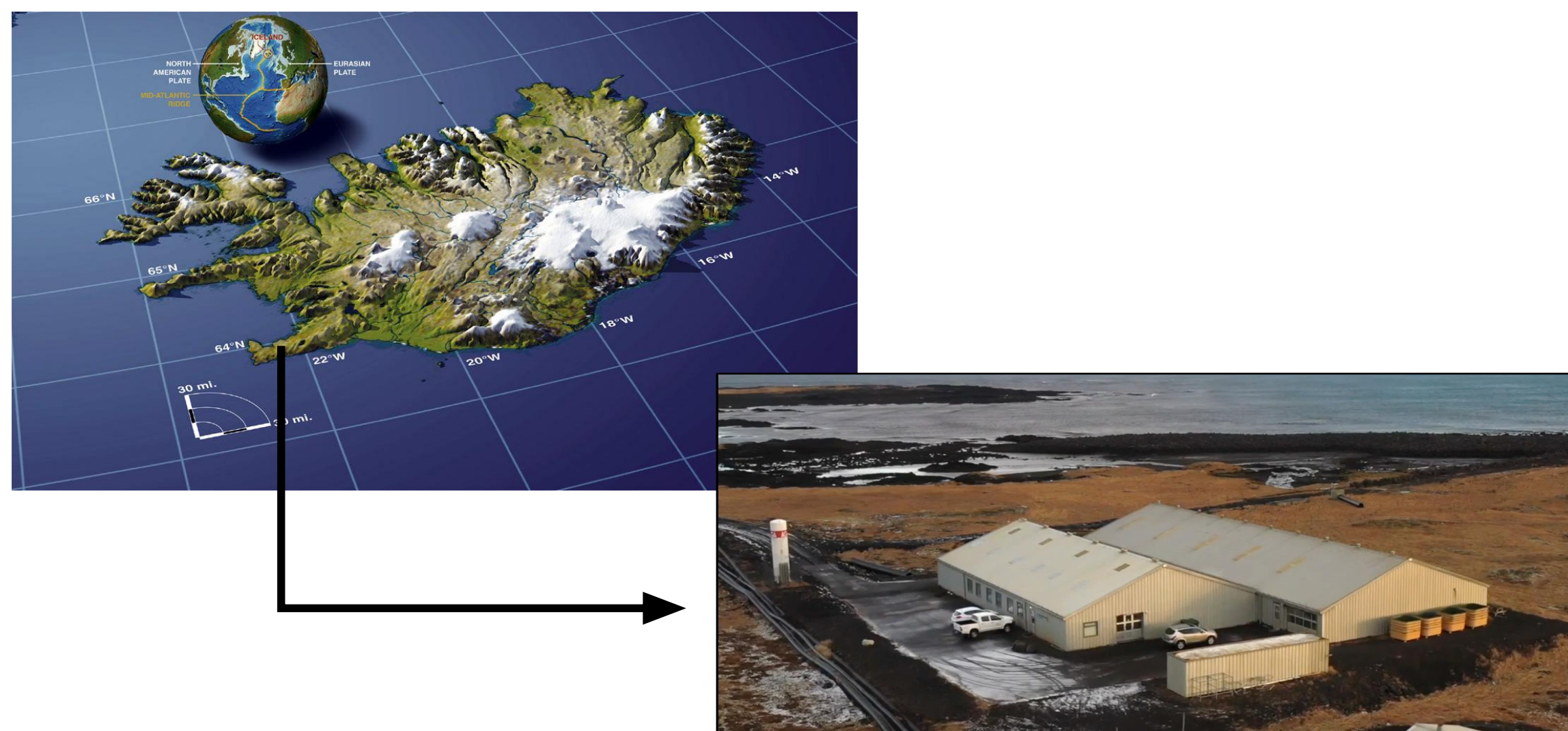
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Objectives

- Further understanding of the impact of multiple stressors, including ocean acidification (OA), on marine life.
- Increase capacity for multimethod research.
- Build research capacity, e.g. through early-career involvement and collaborations.
- Work with stakeholders, e.g. on determining environmental limitations of species of interest.



The Research Station



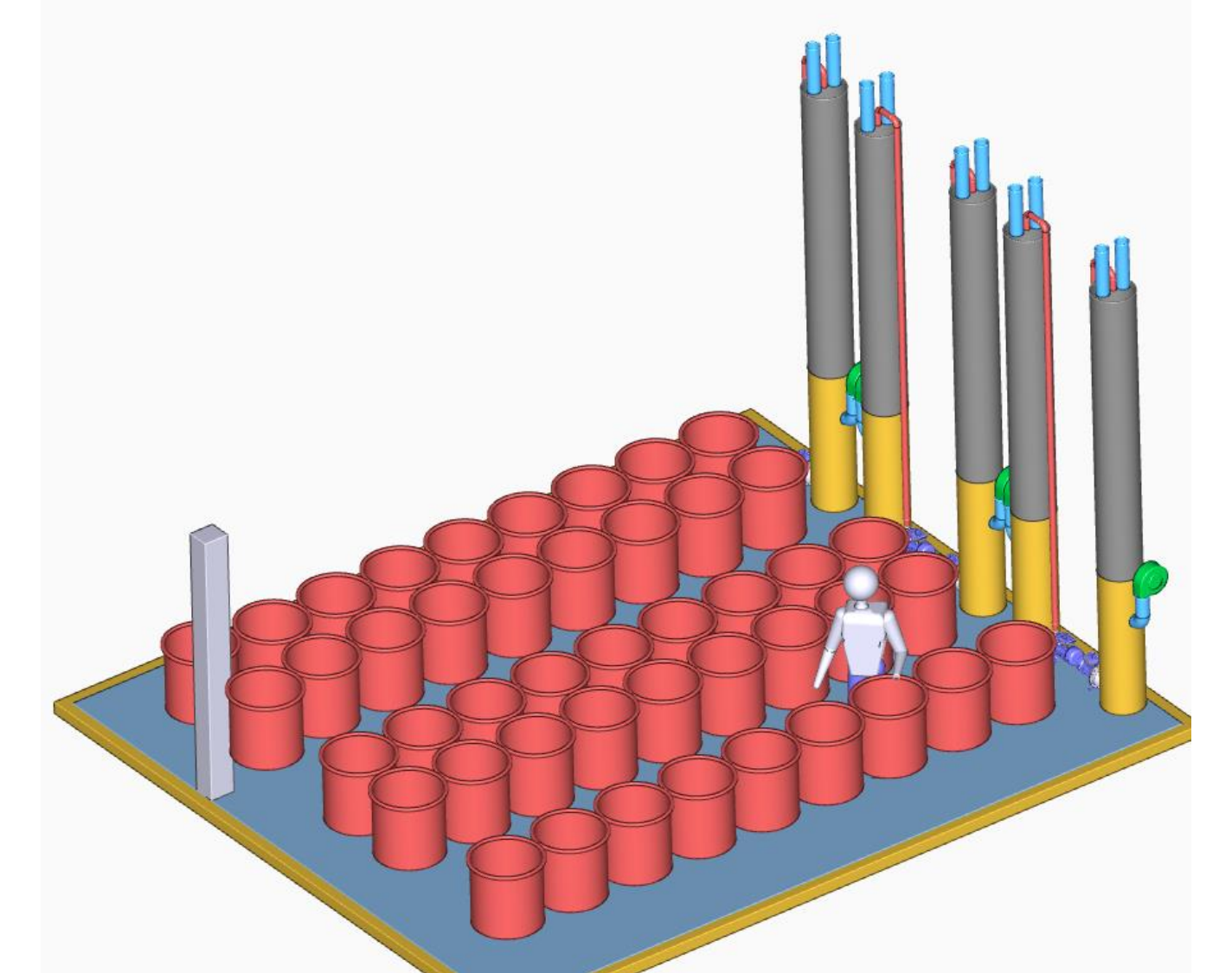
The general facility @ the MFRI Aquaculture Research Station

- Abundant seawater from a borehole that has been naturally filtered through basalt. Can be used directly for experimentations.
- Geothermal energy used for heating and abundant freshwater → Environmentally friendly and low-cost operation.
- Temperature from borehole can be adjusted from 2° C – 20° C.
- Tanks of various sizes in the station.
- Facilities to culture live feed, e.g. small and large rotifers and artemia.
- Recent species cultured in facility include Atlantic cod, lumpfish, Atlantic salmon, Arctic charr, wolffish, various macroalgae and non-native abalones.



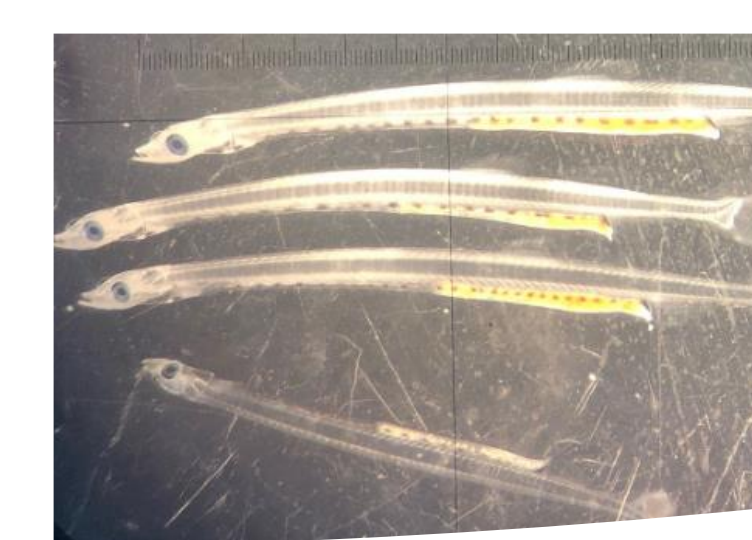
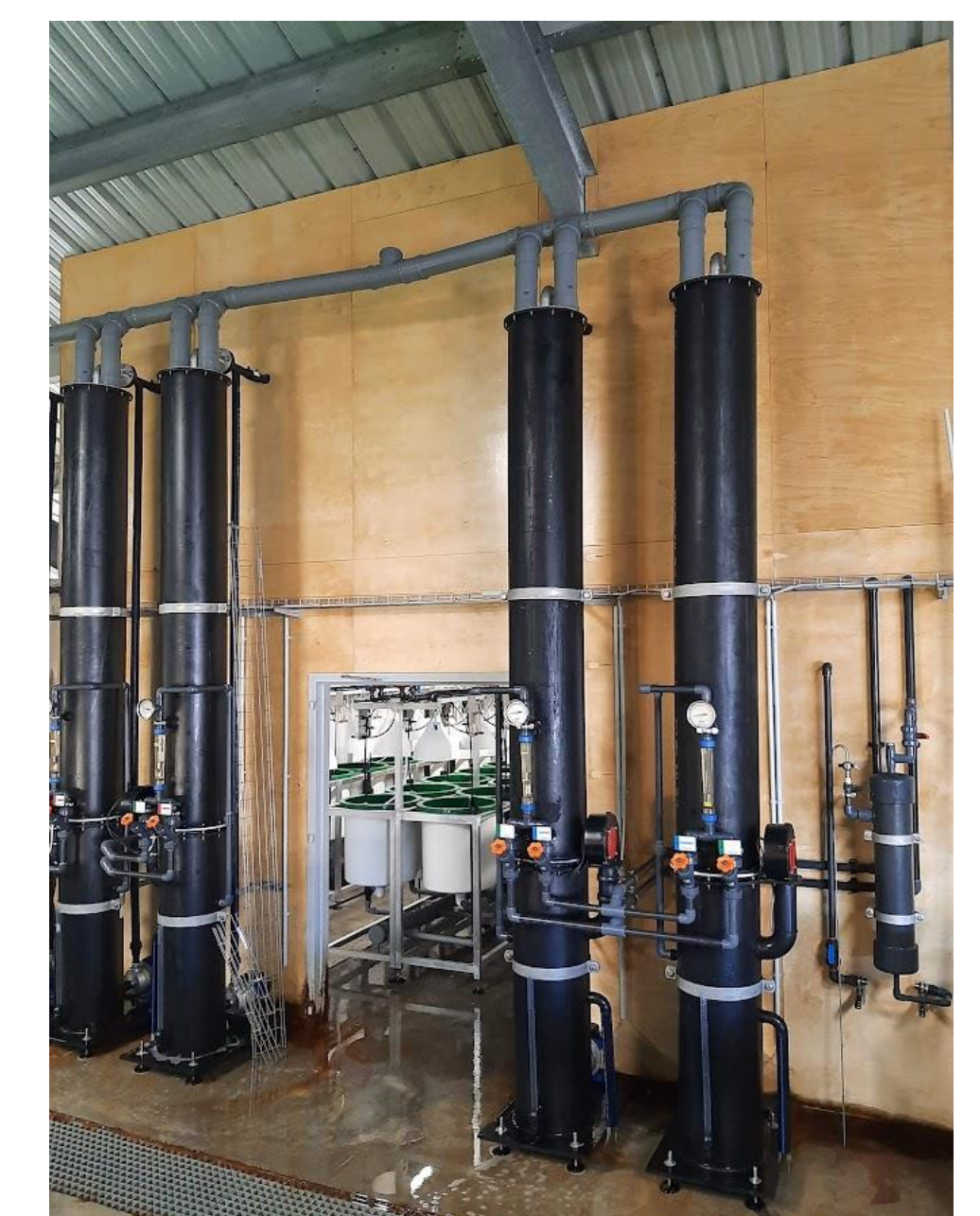
The multi-stressor laboratory

- Designed to investigate the impact of multiple drivers on marine life.
- 45 tanks, 60 cm diameter and 100 cm deep.
- Counter-flow aerators with air-to-water ratio 10:1 and up to five aeration cycles to ensure complete aeration.
- The laboratory can be adapted to various experimental designs, species and environmental factors (e.g., temperature, pH/CO₂, light, food availability, oxygen concentration, contaminants, etc.)
- First experiments to investigate the impact of different temperatures on early life stages of the cold-water adapted fish Capelin are underway.



3D schematic of the laboratory

Aeration cylinders



Capelin larvae under microscope

The laboratory



Contact:

Please don't hesitate to contact us if you would like to enquire about the facility, specifications, research possibilities, potential collaboration & rental options.

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