

Understanding the impacts of marine heatwaves on Sea Country

Bringing Indigenous knowledge and Western science together to understand climate impacts on Country.

The NESP Climate Systems Hub Indigenous Partnerships Team is developing Indigenous-led research and resources to inform national and international climate decisions. The team is partnering with Indigenous communities to deliver on-Country case studies based on themes from the National First Peoples Gathering on Climate Change.

Marine heatwave impacts on Sea Country and culture

Changes:

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Rising ocean temperatures under climate change
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Prolonged warm ocean temperature extremes (known as marine heatwaves)
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More frequent and intense marine heatwaves as climate changes

Impacts:

- Loss of culturally significant species, marine habitats and biodiversity
- Disruption to cultural practices, harvesting, and livelihoods
- Impacts on connection to Sea Country
- Marine ecosystem changes, including seagrass loss, kelp decline and collapse, biodiversity loss, increased invasive species and species shifts



Case study focus

- Understand marine heatwaves impacts on Sea Country, culture, and communities
- Explore ecosystem changes, including seagrass loss, kelp decline, and species shifts
- Bring First Nations knowledge and climate science together, including Elders, Indigenous Rangers and researchers

Case study locations

- Shark Bay (Gathaagudu), WA
- Geraldton / Jumbinu, WA
- Bruny Island (Iunawanna allonah), Tasmania



Case study focus

- Support adaptation and management through on-Country engagement and learning
- Strengthen Indigenous voices and leadership in climate policy, including the Intergovernmental Panel on Climate Change (IPCC)

Next steps

- Continue on-Country visits
- Share observations of ecosystem and cultural changes
- Strengthen relationships and community involvement
- Explore future Indigenous-led research and adaptation responses
- Inform climate policy and IPCC reporting

Further information

Find out more about this and other case studies:

