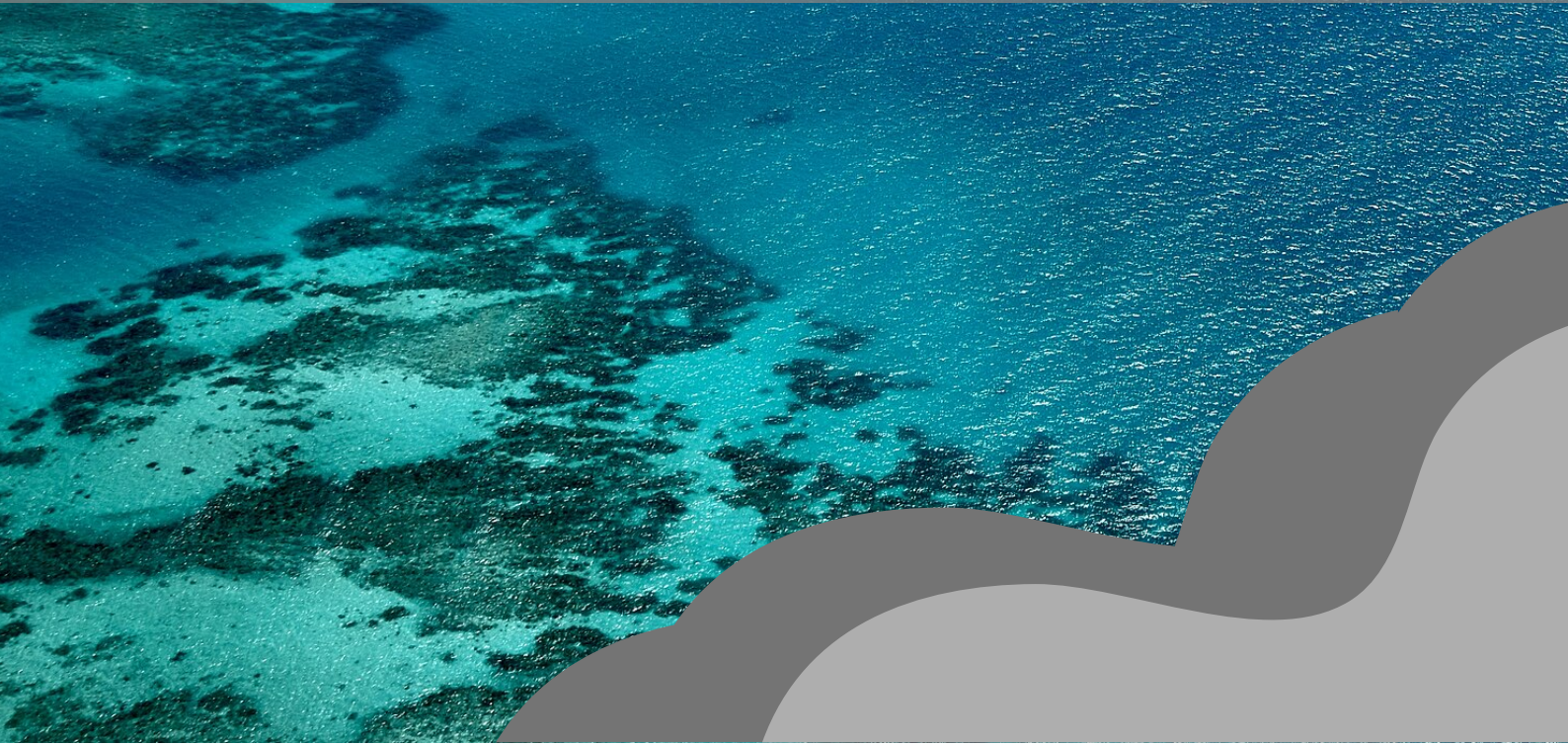


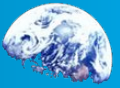


Proposal to prepare six draft management plans for 44 Australian Marine Parks



the climate centre





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The Department of Climate Change, Energy, the Environment and Water has invited interested parties and members of the public to share their ideas on the future management of these marine parks or propose changes to the plans. The Director of National Parks intends on preparing 6 new management plans covering the 44 marine parks. These will replace the 5 current plans, which expire in 2028, which are:

- Coral Sea Marine Park Management Plan
- Temperate East Marine Parks Network Management Plan
- South-west Marine Parks Network Management Plan
- North-west Marine Parks Network Management Plan
- North Marine Parks Network Management Plan

As an advocate for betterment of the environment, the Climate Centre welcomes the opportunity to provide such input. Our interests are focused on to what extent these plans acknowledge three aspects, which are: climate change and monitoring of climate measures; the expansion and connection of zones to better protect ecosystems and constituent species; and, the Australian government supporting and advocating internationally for marine parks beyond Australia's maritime zone that can assist in the expansion and connection of parks within the national maritime zone.

Note that we refer to each of these plans in the report by acronyms: CS (Coral Sea), Temperate East (TE), South-west (SW), North-west (NW), North (N), and the overall findings report (OF).

Embrace a proactive and community approach to climate change and monitoring of climate measures

The new plans should: (a) name climate change as a pressure the plans act on rather than one they observe, (b) carry a standing, funded long-term climate-and-condition monitoring commitment with measurable targets, and (c) include an explicit mechanism for new climate information to change management during the plan's life.

A critical issue to help the plans act on climate change is to change a mindset that climate change is somehow outside the reach of management interventions (SW p. 87). This mindset is one that occurs in other jurisdiction too, however in a study of 172 management plans for 555 Marine Protected Area (MPAs) across 52 countries, it was noted that 60.5% of plans had climate change measurement objectives, 47.7% included monitoring climate change variables, and 20.9% develop detailed climate change action plans (Lopazanski et al. 2023). This shows that such actions are indeed possible, and in fact necessary for the success of habitats and their constituent species to survive what will be an existential threat for many marine ecosystems. Examples of what such plans include are spatial design, dynamic boundaries, and monitoring of climate variables, amongst others. Parks Australia already has a significant ability to develop "climate-resilient strategies" (as noted in SW p. 74), and exemplified by the collaborations noted in all of the evaluation reports (e.g. CS p. 62



or NW p. 65), which can act as supporting components for the inclusion of climate change responsiveness as a key pillar of marine park management. One glaringly obvious way for plans to directly address climate change is addressing oil and gas related activities within and adjacent to marine parks, which has been raised as a concern in the evaluation reports themselves (e.g. OF p. 6).

Another primary concern, acknowledged within the evaluation reports, are that while some baseline data has been collected, data is largely missing to inform effectiveness of management (e.g. NW p. 63, NW p. 87, or OF p. 26). This is particularly weak in the SW, where the monitoring of habitat vulnerability to climate change was lacking, with adequate resourcing a noted barrier (SW p. 73, 74, 75). Park-scale monitoring can be implemented using existing infrastructure and data, and can be facilitated either by the Australian government itself or a suitably qualified third-party. This is important in regards to climate variables, including thermal stress which is important to monitor due to its threat to biodiversity and ecosystem services worldwide (Smale et al. 2019). Analysis on the scale of individual marine parks is often ignored in preference for global means, which fail to capture local dynamics (Thoral et al. 2022). For example, thermal variation at a kilometre-scale can determine whether kelp forests survive extreme heatwaves or not (Starko et al. 2022); and local processes such as internal tides create refugia that global projections miss (Storlazzi et al. 2020).

Despite these concerns, much data already exists to inform the extreme impact currently being faced by Australia's Marine Parks. In our analysis of sea surface temperature data for 2023–2025 across ten Australian Marine Park zones, every zone was warmer in 2025 than its own historical averages. Eight park-years ranked first on record, with an additional seven ranking in the warmest three. South-west Corner's largest zone moved to the highest temperature on record in 2025 at +1.33 °C compared to historical averages calculated over 1941-1970 based on reanalysis data. Both the Great Barrier Reef and the South-west Corner had their warmest year on record in 2025 (The Climate Centre, 2026). The extremity of this is easy to miss when the highest global average temperature anomaly on record to date for sea surface temperatures has been reported as +0.72 °C (Copernicus, 2025). However, the general impact of these extremes is acknowledged indirectly by the evaluation reports: e.g. "worst bleaching event on record for WA coral reefs following long lasting and widespread marine heatwave" (NW p73), the 2024 event that appears here as Argo-Rowley Terrace's third-warmest year (The Climate Centre, 2026).

However, satellite observations are insufficient compared to in situ observations, which are arguably the best option for observing small scale and subsurface dynamics. In Western Australian waters, in situ loggers well below the surface at 10-12 m ran typically 1-2 °C cooler than satellite sea-surface temperature (SST) data. SST data typically does "not adequately detect ecologically important small-scale variability" (Smale and Wernberg 2009). Depth matters as much as distance from shore, with roughly half of marine heatwaves lacking a surface signal and about a third sitting entirely below the surface (Sun et al. 2023), with the deepest and longest East Australian Current events driven by circulation rather than surface forcing (Elzahaby et al. 2021).



In situ loggers are also simple, relatively cheap, and can involve community participation. For example, efforts “to improve baseline data in the Djelk Indigenous Protected Area” was undertaken by Bawinanga Rangers and “involved the deployment of sea temperature loggers in Arnhem Marine Park” (N p. 51), which indicates a working precedent, delivered by ranger groups. These examples can go one step further by engaging with community directly through citizen science and volunteer efforts, which is already supported by the evaluation reports, e.g. stakeholders “emphasised the potential benefits of increasing citizen science opportunities”, “to strengthen data collection” (SW p. 66).

Efforts to collect data are threatened by worsening climate conditions. As time passes and marine parks suffer worsening degradation due to climate impacts, the opportunity to collect data reduces as ecosystems and species are reduced or in some cases wiped out entirely. Conditions for 2026/2027 are likely to be even more extreme than previously experienced, with “a strong to very strong El Niño event” currently developing, and the event “likely to peak at levels among, or above, the highest observed” (Bureau of Meteorology 2026). Because of this event, Australia’s marine areas will likely experience some of its warmest temperatures on record to date. The records mentioned above (e.g. for South-west Corner, Great Barrier Reef, Argo-Rowley Terrace, etc.), and for other marine parks captured by the new management plans, may be exceeded.

Management plan effectiveness is impaired by static park boundaries and fragmentation of protected areas

New management plans should address problems caused by static park and zone boundaries and address the current fragmented approach to protection. This is acknowledged in the evaluation reports, with stakeholders calling for “zoning to better reflect the dynamic and interconnected nature of marine ecosystems” (OF p. 37). The evaluation reports already propose some reasonable approaches, e.g. “zoning full reefs or ecosystems within one zone” (CS p. 23). Expansion of parks has benefits, for example spillover benefits like larger fish populations in areas adjacent to protected areas (OF p. 37), and will allow Australia and the world to reach the commitment of “30 by 30”, that is protecting 30% of the world’s oceans by 2030, as acknowledged multiple times in the reports (OF p. 35, N p. 9, NW p. 8, SW p. 8, TE p. 8, CS p. 8). Disconnection and fragmentation of protected areas also has documented negative impacts upon ecosystems, and their constituent species (Lu et al. 2023), and improving connection between the currently existing parks can result in benefits for both nature and humanity (Seve et al. 2023).

The evaluation also recommends “mechanisms to adjust zoning boundaries as new information becomes available” (OF p. 39), and an opportunity to use new information to “refine, redraw and refresh the zoning, permitted activities and management actions within/across the network” (OF p. 25). It is important that those drafting plans and corresponding legislation, acknowledge and understand that if mechanisms to adjust boundaries do not exist then damage caused to habitats and constituent species resulting from static boundaries, limited coverage, and fragmented protection could continue to exist until at least 2038. By this time large areas of Australia’s marine environment and many ecosystems, particularly coral



reefs, may have already been largely degraded with limited hope of recovery (Quigley and Baird, 2024).

The parks themselves are often smaller than the range of the animals that move through them (which can be hundreds or thousands of kilometres, e.g. see Read et al. 2014), and distributions of these species are already moving as a result of climate change impacts (Arafeh-Dalmau et al. 2021). Without connecting protected areas together, species will be forced to migrate out of their protected zones and into areas where commercial activities can take place. For this reason, scientists are now urging conservation strategies to integrate connectivity in planning and consider “the rate and trajectory of species’ range shifts due to climate variations” (see Thirukanthan et al. 2025 and Assis et al. 2026).

Thus a plan fixed on 2028 distributions for ten years will protect the wrong water before it expires, which is the reason an adjustment mechanism must exist, otherwise Australia will lose its status as a marine biodiversity hotspot. Failure to address this would amount to a negligent abdication of responsibility from the Australian government.

Advocating for protection beyond our jurisdiction

Oceans do not acknowledge the boundaries drawn by humans, and plans that do not sufficiently acknowledge areas beyond national jurisdiction (ABNJs), are doomed to failure. The evaluation reports’ main mechanism for acknowledging ABNJs could be through action A49: “Contribute to actions, where appropriate, that support Australia’s obligations under international agreements and national environmental law (e.g., World Heritage Convention, Ramsar Convention, recovery plans, wildlife conservation plans and threat abatement plans)” (e.g. CS p. 83). This was assessed as ongoing in all five plans (N p. 84, NW p. 90, SW p. 90, TE p. 87, CS p. 83). Unfortunately, the approach to this action has a number of concerns, including offloading of ownership, e.g. “responsibility for this action primarily sat with colleagues at AFMA”, limited awareness, e.g. “stakeholders had low awareness of specific international or national frameworks relevant to Parks Australia’s work” (N p. 84), and framing this as relating to compliance enforcement rather than protection itself, e.g. “an increase in non-compliances in the North Network since 2022, specifically in relation to foreign fishing” (N p. 91). The idea that protection is only a fisheries compliance issue is sad at best, and dangerously negligent at worst.

It is easy for the Australian government to offload responsibility by claiming ABNJs are not a direct responsibility of Australia. However, there are several problems with this approach, including that species range is already changing due to climate change, that migration corridors spread outside our jurisdiction, and that associated treaties that we are party to such as the Biological Diversity of Areas beyond National Jurisdiction (‘BBNJ’ or High Seas Treaty), require us to engage beyond our maritime borders. Action A49 should explicitly mention the High Seas Treaty in order to form a more explicit mechanism by which the new management plans can address issues relating to ABNJs. Additionally, if out-of-park impacts in adjacent Australian waters should be considered in zoning and assessment (OF p. 37), the same reasoning does not stop at the national maritime boundary. As such, action A49 should include that the Australian government take an advocacy position on the



international stage for protection of ABNJs, particularly those ABNJs adjacent to presently protected Australian waters. This can effectively expand or connect our own national protected areas, or those of our regional neighbours (such as Indonesia, Papua New Guinea, New Zealand, and Vanuatu, amongst others). All Australian Marine Park networks have boundaries lying on the outer limit of Australian marine jurisdiction, covering thousands of kilometres of frontage in total, of which the Coral Sea Marine Park and the South-west Network have the most (OF p. 9).

The new management plans should commit Australia to pursuing protection for ABNJs in the waters immediately adjoining these parks. These areas should align with migration corridors and future species ranges. For example, regional tracking has recorded Great Barrier Reef hawksbill turtles migrating hundreds and thousands of kilometres to foraging grounds in Vanuatu, Solomon Islands, Papua New Guinea and Indonesia (Miller et al. 1998). The Coral Sea Marine Park's own values statement describes the park as "a migratory pathway for humpback whales" (CS p. 18); and these migration pathways do not end at the national maritime boundary. While including ABNJs in the plans may seem too complex or beyond the scope of consideration, instruments already exist to address this, including the BBNJ Agreement, the regional fisheries bodies, and bilateral cooperation with Indonesia, Timor-Leste, Papua New Guinea, New Caledonia and New Zealand. The department is already working across the boundary in practice, and stakeholders have raised that international collaborations have not been properly acknowledged by the new management plan development, e.g. the wording of action A9 was "too specific" as it omitted activities "such as those undertaken with the New Caledonian government" (CS p. 34).

Research indicates that multinational coordination will be required in order to conserve more than 90% of marine species, with Australia among the highest concentration of transboundary species, along with Indonesia and the USA (Roberson et al. 2021). There are several benefits to leveraging an international approach to marine protection, including both environmental and economic. For example, migratory vertebrates crossing multiple jurisdictions and the high seas are disproportionately threatened and structurally under-protected when one state acts alone (Lascelles et al. 2014), and processes beyond national jurisdiction measurably affect ecosystem services delivered inside EEZs (Popova et al. 2019). This approach is also acknowledged in the review, with stated key directions including "ensuring 30% of Australia's ocean is highly protected" (e.g. N p. 11; SW p. 10; OF p. 11), and stakeholders asked the department to be "strongly upfront in supporting the 30 by 30 model" (OF p. 35). Because of this, we believe the Department needs to invest additional effort in enhancing the visibility of the BBNJ and mentioning of ABNJs within the new management plans compared to what the evaluation reports presently indicate.

Proposals to the BBNJ are made by States Parties, so the operative question is whether Australia arrives at the first Conference of the Parties with candidate areas identified or not. We strongly encourage the Australian government to do so and are willing to support efforts to achieve this.



In order for the new management plans to effectively advocate for protection beyond our jurisdiction, each network plan can:

- Name the ABNJs that are ecologically continuous with that network's parks;
- Commit to identifying and publishing candidate areas for management under the BBNJ Agreement within two years of the plan's commencement (or earlier);
- Commit to bilateral and regional cooperation on connected protected areas with neighbouring states, building on the New Caledonian collaboration already recorded (CS p. 34); and,
- State that the 30% commitment will be pursued in a way that accounts for connections crossing the jurisdictional boundary.

In addition to pursuing protection in ABNJs that are immediately adjacent to Australian marine parks, the Australian government should also be advocating for the protection of areas identified by the Marine Mammal Protected Areas Task Force. These areas are termed Important Marine Mammal Areas (IMMAs), which are “defined as discrete portions of habitat, important to marine mammal species, that have the potential to be delineated and managed for conservation. IMMAs are identified in order to prioritise their consideration for conservation measures by governments, intergovernmental organisations, conservation groups, and the general public” (Marine Mammal Protected Areas Task Force, n.d.). These include the following areas, some of which already receive various levels of protection:

- Geographe Bay to Eucla Shelf and Coastal Waters IMMA
- Southeastern Australian and Tasmanian Shelf Waters IMMA
- Australian East Coast Migration Corridor IMMA
- Western Australian Humpback Whale Migration Route IMMA
- Ningaloo Reef to Montebello Islands IMMA
- Albany Canyon Region IMMA
- Gourdon Bay to Bigge Island IMMA
- Southern Great Barrier Reef Lagoon and Coast IMMA
- South Australian Gulfs and Adjacent Waters IMMA
- Moreton Bay IMMA
- Northwestern Australian Coastal Waters and Inlets IMMA
- Northern Great Barrier Reef IMMA
- Mapoon to Aurukun IMMA
- Southern Gulf of Carpentaria IMMA
- Hinchinbrook to Round Hill Network IMMA
- Shark Bay IMMA
- Great Barrier Ribbon Reefs and Outer Shelf IMMA
- Houtman Abrolhos to Rottnest Shelf Waters IMMA
- Dampier Archipelago IMMA
- Hervey Bay and Great Sandy Strait IMMA
- Central and Western Torres Strait IMMA
- Eastern Indian Ocean Blue Whale Migratory Route IMMA

The Climate Centre strongly encourages the Australian government to support the protection of these areas, including through the new management plans.



References

Arafeh-Dalmau, N., Brito-Morales, I., Schoeman, D.S., Possingham, H.P., Klein, C.J., Richardson, A. J. (2021). Incorporating climate velocity into the design of climate-smart networks of marine protected areas. *Methods Ecol. Evol.*, 12 (10) (2021), pp. 1969-1983, [10.1111/gcb.15094](https://doi.org/10.1111/gcb.15094)

Assis, J., Fragkopoulou, E., Serrão, E.A. et al., (2026). Oceanographic connectivity strongly restricts future range expansions of critical marine forest species. *npj biodiversity* 5, 10 (2026). <https://doi.org/10.1038/s44185-026-00123-y>

Bureau of Meteorology (2026). Southern hemisphere monitoring. <https://www.bom.gov.au/climate/enso/?ninoIndex=nino3.4&index=rnino34&period=weekly>

Copernicus Climate Change Service. (2025). Global climate highlights 2024. European Centre for Medium-Range Weather Forecasts. <https://climate.copernicus.eu/global-climate-highlights-2024>

Elzahaby et al. (2021). Oceanic Circulation Drives the Deepest and Longest Marine Heatwaves in the East Australian Current System. *Geophysical Research Letters*. <https://doi.org/10.1029/2021gl094785>

Marine Mammal Protected Areas Task Force. (n.d.). Home. <https://www.marinemammalhabitat.org/>

Lascelles et al., (2014). Migratory marine species: their status, threats and conservation management needs. *Aquatic Conservation: Marine and Freshwater Ecosystems*, Volume 24, Issue S2 pp. 111-127. <https://onlinelibrary.wiley.com/doi/10.1002/aqc.2512>

Lopazanski, C., Foshay, B., Couture, J. L., Wagner, D., Hannah, L., Pidgeon, E., & Bradley, D. (2023). Principles for climate resilience are prevalent in marine protected area management plans. *Conservation Letters*, 16, e12972. <https://doi.org/10.1111/conl.12972>

Lu J, Chen Y, Wang Z, Zhao F, Zhong Y, Zeng C, Cao L, (2003). Larval Dispersal Modeling Reveals Low Connectivity among National Marine Protected Areas in the Yellow and East China Seas. *Biology (Basel)*. 2023 Mar 2;12(3):396. doi: [10.3390/biology12030396](https://doi.org/10.3390/biology12030396). PMID: 36979088; PMCID: PMC10044727.

Miller et al., (1998). Long-distance migrations by the hawksbill turtle, *Eretmochelys imbricata*, from north-eastern Australia. *Wildlife Research*, 1998. <https://doi.org/10.1071/wr96086>

Popova et al., (2019). Ecological connectivity between the areas beyond national jurisdiction and coastal waters: Safeguarding interests of coastal communities in developing countries. *Marine Policy*, 2019. <https://doi.org/10.1016/j.marpol.2019.02.050>



Quigley, K. M. and Baird, H. A. (2024). Future climate warming threatens coral reef function on World Heritage reefs. *Global Change Biology*, 30(7), e17407. <https://doi.org/10.1111/gcb.17407>

Read TC, Wantiez L, Werry JM, Farman R, Petro G, Limpus CJ (2014). Migrations of Green Turtles (*Chelonia mydas*) between Nesting and Foraging Grounds across the Coral Sea. *PLoS ONE* 9(6): e100083. <https://doi.org/10.1371/journal.pone.0100083>

Roberson et al., (2021). Multinational coordination required for conservation of over 90% of marine species. *Global Change Biology*, 2021. <https://doi.org/10.1111/gcb.15844>

Sève, C., Belharet, M., Melià, P., Di Franco, A., Calò, A., & Claudet, J. (2023). Fisheries outcomes of marine protected area networks: Levels of protection, connectivity, and time matter. *Conservation Letters*, 16(6), e12983. <https://doi.org/10.1111/conl.12983>

Smale et al. (2019). Marine heatwaves threaten global biodiversity and the provision of ecosystem services. *Nature Climate Change*. <https://doi.org/10.1038/s41558-019-0412-1>

Smale, D. A. and Wernberg, T. (2009). Satellite-derived SST data as a proxy for water temperature in nearshore benthic ecology. *Mar Ecol Prog Ser* 387:27-37 (2009). <https://doi.org/10.3354/meps08132>

Starko et al. (2022). Microclimate predicts kelp forest extinction in the face of direct and indirect marine heatwave effects. *Ecological Applications*. <https://doi.org/10.1002/eap.2673>

Storlazzi et al. (2020). Internal tides can provide thermal refugia that will buffer some coral reefs from future global warming. *Scientific Reports*. <https://doi.org/10.1038/s41598-020-70372-9>

Sun et al. (2023). Frequent marine heatwaves hidden below the surface of the global ocean. *Nature Geoscience*. <https://doi.org/10.1038/s41561-023-01325-w>

The Climate Centre. (2026). Global Climate Ocean Update. <https://climate.org.au/outreach-climate-update.html>

Thirukanthan, C.S., Kallem, P., Pratama, I.S., Lananan, F., Wei, L.S., Kari, Z.A., Gao, H., Azra, M.N., & Wan Talaat, W.I.A. (2025). Marine protected area and climate change: A mapping review. *Ecological Informatics*, 86, 103042. <https://doi.org/10.1016/j.ecoinf.2025.103042>

Thoral F, Montie S, Thomsen MS, Tait LW, Pinkerton MH, Schiel DR, (2022). Unravelling seasonal trends in coastal marine heatwave metrics across global biogeographical realms. *Sci Rep*. 2022 May 11;12(1):7740. doi: 10.1038/s41598-022-11908-z. PMID: 35545696; PMCID: PMC9095592.



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The Climate Centre is a volunteer-run charitable not-for-profit focused on building bridges between research, policy and communities. It achieves this by undertaking research relevant to local communities, providing digital materials and outreach initiatives that make it easier to interpret climate information and apply it to a local scale, as well as engaging in policy analysis and advocacy to government, and fostering conversations and understanding at individual, community, and national scales through its various projects.