Additional File 9 List of articles with raw temperature data available in their study.

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| Title | First Author | Year of Publication | DOI |
| A simple temperature-based model predicts the upper latitudinal limit of the temperate coral Astrangia poculata | Dimond | 2013 | 10.1007/s00338-012-0983-z |
| A skeletal Sr/Ca record preserved in Dipsastraea (Favia) speciosa and implications for coral Sr/Ca thermometry in mid-latitude regions | Seo | 2013 | 10.1002/ggge.20195 |
| An approach for assessing ecosystem-based adaptation in coral reefs at relatively high latitudes to climate change and human pressure | Wang | 2020 | 10.1007/s10661-020-08534-5 |
| An urban intertidal reef is dominated by fleshy macroalgae, sediment, and bleaching of a resilient coral (Siderastrea stellata) | Barros | 2021 | 10.1016/j.marpolbul.2021.112967 |
| Application of remotely sensed sea surface temperature for assessment of recurrent coral bleaching (2014â€“2019) impact on a marginal coral ecosystem | De | 2022 | 10.1080/10106049.2021.1886345 |
| Are corals coming to a reef near you? Projected extension of suitable thermal conditions for hard coral communities along the east Australian coast | Davis | 2023 | 10.1111/aec.13327 |
| Branching coral as a macroalgal refuge in a marginal coral reef system | Bennett | 2010 | 10.1007/s00338-010-0594-5 |
| Calcification of the main reef-building coral species on the Pacific coast of southern Mexico | MedellÃ­n-Maldonado | 2016 | 10.7773/cm.v42i3.2650 |
| Characterization of a thermally tolerant Orbicella faveolata reef in Abaco, The Bahamas | Parker | 2020 | 10.1007/s00338-020-01948-0 |
| Climate-induced species range shift and local adaptation strategies in a temperate marine protected area, Ashizuri-Uwakai National Park, Shikoku Island, western Japan | Abe | 2021 | 10.1016/j.ocecoaman.2021.105744 |
| Conserving potential coral reef refuges at high latitudes | Beger | 2014 | 10.1111/ddi.12140 |
| Coral communities of Hong Kong: Long-lived corals in a marginal reef environment | Goodkin | 2011 | 10.3354/meps09019 |
| Coral community dynamics and shallow-water carbonate deposition of the reef-flat around Yongxing Island, the Xisha Islands | JianWei | 2013 | 10.1007/s11430-013-4677-3 |
| Coral cover and rubble cryptofauna abundance and diversity at outplanted reefs in Okinawa, Japan | Biondi | 2020 | 10.7717/peerj.9185 |
| Coral distribution and bleaching vulnerability areas in Southwestern Atlantic under ocean warming | Bleuel | 2021 | 10.1038/s41598-021-92202-2 |
| Coral reef ecosystems under climate change and ocean acidification | Hoegh-Guldberg | 2017 | 10.3389/fmars.2017.00158 |
| Coral reefs at 34 degrees N, Japan: Exploring the end of environmental gradients | Yamano | 2012 | 10.1130/G33293.1 |
| Coral reproduction in a high-latitude, marginal reef environment (Moreton Bay, south-east Queensland, Australia) | Fellegara | 2013 | 10.1080/07924259.2012.752766 |
| Coral responses to ocean warming and acidification: Implications for future distribution of coral reefs in the South China Sea | Yuan | 2019 | 10.1016/j.marpolbul.2018.11.053 |
| Corallivory plays a limited role in the mortality of new coral recruits in Hong Kong marginal coral communities | Tsang | 2018 | 10.1016/j.jembe.2018.03.003 |
| Corals at the edge of environmental limits: A new conceptual framework to re-define marginal and extreme coral communities | Schoepf | 2023 | 10.1016/j.scitotenv.2023.163688 |
| Coupling high-resolution coral bleaching modeling with management practices to identify areas for conservation in a warming climate: Keramashoto National Park (Okinawa Prefecture, Japan) | Abe | 2021 | 10.1016/j.scitotenv.2021.148094 |
| Coverage, Diversity, and Functionality of a High-Latitude Coral Community (Tatsukushi, Shikoku Island, Japan) | Denis | 2013 | 10.1371/journal.pone.0054330 |
| Diazotroph Diversity Associated With Scleractinian Corals and Its Relationships With Environmental Variables in the South China Sea | Liang | 2020 | 10.3389/fphys.2020.00615 |
| Differences in physiological response to increased seawater temperature in nearshore and offshore corals in northern Vietnam | Faxneld | 2011 | 10.1016/j.marenvres.2011.01.007 |
| Differential establishment potential of species predicts a shift in coral assemblage structure across a biogeographic barrier | Keith | 2015 | 10.1111/ecog.01437 |
| Differential Symbiodiniaceae Association With Coral and Coral-Eroding Sponge in a Bleaching Impacted Marginal Coral Reef Environment | Mote | 2021 | 10.3389/fmars.2021.666825 |
| Diminishing potential for tropical reefs to function as coral diversity strongholds under climate change conditions | Adam | 2021 | 10.1111/ddi.13400 |
| Dominance of the scleractinian coral Alveopora japonica in the barren subtidal hard bottom of high-latitude Jeju Island off the south coast of Korea assessed by highresolution underwater images | Lee | 2022 | 10.1371/journal.pone.0275244 |
| Environmental implications of skeletal micro-density and porosity variation in two scleractinian corals | Caroselli | 2011 | 10.1016/j.zool.2011.04.003 |
| Environmental variation and how its spatial structure influences the cross-shelf distribution of high-latitude coral communities in South Africa | Porter | 2019 | 10.3390/d11040057 |
| Fluctuations in coral health of four common inshore reef corals in response to seasonal and anthropogenic changes in water quality | Browne | 2015 | 10.1016/j.marenvres.2015.02.002 |
| Future habitat suitability for coral reef ecosystems under global warming and ocean acidification | Couce | 2013 | 10.1111/gcb.12335 |
| Genetic structure of Turbinaria peltata in the northern South China Sea suggest insufficient genetic adaptability of relatively high-latitude scleractinian corals to environment stress | Wu | 2021 | 10.1016/j.scitotenv.2021.145775 |
| Genomic models predict successful coral adaptation if future ocean warming rates are reduced | Bay | 2017 | 10.1126/sciadv.1701413 |
| Global biogeography of coral recruitment: tropical decline and subtropical increase | Price | 2019 | 10.3354/meps12980 |
| Growth form-dependent response to physical disturbance and thermal stress in Acropora corals | Muko | 2013 | 10.1007/s00338-012-0967-z |
| Holocene reef-growth dynamics on Kodakara Island (29Â°N, 129Â°E) in the Northwest Pacific | Hamanaka | 2015 | 10.1016/j.geomorph.2015.04.011 |
| How does a widespread reef coral maintain a population in an isolated environment? | Precoda | 2018 | 10.3354/meps12537 |
| Ideas and perspectives: Southwestern tropical Atlantic coral growth response to atmospheric circulation changes induced by ozone depletion in Antarctica | Evangelista | 2016 | 10.5194/bg-13-2379-2016 |
| In the right place at the right time: representativeness of corals within marine protected areas under warming scenarios in Brazil | Albuquerque | 2023 | 10.1016/j.ocecoaman.2022.106469 |
| Instability in a marginal coral reef: The shift from natural variability to a human-dominated seascape | Lybolt | 2011 | 10.1890/090176 |
| Invasive sun corals and warming pose independent threats to the brain coral Mussismilia hispida in the Southwestern Atlantic | Barbosa | 2019 | 10.3354/meps13110 |
| Large-amplitude internal waves benefit corals during thermal stress | Wall | 2015 | 10.1098/rspb.2014.0650 |
| Large-amplitude internal waves sustain coral health during thermal stress | Schmidt | 2016 | 10.1007/s00338-016-1450-z |
| Latitudinal difference in the species richness of photosymbiotic ascidians along the east coast of Taiwan | Hirose | 2020 | 10.6620/ZS.2020.59-19 |
| Limited scope for latitudinal extension of reef corals | Muir | 2015 | 10.1126/science.aab4122 |
| Living on the edge: environmental variability of a shallow late Holocene cold-water coral mound | Raddatz | 2022 | 10.1007/s00338-022-02249-4 |
| Locality Effect of Coral-Associated Bacterial Community in the Kuroshio Current From Taiwan to Japan | Yang | 2020 | 10.3389/fevo.2020.569107 |
| Long-term spatial variations in turbidity and temperature provide new insights into coral-algal states on extreme/marginal reefs | Cartwright | 2023 | 10.1007/s00338-023-02393-5 |
| Low Symbiodiniaceae diversity in a turbid marginal reef environment | Smith | 2020 | 10.1007/s00338-020-01956-0 |
| Low symbiont diversity as a potential adaptive strategy in a marginal non-reefal environment: a case study of corals in Hong Kong | Ng | 2016 | 10.1007/s00338-016-1458-4 |
| Macrobioerosion in Porites corals in subtropical northern South China Sea: a limiting factor for high-latitude reef framework development | Chen | 2013 | 10.1007/s00338-012-0946-4 |
| Management of scleractinian coral assemblages in temperate non-reefal areas: insights from a long-term monitoring study in Kushimoto, Japan (33Â°N) | Nakamura | 2021 | 10.1007/s00227-021-03948-2 |
| Marine heatwave events near Weizhou Island, Beibu Gulf in 2020 and their possible relations to coral bleaching | Feng | 2022 | 10.1016/j.scitotenv.2022.153414 |
| Mesophotic corals on the subtropical shelves of Lord Howe Island and Balls Pyramid, south-western Pacific Ocean | Linklater | 2019 | 10.1071/MF18151 |
| Metabolic and metatranscriptional characteristics of corals bleaching induced by the most severe marine heatwaves in the South China Sea | Sun | 2023 | 10.1016/j.scitotenv.2022.160019 |
| Mid-latitude coralgal bioconstruction and endolithic microbialites: environmental significance during Quaternary climate variations | Bernasconi | 2015 | 10.1007/s10347-015-0449-1 |
| Mortality, growth and regeneration following fragmentation of reef-forming corals under thermal stress | Dias | 2018 | 10.1016/j.seares.2018.08.008 |
| Natural heterotrophic feeding by a temperate octocoral with symbiotic zooxanthellae: a contribution to understanding the mechanisms of die-off events | Coma | 2015 | 10.1007/s00338-015-1281-3 |
| New insights from coral growth band studies in an era of rapid environmental change | Lough | 2011 | 10.1016/j.earscirev.2011.07.001 |
| No evidence for tropicalization of coral assemblages in a subtropical climate change hot spot | Mizerek | 2021 | 10.1007/s00338-021-02167-x |
| Occasional loss of fecundity in peripheral coral populations | Suzuki | 2021 | 10.1111/1440-1703.12177 |
| Opposite latitudinal gradients in projected ocean acidification and bleaching impacts on coral reefs | Van Hooidonk | 2014 | 10.1111/gcb.12394 |
| Opposite latitudinal gradients in projected ocean acidification and bleaching impacts on coral reefs | Van Hooidonk | 2014 | 10.1111/gcb.12394 |
| Patterns of scleractinian coral recruitment at Lord Howe Island, an isolated subtropical reef off eastern Australia | Cameron | 2016 | 10.1007/s00338-016-1414-3 |
| Physiological responses and adjustments of corals to strong seasonal temperature variations (20â€“28Â°C) | Sawall | 2022 | 10.1242/jeb.244196 |
| Poleward extension of reefs | Woodroffe | 2011 | 10.1007/978-90-481-2639-2\_125 |
| Population genetic structure of a broadcast-spawning coral across a tropicalâ€“temperate transition zone reveals regional differentiation and high-latitude reef isolation | Evans | 2021 | 10.1111/jbi.14280 |
| Potential changes in the distribution of the genus Pocillopora (Anthozoa: Scleractinia) in the Eastern Tropical Pacific under climate change scenarios | Stranges | 2019 | 10.22201/ib.20078706e.2019.90.2696 |
| Ranking 67 Florida Reefs for Survival of Acropora cervicornis Outplants | Banister | 2021 | 10.3389/fmars.2021.672574 |
| Recruitment and mortality of the temperate coral Cladocora caespitosa: implications for the recovery of endangered populations | Kersting | 2014 | 10.1007/s00338-014-1144-3 |
| Reefs of last resort: Locating and assessing thermal refugia in the wider Caribbean | Chollett | 2013 | 10.1016/j.biocon.2013.08.010 |
| Regional coral growth responses to seawater warming in the South China Sea | Yan | 2019 | 10.1016/j.scitotenv.2019.03.135 |
| Regional genetic differentiation among northern high-latitude island populations of a broadcast-spawning coral | Nakajima | 2012 | 10.1007/s00338-012-0932-x |
| Restricted gene flow and local adaptation highlight the vulnerability of high-latitude reefs to rapid environmental change | Thomas | 2017 | 10.1111/gcb.13639 |
| Sensitivity of a cold-water coral reef to interannual variability in regional oceanography | Kazanidis | 2021 | 10.1111/ddi.13363 |
| Spatial and Intergeneric Variation in Physiological Indicators of Corals in the South China Sea: Insights Into Their Current State and Their Adaptability to Environmental Stress | Qin | 2019 | 10.1029/2018JC014648 |
| Spatial and Temporal Patterns of Eastern Australia Subtropical Coral Communities | Dalton | 2013 | 10.1371/journal.pone.0075873 |
| Species-specific declines in the linear extension of branching corals at a subtropical reef, Lord Howe Island | Anderson | 2015 | 10.1007/s00338-014-1251-1 |
| Status of Marine Biodiversity of the China Seas | Liu | 2013 | 10.1371/journal.pone.0050719 |
| Survival of high latitude fringing corals in extreme temperatures: Red sea meteorology | Moustafa | 2015 | 10.1016/j.seares.2014.01.012 |
| Sustained mass coral bleaching (2016-2017) in Brazilian turbid-zone reefs: taxonomic, cross-shelf and habitat-related trends | Teixeira | 2019 | 10.1007/s00338-019-01789-6 |
| Symbiodinium clade C generality among common scleractinian corals in subtropical Hong Kong | Wong | 2016 | 10.1016/j.rsma.2016.02.005 |
| Temperature control on high-resolution SIMS oxygen isotopic compositions in Porites coral skeletons | Zou | 2021 | 10.1016/j.sesci.2021.02.002 |
| The contribution of stress-tolerant endosymbiotic dinoflagellate Durusdinium to Pocillopora acuta survival in a highly urbanized reef system | Poquita-Du | 2020 | 10.1007/s00338-020-01902-0 |
| The impacts of flooding on the high-latitude, terrigenoclastic influenced coral reefs of Hervey Bay, Queensland, Australia | Butler | 2013 | 10.1007/s00338-013-1064-7 |
| The Long and Winding Road of Coral Reef Recovery in the Anthropocene: A Case Study from Puerto Rico | HernÃ¡ndez-Delgado | 2022 | 10.3390/d14100804 |
| The Origin of the Subtropical Coral Alveopora japonica (Scleractinia: Acroporidae) in High-Latitude Environments | Kang | 2020 | 10.3389/fevo.2020.00012 |
| The projected degradation of subtropical coral assemblages by recurrent thermal stress | Cant | 2021 | 10.1111/1365-2656.13340 |
| The Reef Coral Coscinaraea marshae Is Not a High-Latitude Endemic | Hoeksema | 2021 | 10.3390/d13120681 |
| Tracking widespread climate-driven change on temperate and tropical reefs | Stuart-Smith | 2022 | 10.1016/j.cub.2022.07.067 |
| Transient amplification enhances the persistence of tropicalising coral assemblages in marginal high-latitude environments | Cant | 2022 | 10.1111/ecog.06156 |
| Tropicalisation of temperate reefs: Implications for ecosystem functions and management actions | Verges | 2019 | 10.1111/1365-2435.13310 |
| Unraveling Moreton Bay reef history: An urban high-latitude setting for coral development | Hammerman | 2022 | 10.3389/fevo.2022.884850 |
| Variations in the coral community at the high-latitude Bailong Peninsula, northern South China Sea | Wang | 2023 | 10.1007/s11356-022-21881-9 |
| Warmer more acidic conditions cause decreased productivity and calcification in subtropical coral reef sediment-dwelling calcifiers | Sinutok | 2011 | 10.4319/lo.2011.56.4.1200 |
| Winter Quiescence, Growth Rate, and the Release from Competition in the Temperate Scleractinian Coral Astrangia poculata (Ellis | Grace | 2017 | 10.1656/045.024.s715 |