Stressor effects on gastropods collected from the Palmer Station, Anvers Island, Antarctica from 2012-2013 (OA_Antarctic_organisms project)

Website: https://www.bco-dmo.org/dataset/528062
Version: 2014-09-11

Project
» The effects of ocean acidification and rising sea surface temperatures on shallow-water benthic organisms in Antarctica (OA_Antarctic_organisms)

Program
» Science, Engineering and Education for Sustainability NSF-Wide Investment (SEES): Ocean Acidification (formerly CRI-OA) (SEES-OA)

Contributors	Affiliation	Role
McClintock, James B.	University of Alabama at Birmingham (UA/Birmingham)	Lead Principal Investigator
Amsler, Charles	University of Alabama at Birmingham (UA/Birmingham)	Co-Principal Investigator
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Dataset Description

Multiple stressor effects of near-future elevated seawater temperature and decreased pH on righting and escape behaviors of two common Antarctic gastropods.

Data from this project have been published in:

Schram, J.B, K.M Schoenrock, J.B. McClintock, C.D. Amsler, R.A. Angus. 2014. Multiple stressor effects of near-future elevated seawater temperature and decreased pH on righting and escape behaviors of two common Antarctic gastropods. Journal of Experimental Marine Biology and Ecology 475:90-96.
doi link: http://dx.doi.org/10.1016/j.jembe.2014.04.005

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Data Files

File
oa_benthic_orgs.csv (Comma Separated Values (.csv), 143 bytes) MD5:0556a0b4f3e6eefbf7bbae07b3b72061 Primary data file for dataset ID 528062

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Parameters

Parameter	Description	Units
lat	Latitude component of geographic location where samples were collected and experiment conducted.	decimal degrees
lon	Longitude component of geographic location where samples were collected and experiment conducted.	decimal degrees
repository	Name of repository where data are curated and served.	

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Deployments

lab_McClintock_OA_benthic_organisms

Website	https://www.bco-dmo.org/deployment/527876
Platform	Palmer Station
Start Date	2012-02-01
End Date	2013-07-31

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Project Information

The effects of ocean acidification and rising sea surface temperatures on shallow-water benthic organisms in Antarctica (OA_Antarctic_organisms)

Coverage: Palmer Station, Antarctica; 64.7667 S, 64.05 W

Extracted from the NSF award abstract:

The research will investigate the individual and combined effects of rising ocean acidification and sea surface temperatures on shallow-water calcified benthic organisms in western Antarctic Peninsular (WAP) marine communities. The Southern Ocean is predicted to become undersaturated in terms of both aragonite and calcite within 50 and 100 years, respectively, challenging calcification processes. Adding to the problem, antarctic calcified benthic marine organisms are more vulnerable to ocean acidification than temperate and tropical species because they are generally weakly calcified. Many antarctic organisms are essentially stenothermal, and those in the West Antarctic Peninsula are being subjected to rising seawater temperatures. The project employs both single-species and multi-species level approaches to evaluating the impacts of rising ocean acidification and seawater temperature on representative calcified and non-calcified macroalgae, on calcified and non-calcified mesograzers, and on a calcified macro-grazer, all of which are important ecological players in the rich benthic communities. Multi-species analysis will focus on the diverse assemblage of amphipods and mesogastropods that are associated with dominant macroalgae that collectively play a key role in community dynamics along the WAP.
NOTE: Charles Amsler is listed as a former Co-PI of this project.

Data Access:
Data from this project have been submitted to the Antarctic Master Directory Portal of NASA's Global Change Master Directory, and can be accessed through the publication reference:

Schram, J.B, K.M Schoenrock, J.B. McClintock, C.D. Amsler, R.A. Angus. 2014. Multiple stressor effects of near-future elevated seawater temperature and decreased pH on righting and escape behaviors of two common Antarctic gastropods. Journal of Experimental Marine Biology and Ecology 475:90-96. DOI link: http://dx.doi.org/10.1016/j.jembe.2014.04.005

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Program Information

Science, Engineering and Education for Sustainability NSF-Wide Investment (SEES): Ocean Acidification (formerly CRI-OA) (SEES-OA)

Website: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503477

Coverage: global

NSF Climate Research Investment (CRI) activities that were initiated in 2010 are now included under Science, Engineering and Education for Sustainability NSF-Wide Investment (SEES). SEES is a portfolio of activities that highlights NSF's unique role in helping society address the challenge(s) of achieving sustainability. Detailed information about the SEES program is available from NSF (https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504707).

In recognition of the need for basic research concerning the nature, extent and impact of ocean acidification on oceanic environments in the past, present and future, the goal of the SEES: OA program is to understand (a) the chemistry and physical chemistry of ocean acidification; (b) how ocean acidification interacts with processes at the organismal level; and (c) how the earth system history informs our understanding of the effects of ocean acidification on the present day and future ocean.

Solicitations issued under this program:
NSF 10-530, FY 2010-FY2011
NSF 12-500, FY 2012
NSF 12-600, FY 2013
NSF 13-586, FY 2014
NSF 13-586 was the final solicitation that will be released for this program.

PI Meetings:
1st U.S. Ocean Acidification PI Meeting(March 22-24, 2011, Woods Hole, MA)
2nd U.S. Ocean Acidification PI Meeting(Sept. 18-20, 2013, Washington, DC)
3rd U.S. Ocean Acidification PI Meeting (June 9-11, 2015, Woods Hole, MA – Tentative)

NSF media releases for the Ocean Acidification Program:

Press Release 10-186 NSF Awards Grants to Study Effects of Ocean Acidification

Discovery Blue Mussels "Hang On" Along Rocky Shores: For How Long?

Discovery nsf.gov - National Science Foundation (NSF) Discoveries - Trouble in Paradise: Ocean Acidification This Way Comes - US National Science Foundation (NSF)

Press Release 12-179 nsf.gov - National Science Foundation (NSF) News - Ocean Acidification: Finding New Answers Through National Science Foundation Research Grants - US National Science Foundation (NSF)

Press Release 13-102 World Oceans Month Brings Mixed News for Oysters

Press Release 13-108 nsf.gov - National Science Foundation (NSF) News - Natural Underwater Springs Show How Coral Reefs Respond to Ocean Acidification - US National Science Foundation (NSF)

Press Release 13-148 Ocean acidification: Making new discoveries through National Science Foundation research grants

Press Release 13-148 - Video nsf.gov - News - Video - NSF Ocean Sciences Division Director David Conover answers questions about ocean acidification. - US National Science Foundation (NSF)

Press Release 14-010 nsf.gov - National Science Foundation (NSF) News - Palau's coral reefs surprisingly resistant to ocean acidification - US National Science Foundation (NSF)

Press Release 14-116 nsf.gov - National Science Foundation (NSF) News - Ocean Acidification: NSF awards $11.4 million in new grants to study effects on marine ecosystems - US National Science Foundation (NSF)

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Funding

Funding Source	Award
NSF Antarctic Sciences (NSF ANT)	PLR-1041022

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