Annual rainfall between Cabritte Horn and White Point on the south shore of St. John, US Virgin Islands, 1996-2018

Website: https://www.bco-dmo.org/dataset/827806
Data Type: Other Field Results
Version: 1
Version Date: 2020-10-28

Project

» RUI-LTREB Renewal: Three decades of coral reef community dynamics in St. John, USVI: 2014-2019 (RUI-LTREB)

Contributors	Affiliation	Role
Edmunds, Peter J.	California State University Northridge (CSUN)	Principal Investigator
Copley, Nancy	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Abstract

Annual rainfall between Cabritte Horn and White Point on the south shore of St. John, US Virgin Islands, July and August, 1996-2018, used in the associated mortality and growth analyses.

Table of Contents

Coverage

Spatial Extent: **N**:18.31714 **E**:-64.7208 **S**:18.30702 **W**:-64.73152
Temporal Extent: 1996 - 2018

Methods & Sampling

From publication Limnology and Oceanography

Environmental conditions:

Seawater temperature and rainfall were tested for their capacity to account for variation in the dynamics of small corals in the target size range. The rainfall data integrated values between samplings, and it was used to provide a proxy for environmental conditions positively associated with rainfall, including reduced surface light, enhanced seawater turbidity, terrestrial runoff, sedimentation, and nutrients. Rainfall from August 1996 to 2011 was obtained from the Southeastern Regional Climate Centre (http://www.sercc.com), which reports data from a Standard Rain Gauge in Cruz Bay (Station 671980), 7 km west of Great Lameshur Bay. When this record was incomplete, data were obtained from East End (Station 672551, ~ 5 km east of Great Lameshur Bay, 21 of 185 records), or values for missing months were interpolated using a grand mean from all other values for the same month from 1972 to 2011 (16 of 185 records). From 2012 to the present, rainfall was measured using a Standard Rain Gauge deployed on the north shore of St. John (18.356°N, 64.766°W). The gauge was manually recorded and values summed by month. The rainfall over each sampling year was calculated by summing monthly values from August to July of the subsequent year.

Data Processing Description

BCO-DMO Processing Notes:
- data extracted to .csv from file "Flor L&O Edmunds 2020 (matrix paper).zip/Data in L&O Paper_21_Oct_2020.xlsx", sheet "rainfall".
- added conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming conventions

---

Data Files

File
L_O_rainfall.csv(Comma Separated Values (.csv), 222 bytes)   MD5:56f68da6320f1b5c96c12dc5d4707008   Primary data file for dataset ID 827806

Related Datasets

IsSupplementTo

Edmunds, P. J. (2020) **Growth and mortality rates of small corals in St. John, US Virgin Islands, 1996-2018.** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2020-10-28 doi:10.26008/1912/bco-dmo.827764.1 [view at BCO-DMO]

Parameters

Parameter	Description	Units
Year	study year	unitless
rainfall_cm	total annual amount of rainfall	centimeters/year

Instruments

Dataset-specific Instrument Name	Standard Rain Gauge
Generic Instrument Name	Precipitation Gauge
Generic Instrument Description	measures rain or snow precipitation

---

Project Information

RUI-LTREB Renewal: Three decades of coral reef community dynamics in St. John, USVI: 2014-2019 (RUI-LTREB)

Website: http://coralreefs.csun.edu/

Coverage: USVI

Describing how ecosystems like coral reefs are changing is at the forefront of efforts to evaluate the biological consequences of global climate change and ocean acidification. Coral reefs have become the poster child of these efforts. Amid concern that they could become ecologically extinct within a century, describing what has been lost, what is left, and what is at risk, is of paramount importance. This project exploits an unrivalled legacy of information beginning in 1987 to evaluate the form in which reefs will persist, and the extent to which they will be able to resist further onslaughts of environmental challenges. This long-term project continues a 27-year study of Caribbean coral reefs. The diverse data collected will allow the investigators to determine the roles of local and global disturbances in reef degradation. The data will also reveal the structure and function of reefs in a future with more human disturbances, when corals may no longer dominate tropical reefs.

The broad societal impacts of this project include advancing understanding of an ecosystem that has long been held emblematic of the beauty, diversity, and delicacy of the biological world. Proposed research will expose new generations of undergraduate and graduate students to natural history and the quantitative assessment of the ways in which our planet is changing. This training will lead to a more profound understanding of contemporary ecology at the same time that it promotes excellence in STEM careers and supports technology infrastructure in the United States. Partnerships will be established between universities and high schools to bring university faculty and students in contact with k-12 educators and their students, allow teachers to carry out research in inspiring coral reef locations, and motivate children to pursue STEM careers. Open access to decades of legacy data will stimulate further research and teaching.

Funding

Funding Source	Award
NSF Division of Environmental Biology (NSF DEB)	DEB-1350146