Abundance, size, fecundity of Salpa aspera in the Slope Waters off northeastern USA from R/V Oceanus OC379, OC381 in the slope waters off NJ, DE, MD from June-Sept. 2002 (SalpSwarmDyn project)

Website: https://www.bco-dmo.org/dataset/3146
Data Type: Cruise Results
Version: 1
Version Date: 2009-07-14

Project
» Salp Swarm Dynamics (SalpSwarmDyn)

Contributors	Affiliation	Role
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Abstract
Abundance, size, fecundity of Salpa aspera in the Slope Waters off northeastern USA from R/V Oceanus OC379, OC381 in the slope waters off NJ, DE, MD from June-Sept. 2002.

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Coverage

Spatial Extent: **N**:40.60553 **E**:-67.994893 **S**:36.802395 **W**:-74.733377
Temporal Extent: 2002-06-03 - 2002-09-26

Dataset Description

Abundance, size, fecundity of *Salpa aspera* in the Slope Waters off northeastern USA from R/V Oceanus OC379 and OC381 in the slope waters off NJ, DE, MD from June-Sept. 2002

Associated datasets: salp_chloro

Methods & Sampling

Bongo tows were made to a depth of about 50m (based on wire out and wire angle). As the tows were done at night, that includes essentially the entire population of these vertically migrating salps. Information on the depth distribution of the species is included in: Madin et al. (2006) (pdf)

Data Processing Description

The sizes for the aggregates are for individual animals in the chains. Chains were broken up during collection. Measurements of the aggregates do not include the "tips" but are for oral-aboral length only. The solitary forms are basically cylindrical so the length measurements are for the totals.

'premature': These embryos were released as an artifact associated with net collection.

OC-381: 'live biovolume of counted/measured aliquot': for the first few tows this represents the aliquot, ml of the total that was enumerated. Beginning with Tow 7, all aliquots were 250 ml . If the total was less than that, the entire sample was counted.

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Data Files

File
salp_swarms.csv (Comma Separated Values (.csv), 712.45 KB) MD5:1aac572602344f657aeda7d34e3e71e3 Primary data file for dataset ID 3146

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Related Publications

Madin, L. P., Kremer, P., Wiebe, P. H., Purcell, J. E., Horgan, E. H., & Nemazie, D. A. (2006). Periodic swarms of the salp Salpa aspera in the Slope Water off the NE United States: Biovolume, vertical migration, grazing, and vertical flux. Deep Sea Research Part I: Oceanographic Research Papers, 53(5), 804–819. doi:10.1016/j.dsr.2005.12.018
Results

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Parameters

Parameter	Description	Units
cruise_id	cruise designation	
year	year, reported as YYYY, e.g. 2005	
haul_id	haul identification number	
date_local	local month, day and year, usually as a text string, e.g. feb10_1995.	
time_local	time of day, local time, using 2400 clock format	
month_local	month of year, local time	
yrday_local	local day and decimal time, as 326.5 for the 326th day of the year, or November 22 at 1200 hours	
lat	latitude, in decimal degrees, North is positive, negative denotes South	decimal degrees
lon	longitude, in decimal degrees, East is positive, negative denotes West	decimal degrees
day_local	day, local time	
dvol_liters	displacement volume (biovolume) of plankton net samples	liters
volfilt	volume of water filtered during plankton tow	meters^3
biovol_per_aliq	the aliquot, ml of the total that was enumerated. Beginning with Tow 7 (OC-379), all aliquots were 250 ml . If the total was less than that, the entire sample was counted.	milliliters
form	the morphological stage of the salp, either aggregate (agg) or solitary (sol)	
fertilized_flag	for colonial stage only: Y=embryos present; N=none seen	
fraction_chain_inside	the fraction of the embryo that is still inside the solitary adult after capture in the net.	
comments	free text comments	
length	The sizes for the aggregates are for individual animals in the chains. Chains were broken up during collection. Measurements of the aggregates do not include the "tips" but are for oral-aboral length only. The solitary forms are basically cylindrical so the length measurements are for the totals.	millimeters (?)

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Instruments

Dataset-specific Instrument Name	Conductivity, Temperature, Depth
Generic Instrument Name	CTD - profiler
Generic Instrument Description	The Conductivity, Temperature, Depth (CTD) unit is an integrated instrument package designed to measure the conductivity, temperature, and pressure (depth) of the water column. The instrument is lowered via cable through the water column. It permits scientists to observe the physical properties in real-time via a conducting cable, which is typically connected to a CTD to a deck unit and computer on a ship. The CTD is often configured with additional optional sensors including fluorometers, transmissometers and/or radiometers. It is often combined with a Rosette of water sampling bottles (e.g. Niskin, GO-FLO) for collecting discrete water samples during the cast. This term applies to profiling CTDs. For fixed CTDs, see https://www.bco-dmo.org/instrument/869934.

Dataset-specific Instrument Name	Fluorometer
Generic Instrument Name	Fluorometer
Generic Instrument Description	A fluorometer or fluorimeter is a device used to measure parameters of fluorescence: its intensity and wavelength distribution of emission spectrum after excitation by a certain spectrum of light. The instrument is designed to measure the amount of stimulated electromagnetic radiation produced by pulses of electromagnetic radiation emitted into a water sample or in situ.

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Deployments

OC379

Website	https://www.bco-dmo.org/deployment/57992
Platform	R/V Oceanus
Start Date	2002-06-01
End Date	2002-06-14
Description	salp study Original cruise data are available from the NSF R2R data catalog

OC381

Website	https://www.bco-dmo.org/deployment/57993
Platform	R/V Oceanus
Start Date	2002-09-14
End Date	2002-09-27
Description	Original cruise data are available from the WHOI Data Library and Archives: http://dlacruisedata.whoi.edu/OC/OC381L01/ and from the NSF R2R data catalog: http://www.rvdata.us/catalog/OC381. The cruise was supported by NSF OCE award: OCE-0002540

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Project Information

Salp Swarm Dynamics (SalpSwarmDyn)

Coverage: slope water off mid-Atlantic Bight

Salps are holoplanktonic grazers that have a life history, feeding biology and population dynamic strikingly different from copepods or other crustacean zooplankton. They can occur in very dense populations that cover large areas, and these blooms have been shown to have major impacts due to grazing and production of fast?sinking fecal pellets. However the conditions supporting bloom formation, and the energetics, reproduction and behavior of the bloom?forming salps are still poorly understood. This study will focus on two species of salps that are global in their distribution and representative of two genera that commonly form large

blooms. Salpa aspera regularly occurs during the summer in high concentrations in the slope waters of the Mid?Atlantic Bight, while Thalia democratica regularly forms dense populations during the winter spring in the Georgia Bight. The investigators will examine feeding, metabolism, growth, reproduction and population dynamics of these salps. They will use two independent modeling approaches, grounded in experimental and field data, to extend their observations to other time and space scales. interpret ouexperimental and modeling results will be interpreted within the context of the environmental conditions to which the salps are exposed. This integrated approach will provide the best basis for understanding how salp blooms form and persist. Results of this study will extend to other species that occur in high densities in many locations, allowing scientists to better evaluate the importance of salps in biogeochemical cycles and in structuring the pelagic environment.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-0002540

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