

Cruise tracks for R/V F.G. Walton Smith cruises WS0714, WS0720, and WS0809 in the Straits of Florida from 2007-2008 (FK Population Connectivity project)

Website: <https://www.bco-dmo.org/dataset/535095>

Data Type: Cruise Results

Version: 1

Version Date: 2014-10-10

Project

» [Linkages Between Larvae and Recruitment of Coral Reef Fishes Along the Florida Keys Shelf: an Integrated Field and Modeling Analysis of Population Connectivity in a Complex System](#) (FK Population Connectivity)

Contributors	Affiliation	Role
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Abstract

This dataset includes cruise tracks for R/V F.G. Walton Smith cruises WS0714, WS0720, and WS0809 in the Straits of Florida from 2007-2008.

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Coverage

Spatial Extent: N:25.77296714 E:-80.05751235 S:23.12856236 W:-84.8174705

Temporal Extent: 2007-05-29 - 2008-07-02

Dataset Description

Cruise tracks from 3 R/V F.G. Walton Smith Cruises.

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Data Files

File
cruise_tracks.csv (Comma Separated Values (.csv), 2.41 MB) MD5:6ae3f9bf3a1be6b7b303c18771d670bc
Primary data file for dataset ID 535095

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Parameters

Parameter	Description	Units
cruise_id	Official cruise identifier.	text
mon	2-digit month of year.	mm (01 to 12)
day	2-digit day of month.	dd (01 to 31)
year	4-digit year.	yyyy
hour_gmt	2-digit hour component of time (GMT); 24-hour clock.	HH (00 to 23)
min_gmt	2-digit minute component of time (GMT); 24-hour clock.	mm (01 to 59)
time_gmt	Time (hours and minutes) GMT; 24-hour clock.	HHMM
lat	Latitude.	decimal degrees
lon	Longitude.	decimal degrees

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Deployments

WS0714

Website	https://www.bco-dmo.org/deployment/529668
Platform	R/V F.G. Walton Smith
Start Date	2007-05-29
End Date	2007-06-14
Description	See more information about this cruise from the R2R Cruise Catalog.

WS0720

Website	https://www.bco-dmo.org/deployment/529670
Platform	R/V F.G. Walton Smith
Start Date	2007-07-29
End Date	2007-08-14
Description	See more information about this cruise from the R2R Cruise Catalog.

WS0809

Website	https://www.bco-dmo.org/deployment/529671
Platform	R/V F.G. Walton Smith
Start Date	2008-06-17
End Date	2008-07-01
Description	See more information about this cruise from the R2R Cruise Catalog.

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Project Information

Linkages Between Larvae and Recruitment of Coral Reef Fishes Along the Florida Keys Shelf: an

Integrated Field and Modeling Analysis of Population Connectivity in a Complex System (FK Population Connectivity)

Website: <http://yyy.rsmas.miami.edu/groups/reef-fish-ecology/>

Coverage: Upper Florida Keys, Florida, USA

Description from NSF award abstract:

This project deals with the important and timely theme of marine population connectivity. The degree to which populations of benthic marine organisms are connected via the dispersal of larval propagules is a central unanswered ecological and oceanographic question. The complex oceanography of marine systems, and high mortality and diffuse concentrations of larvae make direct measurement of larval sources generally unfeasible, particularly for marine populations distributed along open coastlines. In addition, ecological population connectivity is not only a function of the physical transport of larvae, but also the interaction of factors influencing larval growth, survival, and condition at settlement. For example, oligotrophic open-ocean environments may lead to slower larval growth, longer pelagic larval durations, and lower survivorship of larvae compared to larvae from nutrient-rich nearshore waters. Data indicate that the relative condition of larvae influences their survival on the reef and the degree to which they contribute to the population. Ultimately, as ocean currents, spawning patterns, larval survivorship, settlement, and their interactions are highly variable, the only method for examining ecological population connectivity over multiple time and space scales in oceanographically complex environments will be data-validated three dimensional biophysical models capable of assessing dispersal outcomes over a wide range of temporal and spatial variation.

The overall goal of this study is to quantify the relative contributions of upstream (far-field) versus local (near-field) sources of reef fish larvae to the Florida Keys. The proposed study will integrate a comprehensive, three dimensional hydrodynamic model with a Lagrangian particle tracking model to connect the pathways between observed ichthyoplankton distributions and larval settlement.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-0550732

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