

**Collection Documentation –
NCCOS Oregon Predictive Mapping**

Collection Description	
Collection Title	NCCOS Assessment: Groundfish biodiversity hotspots off the Pacific Coast of Oregon from 1971-09-05 to 2010-09-20
Short Title	NCCOS Oregon Predictive Mapping
Abstract	<p>This data set comprises maps of predicted long-term groundfish biodiversity hotspot probabilities off the Pacific Coast of Oregon. Predicted hotspot probabilities are given for four biodiversity indices: 1) relative abundance, 2) relative biomass, and 3) species number for all groundfishes, and 4) relative abundance for only nearshore groundfishes. The nearshore species assemblage includes: Sand Sole, English Sole, Pacific Sanddab, Speckled Sanddab, Petrale Sole, Starry Flounder, and Butter Sole. Hotspots were defined as areas with predictions in the top 10% of values of at-sea observations.</p> <p>Areas of relatively high biodiversity were predicted using at-sea groundfish observations collected from 1971 to 2010 and associative models linking species observations with environmental covariates. Groundfish observations were taken from existing fishery-independent trawl data collected by NOAA's National Marine Fisheries Service and flatfish trawl data collected by the Oregon Department of Fish and Wildlife. Environmental predictors included position on the shelf, sea floor habitat, depth, slope, aspect, slope of slope, and oceanographic productivity were used to predict areas with relatively high groundfish biodiversity. Binary logistic regression trees were used to associate species observations with environmental covariates and predict categorical results (Hotspot/Low classes). Mapped values indicate the probability of a raster cell belonging in the hotspot class.</p>
Purpose	This data set was used to support the Oregon Territorial Sea Plan. It was used to define ecologically important areas in the Nearshore Ecological Data Atlas Marxan Analysis conducted by The Nature Conservancy of Oregon.
Cited Publications	[blank]
Project Webpage	http://coastalscience.noaa.gov/projects/detail?key=90
Related Web Service URLs	[blank]

People & Projects	
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NCCOS Base Funding	US DOC; NOAA; NOS; National Centers for Coastal Ocean Science (NCCOS)
Other Funding Agency	[blank]
Partner Entity	Oregon Department of Fish and Wildlife
NCCOS Projects	"Spatial Analysis of Groundfish to Support Oregon's Territorial Sea Plan"
Other Projects	[blank]

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Dates, Locations, and Keywords	
Start Date	1971-09-05
End Date	2010-09-20
Northern Boundary	48.7
Southern Boundary	40
Western Boundary	-126
Eastern Boundary	-123
Sea Areas or Regions	Eastern Pacific California Current Oregon Pacific Northwest
Marine Protected Areas	[blank]
NOAA Ships	[blank]
Other Ships or Platforms	[blank]
NCCOS Research Priorities	Marine Spatial Ecology (MSE)
NCCOS Research Topics	Ecological/Biological Characterization Predictive/Spatial Modeling
NCCOS Research Locations	West Coast
NCCOS Geographic Areas	Oregon
NCCOS Research Data Types	Deep Sea Coastal Ocean Continental Shelf
ISO Topic Categories	Geospatial Model Derived Data Product
Comment	[blank]
Resource Provider	NCCOS Data Manager NCCOS.data@noaa.gov US DOC; NOAA; NOS; National Centers for Coastal Ocean Science (NCCOS)
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Data Types						
Parameter or Variable	Property Type	Units	Observation Category	Sampling Instrument	Sampling and Analyzing Method	Data Quality Method
Groundfish abundance hotspot	Calculated	Probability of groundfish abundance hotspot	model output	documentation only - no instrument type	The data describe spatially-explicit predicted long-term groundfish abundance hotspot probabilities. Predictions were made using at-sea groundfish observations collected from 1971 to 2010 and associative models linking species observations with environmental covariates. Classification accuracy is 74%.	Predictive biomass hotspot maps were reviewed and accepted by subject matter experts. Processing and analysis methods are described in the data documentation.
Groundfish biomass Hotspot	Calculated	Probability of groundfish biomass hotspot	model output	documentation only - no instrument type	The data describe spatially-explicit predicted long-term groundfish biomass hotspot probabilities. Predictions were made using at-sea groundfish observations collected from 1971 to 2010 and associative models linking species observations with environmental covariates. Classification accuracy is 82%.	Predictive biomass hotspot maps were reviewed and accepted by subject matter experts. Processing and analysis methods are described in the data documentation.
Groundfish species number hotspot	Calculated	Probability of groundfish species number hotspot	model output	documentation only - no instrument type	The data describe spatially-explicit predicted long-term groundfish species number hotspot probabilities. Predictions were made using at-sea groundfish observations collected from 1971 to 2010 and associative models linking species observations with environmental covariates. Classification accuracy is 64%.	Predictive biomass hotspot maps were reviewed and accepted by subject matter experts. Processing and analysis methods are described in the data documentation.
Nearshore groundfish abundance hotspot	Calculated	Probability of nearshore groundfish abundance hotspot	model output	documentation only - no instrument type	The data describe spatially-explicit predicted long-term nearshore groundfish abundance hotspot probabilities. Predictions were made using at-sea groundfish observations collected from 1971 to 2010 and associative models linking species observations with environmental covariates. Classification accuracy is 83%.	Predictive biomass hotspot maps were reviewed and accepted by subject matter experts. Processing and analysis methods are described in the data documentation.