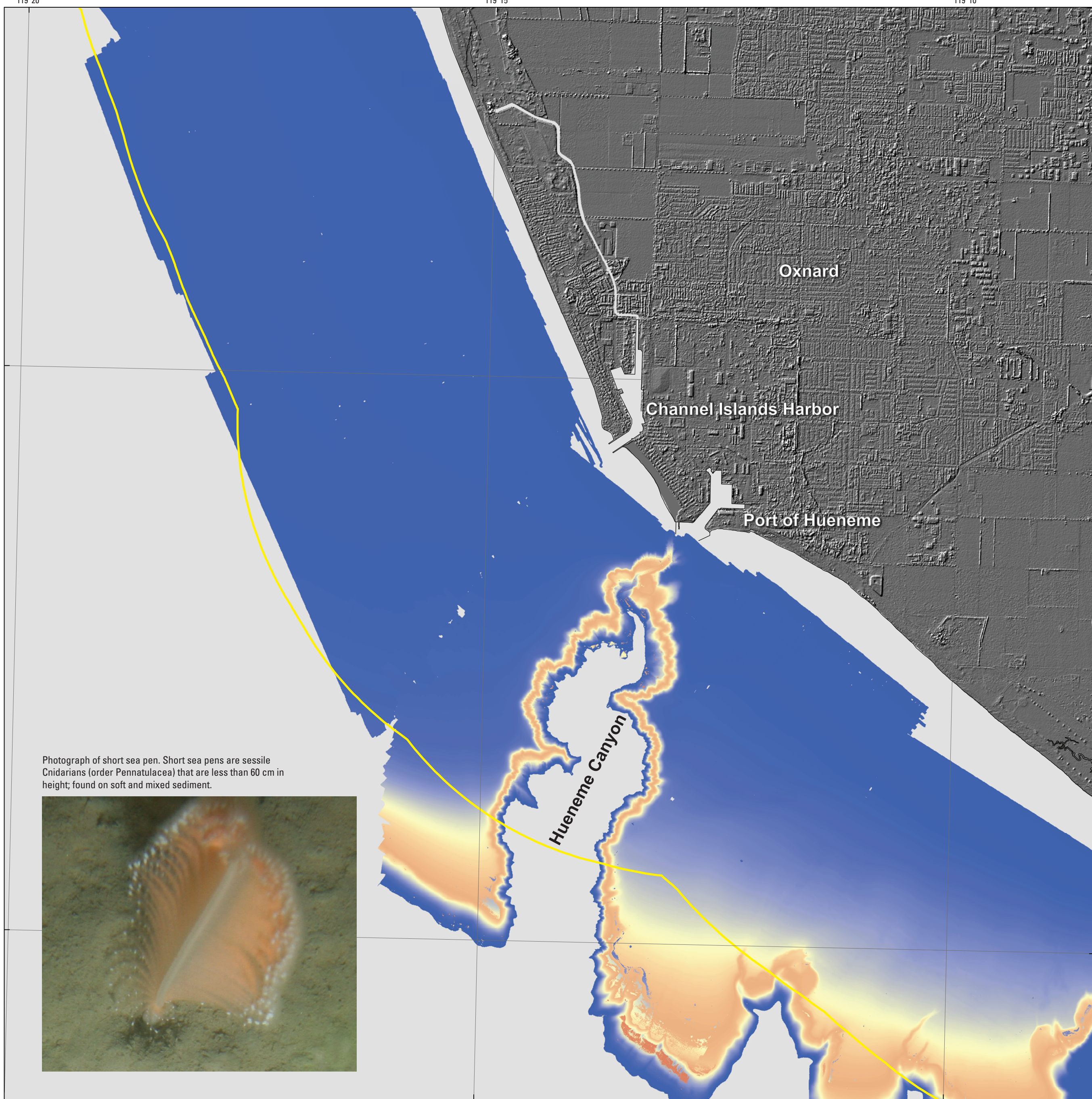
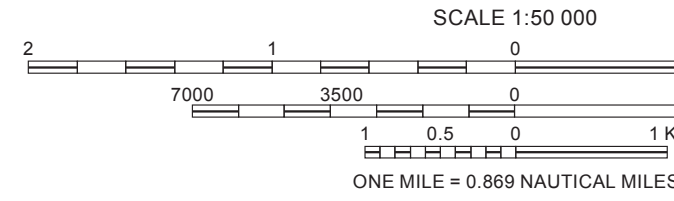


Map A – Predicted Distribution of Tall Sea Pens, Hueneme Canyon and Vicinity

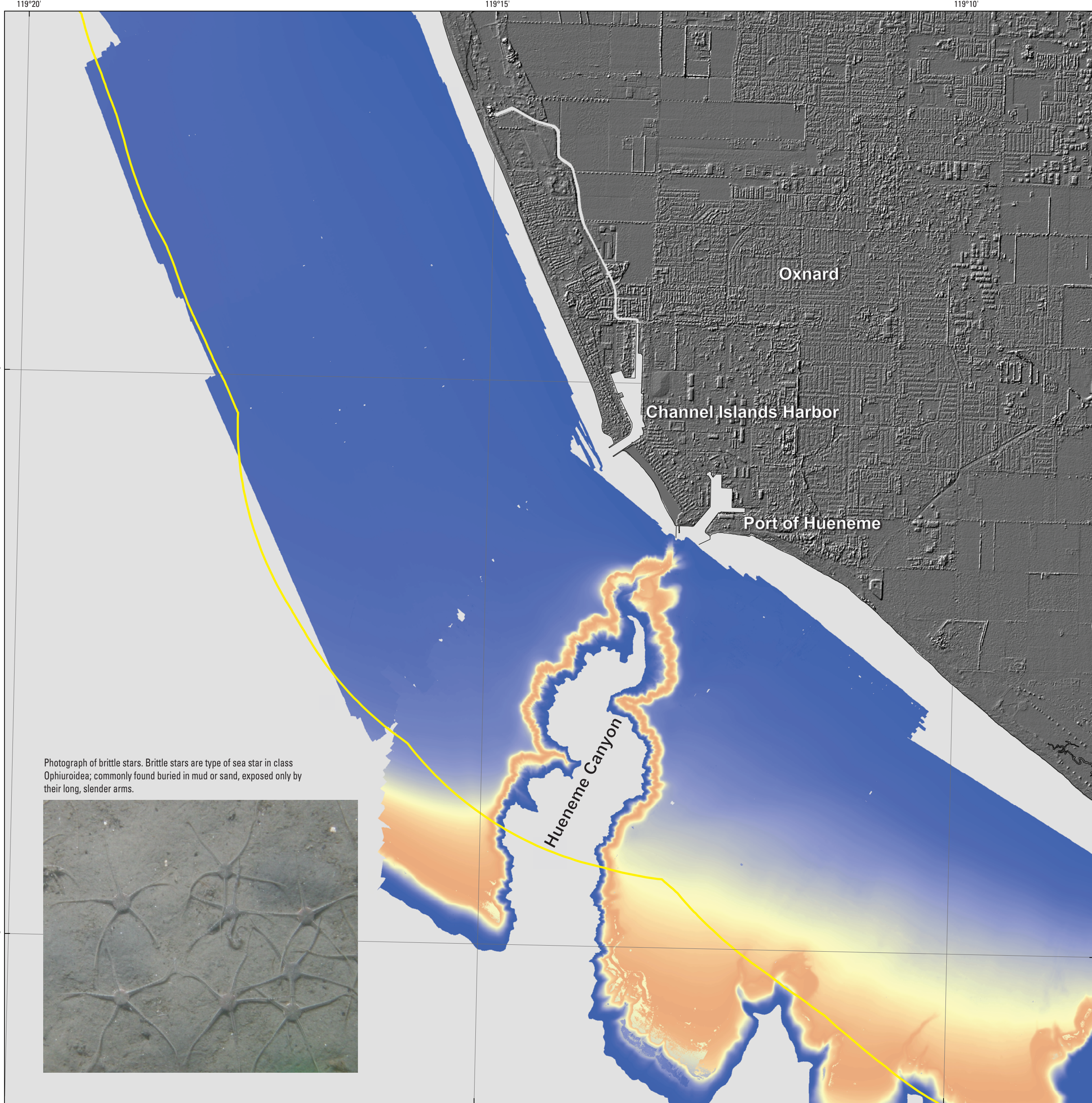


Map D – Predicted Distribution of Cup Corals, Hueneme Canyon and Vicinity

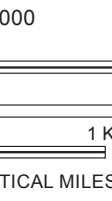
Ordnance elevation data from NOAA Coastal Services Center data collected by EarthData International in 2002-2003 and from U.S. Army Corps of Engineers data collected by Roger Hedges in 2000. California's State Waters limit from NOAA Office of Coast Survey Universal Transverse Mercator projection, Zone 11N



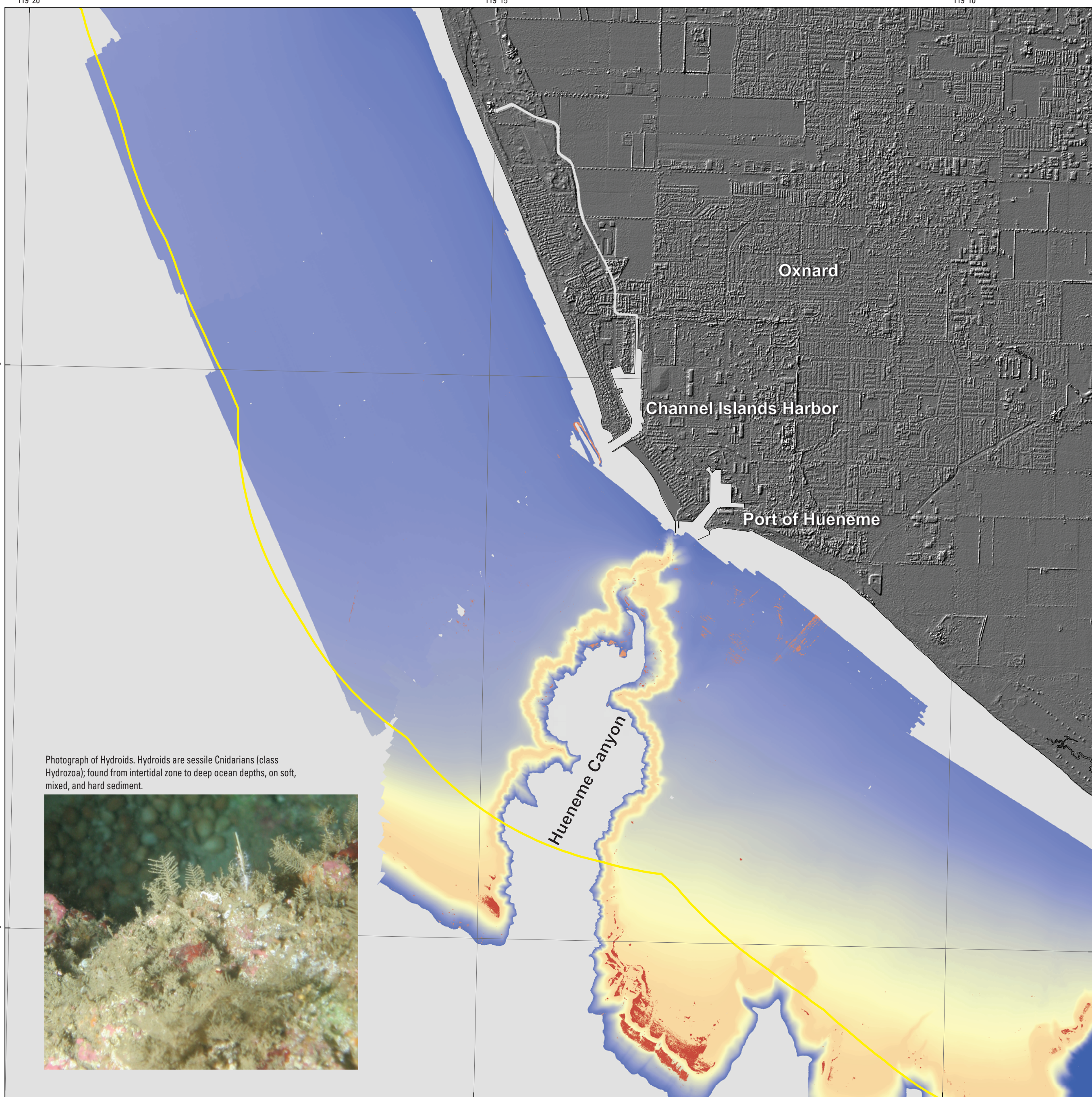
Map B – Predicted Distribution of Short Sea Pens, Hueneme Canyon and Vicinity



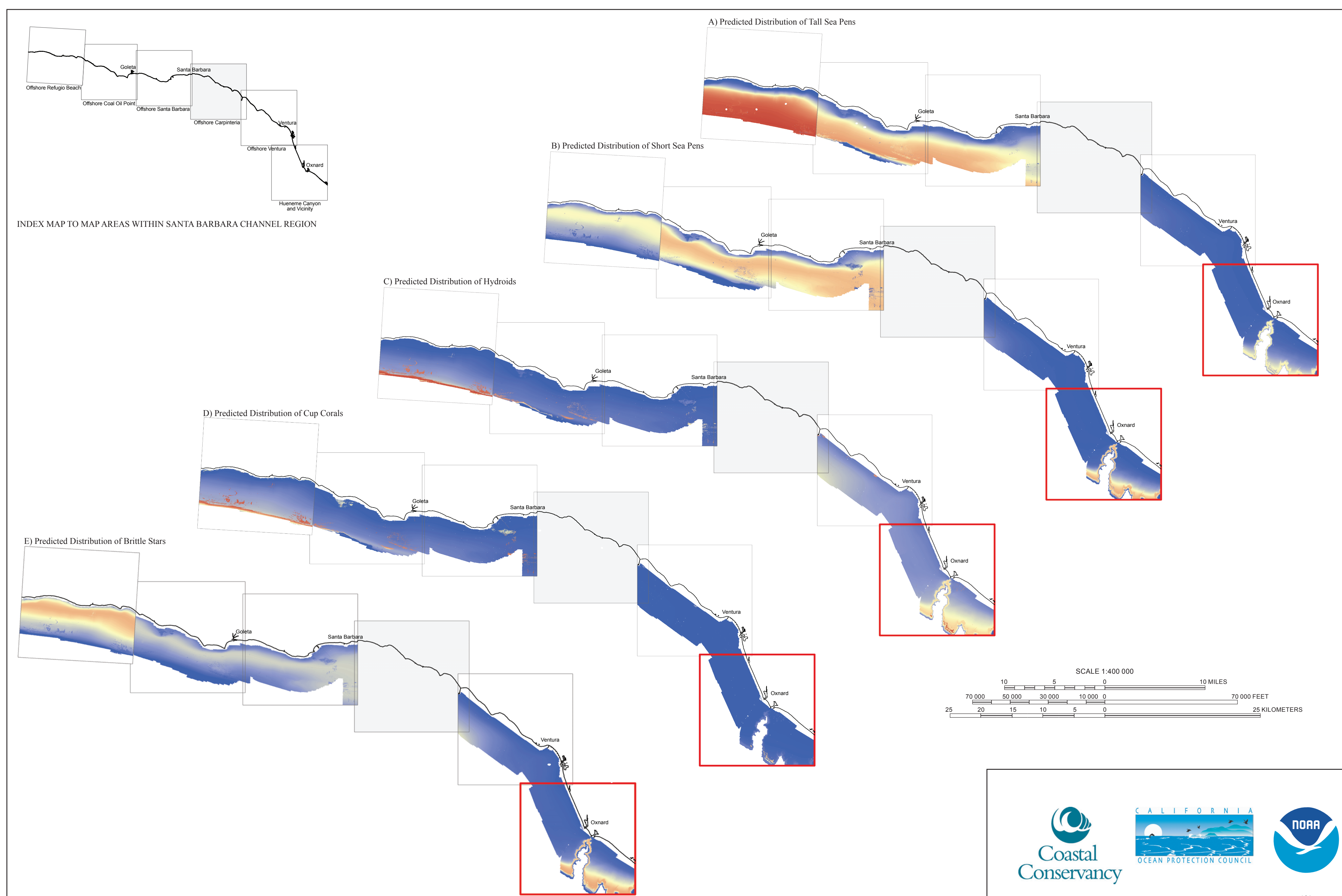
Map E – Predicted Distribution of Brittle Stars, Hueneme Canyon and Vicinity



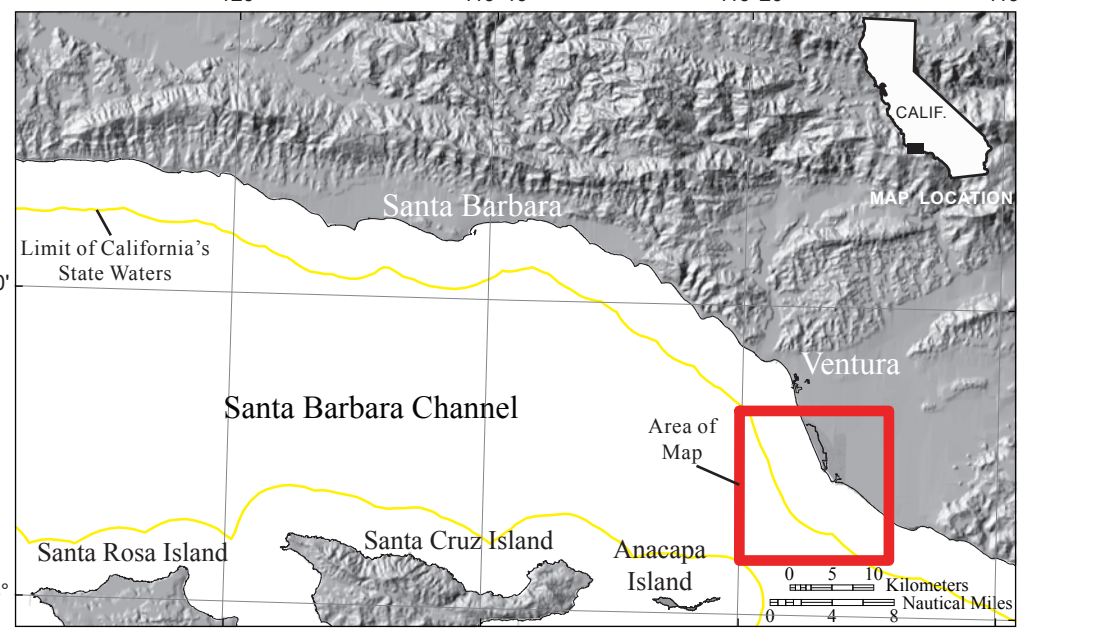
Predicted distributions mapped in 2011
GIS database and digital cartography by Nadine E. Golden and Guy R. Cochran
Edited by Taryn A. Lindquist
Manuscript approved for publication July 26, 2012



Map C – Predicted Distribution of Hydroids, Hueneme Canyon and Vicinity



Map F – Predicted-Distribution Maps for Santa Barbara Channel Region



DISCUSSION
Information presented on this sheet is based on ground-truth surveys (see sheet 6) conducted by the U.S. Geological Survey and NOAA National Marine Fisheries Service for the California Seafloor Mapping Program. Benthic community structure was determined from 35 video towed-camera transects within California's State Waters limit in the Santa Barbara Channel. These transects produced a total of 923 10-second observations from Refugio Beach (34.5° N, 120.1° W) to Hueneme Canyon (34.1° N, 119.2° W). Presence-absence data were collected for 29 benthic, structure-forming invertebrate taxa. Generalized linear models were developed to predict the probability of occurrence and to create predictive-distribution maps for the most frequently observed macro-invertebrates (tall sea pens, short sea pens, cup corals, hydroids, and brittle stars) (Krigsman and others, 2012). This sheet shows five predictive-distribution maps (Maps A-E) for the Hueneme Canyon and vicinity map area, which is depicted by a red outline in the Santa Barbara Channel regional maps (Map F).

Covariates in the generalized linear models were geographic location, bathymetry, and seafloor character. Geographic location was derived from analysis of five of the six map areas along the mainland coast of the Santa Barbara Channel, excluding the offshore Carpinteria map area where data were insufficient. From the five areas, three statistically different locations were identified on the basis of a community-structure analysis of the invertebrate taxa and associated covariates (sometimes resulting in distinctly different predicted distributions across map boundaries): (1) the Hueneme Canyon and vicinity and offshore Ventura map areas; (2) the offshore Santa Barbara and offshore Coal Oil Point map areas; and (3) the offshore Refugio Beach map area. Data for the two other covariates were provided in sheet 2 (shaded-relief bathymetry) and sheet 5 (seafloor-character map).

Although probability of occurrence for each invertebrate taxon was predicted for the entire Santa Barbara Channel (Map F), this sheet highlights predictions for the Hueneme Canyon and vicinity map area (Maps A-E). Observations based on depth were limited by the capability of the towed camera sled; as a result, no predictions were made below depths of 150 m (in other words, on the continental slope or in Hueneme Canyon). Tall and short sea pens (Maps A and B, respectively) had a moderate predicted probability of occurrence along the edge of the canyon and in deep waters southeast of the canyon. The seafloor within the area surrounding Hueneme Canyon lacks hard substrate coverage (mixed sediment and (or) rugged rock), as a result, minimal to no areas within California's State Waters were predicted to be where cup corals might occur (Map D). Similarly, the probability of observing hydroids within the same area was also minimal; however, the area along the edge of the canyon had moderate probabilities of occurrence (Map C). Brittle stars in the sediment, observed by arms protruding from the substrate, had the greatest probability of occurrence of all the invertebrates predicted to occur within this map area (Map E).

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Krigsman, L.M., Yoklavich, M.M., Dick, E.J., and Cochran, G.R., 2012. Models and maps—Predicting the distribution of corals and other benthic macro-invertebrates in shelf habitats. *Ecosphere*, v. 3(1), article 3, 16 p., doi:10.1890/ES11-00285.1.

EXPLANATION
Probability of occurrence
High (99.8%)
Low (0.0%)
Area of "no data"—Areas from shoreline (defined as Mean Higher High Water) out to 10-m water depth not mapped owing to difficulties in ship-based surveying caused by sea state (for example, waves, wind, or currents); areas beyond 3-nautical-mile limit of California's State Waters were not mapped as part of California Seafloor Mapping Program
3-nautical-mile limit of California's State Waters



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Krigsman, L.M., Yoklavich, M.M., and Cochran, G.R., 2012. Predicted distribution of benthic macro-invertebrates, Hueneme Canyon and vicinity and Santa Barbara Channel region, California, sheet 12 of 12. *U.S. Geological Survey Scientific Investigations Map 3225*, 12 p., doi:10.3133/SI322512.
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Predicted Distribution of Benthic Macro-Invertebrates, Hueneme Canyon and Vicinity and Santa Barbara Channel Region, California

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