

PROGRAM SCHEDULE

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Presenter: Ashley Meara (University of San Diego)

Description:

The concentration of dissolved oxygen (DO) has decreased by about 2% over the past 50 years due to rising global temperatures and models predict further declines this century. However, little research has been done to examine how benthic foraminifera communities vary across a DO gradient offshore of southern California. The southern California continental margin is characterized by variable bathymetry and isolated low oxygen basins and high productivity and is an ideal location to investigate the impacts of DO and changing climate on benthic foraminifera. The objectives of this research were to 1) characterize how foraminifera communities vary spatially and with depth and DO and 2) to examine if there have been changes in these communities over the past 20 years. In 2018-19, sediment samples from the sediment-water interface were collected using a multicorer at five sites of variable depth (200-900 m) from 10 to 170 kilometers offshore of southern California. Two of these sites had been sampled annually from 2001-2012. Though the communities at all sites included most taxa, the relative percent and abundance of each taxa varied between sites. Sites with reduced DO were dominated by *Uvigerina* and *Bolivina*, with a large decrease in *Cassidulina*. Generally, the same morphotypes were seen across two decades of observation at two sites without a clear pattern of secular variability. Further studies should be done to examine how hypoxic-associated species vary across the full depth range of the oxygen minimum layer and whether

these taxa are developing morphological adaptations to cope with the changing environment.

Full list of Authors

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BENTHIC FORAMINIFERA ASSEMBLAGE VARIANCE ACROSS DISSOLVED OXYGEN GRADIENT OFFSHORE SAN DIEGO

Category

Education and Policy Session > ED - Education & Outreach > ED12 Undergraduate Research in Marine and Aquatic Sciences

Presentation Preference: Poster

Supporting Program: None

Student or Profesional? I am a Student

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