

# Best Poster Award

presented to

**Adriana Gomez-Leon**  
**CICIMAR**

for

“Spatio-temporal variability in the relative abundance of benthic foraminifera in La Paz lagoon,  
Gulf of California”

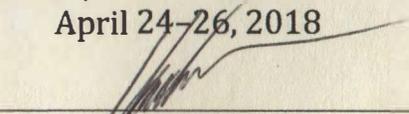
International Symposium on *Understanding Changes in Transitional Areas of the Pacific*

La Paz, Baja California Sur, Mexico

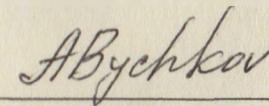
April 24-26, 2018



Dr. Sachihiko Ito, Dr. Evan Howell  
*Symposium Convenors, North Pacific  
Marine Science Organization (PICES)*



Dr. Salvador Lluch-Cota  
*Symposium Convenor, Centro de  
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Noroeste, S.C. (CIBNOR)*



Dr. Alexander Bychkov  
*Symposium Coordinator, North Pacific  
Marine Science Organization (PICES)*





# PICES

North Pacific Marine Science Organization

## “Understanding Changes in Transitional Areas of the Pacific”

April 24 – 26, 2018 La Paz, Baja California Sur, Mexico

~ Certificate of Presentation ~

This is to certify that Adriana Gómez-León poster entitled “Spatio-temporal variability in the relative abundance of benthic foraminifera in La Paz lagoon, Gulf of California” was presented at the International Symposium on “Understanding Changes in Transitional Areas of the Pacific”, held in La Paz, Baja California Sur, Mexico, April 24-26, 2018.



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International Symposium

# Understanding Changes in Transitional Areas of the Pacific



## Program and Abstracts

La Paz, Baja California Sur, Mexico  
April 24-26, 2018

[www.pices.int/2018-Pacific-TA](http://www.pices.int/2018-Pacific-TA)

## **S5: Biodiversity changes in Pacific transitional areas**

### **S5-P-1**

#### **Spatio-temporal variability in the relative abundance of benthic foraminifera in La Paz lagoon, Gulf of California**

Adriana **Gomez-Leon**, Nestor Rey-Villiers and Alberto Sanchez

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The La Paz City, Baja California Sur has increased its population by 130% in the last three decades. The increase in the demand for goods and services can cause environmental deterioration, due to dumping of anthropogenic waste into the La Paz lagoon. Therefore, benthic foraminifera will be affected in their relative abundance by increased anthropogenic activity. The objective of the present study is to determine the spatio-temporal variation in the relative abundance of the benthic foraminifera with the purpose of knowing the possible changes in the quality of the sedimentary environment in the lagoon. For this purpose, 2 sediment cores was collected, each with a length of 43 cm and sectioned every 1 cm. Benthic foraminifera were identified and quantified with a stereoscopic microscope. The 1LP core is characterized by silt and clays. The percentage of clays and the organic carbon content increase, from 10 cm, towards the most superficial part of the core. The 2LP core, it is characterized by clays and a lower percentage of silts. In the 1LP core (lagoon deeper zone) Ammonia, Elphidium, Quinqueloculina, Bolivina, Textularina and Peneroplis were identified. Ammonia and Elphidium, represent 80% of relative abundance, followed by Quinqueloculina and Bolivina (15 and 5%). In the 2LP core, in the southern zone of the lagoon, Ammonia and Elphidium had 100% relative abundance. The variability in abundances of benthic foraminifera, grain-size and organic carbon indicate a change in the quality of the sedimentary environment in recent years in the La Paz lagoon.

### **S5-P-2**

#### **Changes in marine zooplankton diversity during El Niño 2015-2016 in a convergence area in northern Peru**

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The objective of this study was to determine the changes in the specific composition and diversity of marine zooplankton off the coast of Lambayeque (06°10'S - 07°10'S), northern Peru, and its relationship with the changes presented in the marine ecosystem in an area transition during event El Niño 2015-2016. For this purpose, samples collected with a Wp2 net at surface level were analyzed in a section perpendicular to the coastline, up to a maximum distance of 50 nm, between the San José cove and the Lobos de Afuera islands. The effects of the El Niño 2015-16 event are evident within the oceanographic variability that characterizes the Lambayeque Sea, which was reflected in the predominance of positive anomalies of the sea surface temperature throughout 2015 and the first half of the year 2016 as a consequence of the advance of the SSW and ESW beyond their normal seasonal limits interacting with the CCW that were very restricted near the coast. A total of 186 species distributed in 20 major groups were identified, being the most important according to their abundance, frequency and diversity, the group *copepoda*. The values of diversity and specific richness were more variable during the summer season, associated with water mixing (CCW+SSW+ESW). The community structure of zooplankton was correlated positively with temperature. The approach of warm water masses caused an increase in specific richness, changing the structure of zooplankton off the coast of Lambayeque.