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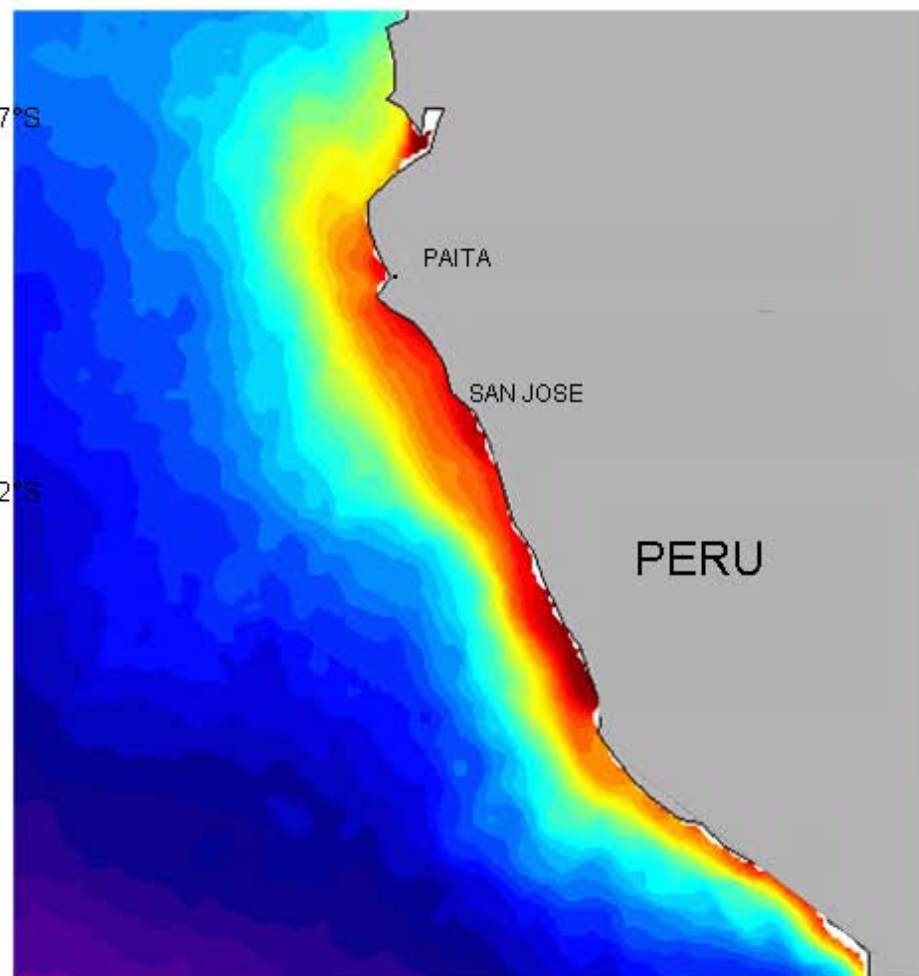
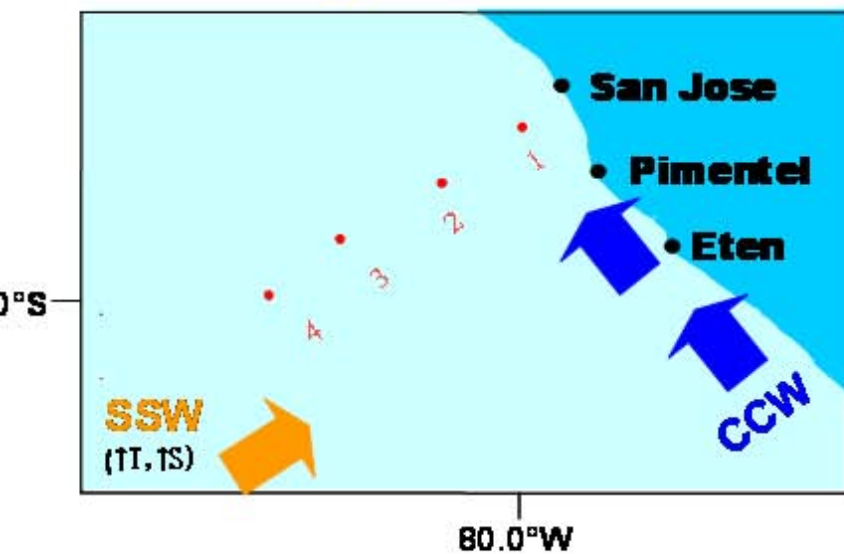
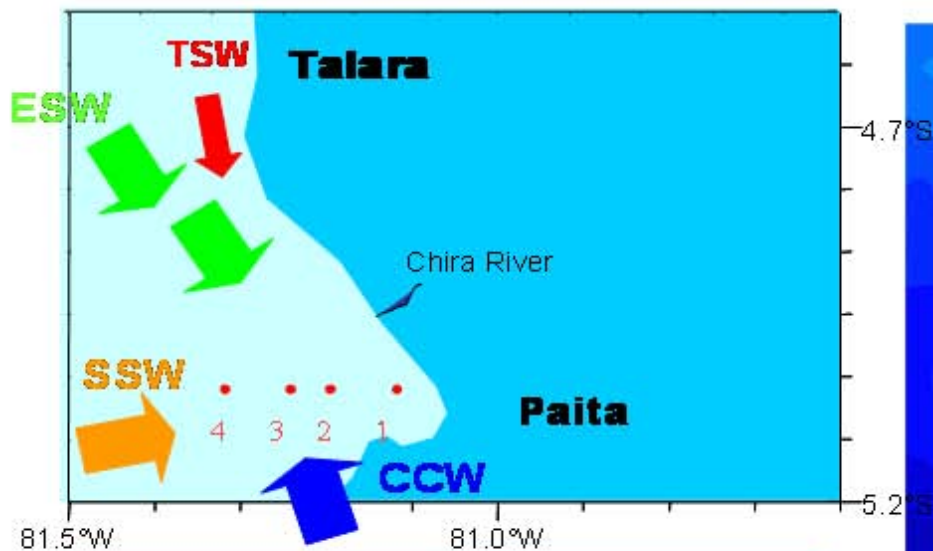
# Variability in zooplankton community indices at two coastal areas of Peruvian waters between 1994 and 2006

Patricia Ayón, Katia Aronés, Carmela Nakazaki,  
Roberto Quesquen

## OBJECTIVES

- TO SHOW AND COMPARE THE TRENDS OF COMMUNITY INDICES IN TWO AREAS OF THE PERUVIAN UPWELLING.
- TO RELATE THEM TO THE OCEANOGRAPHIC CONDITIONS.

## STUDY AREA



Mean SeaWiFS Chlorophyll ( $\text{mg m}^{-3}$ )

0.1 0.2 0.5 1 2 4



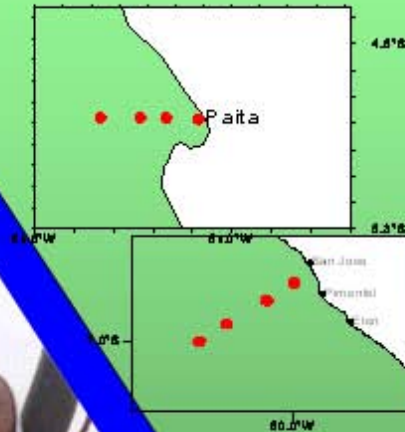
# SAMPLING

6 cruises per year  
4 stations on each location

**Zooplankton**  
**Horizontal sampling**  
WP-2 Net (300  $\mu\text{m}$ )

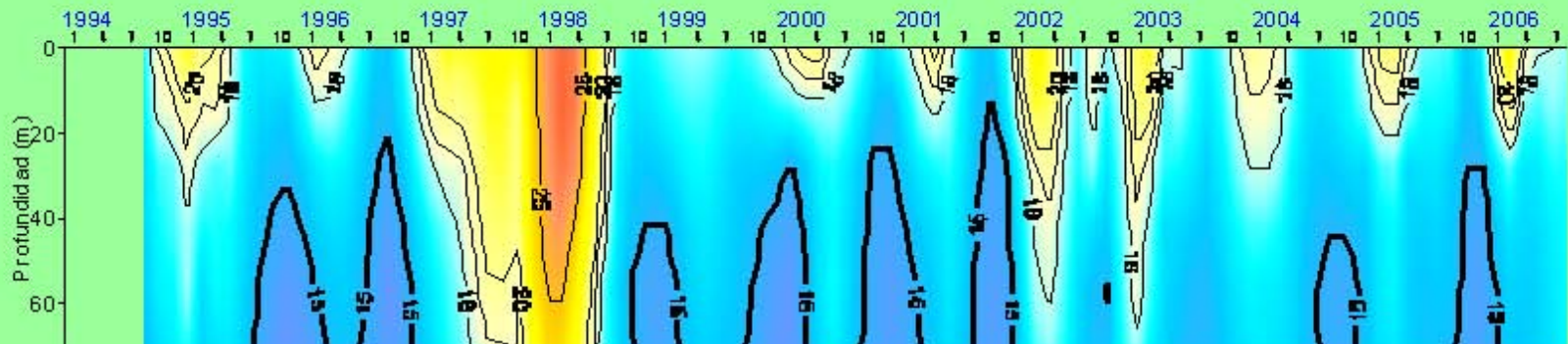
**Hydrography: water column**  
Temperature, salinity, oxygen

**-Chemistry and biology:**  
Nutrients, chlorophyll-a



# RESULTS

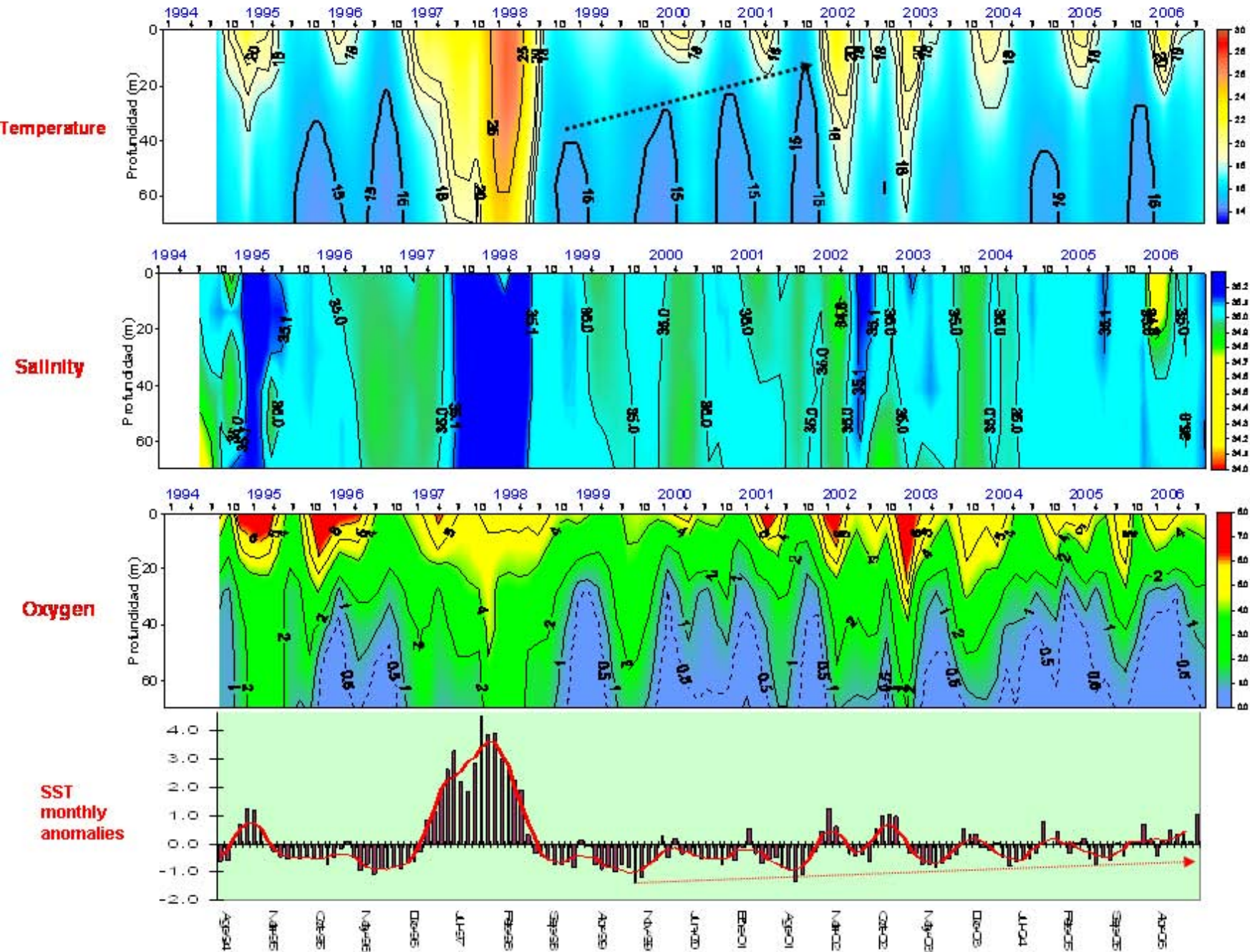
# OCEANOGRAPHIC CONDITIONS







# SAN JOSE SECTION (1994-2006)



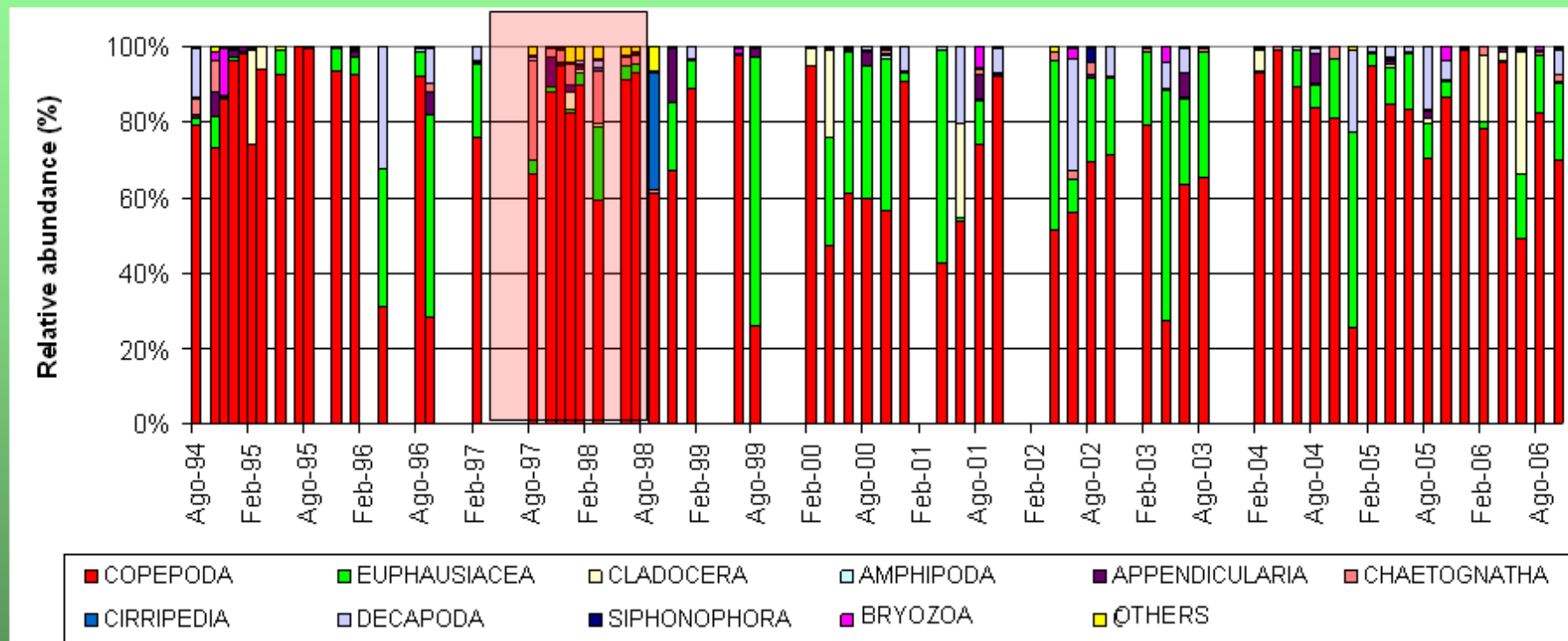




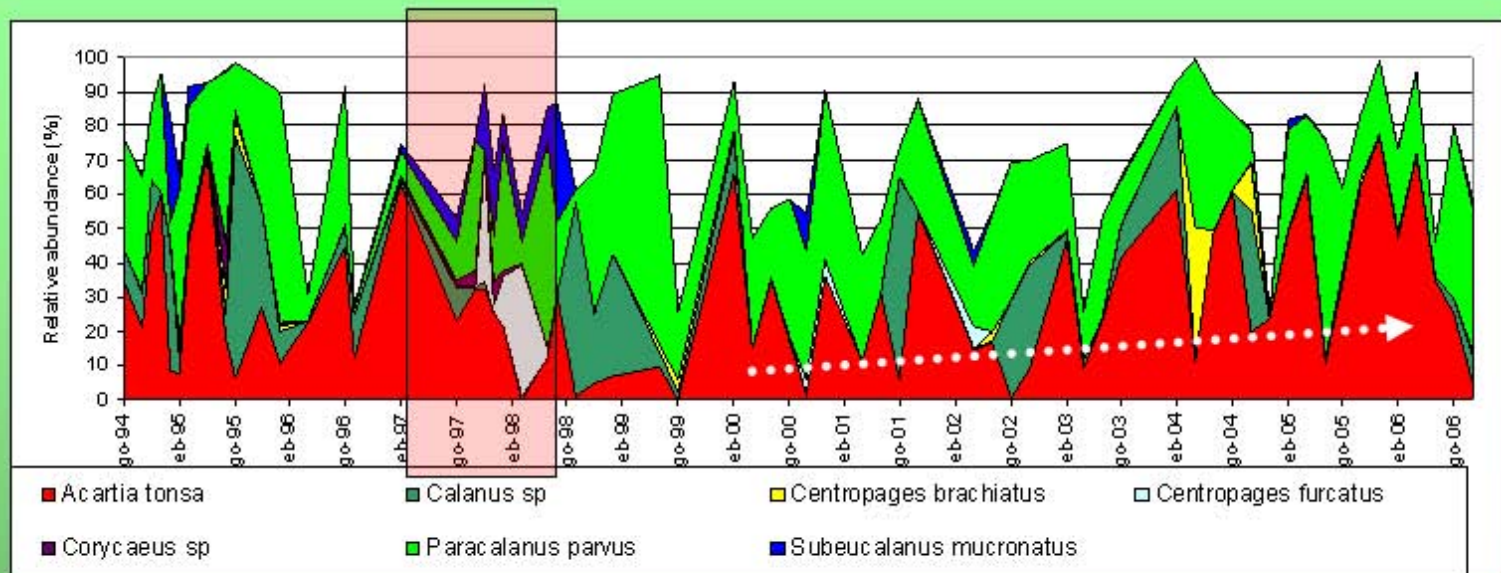
**ZOOPLANKTON  
COMMUNITY  
CHARACTERISTICS**



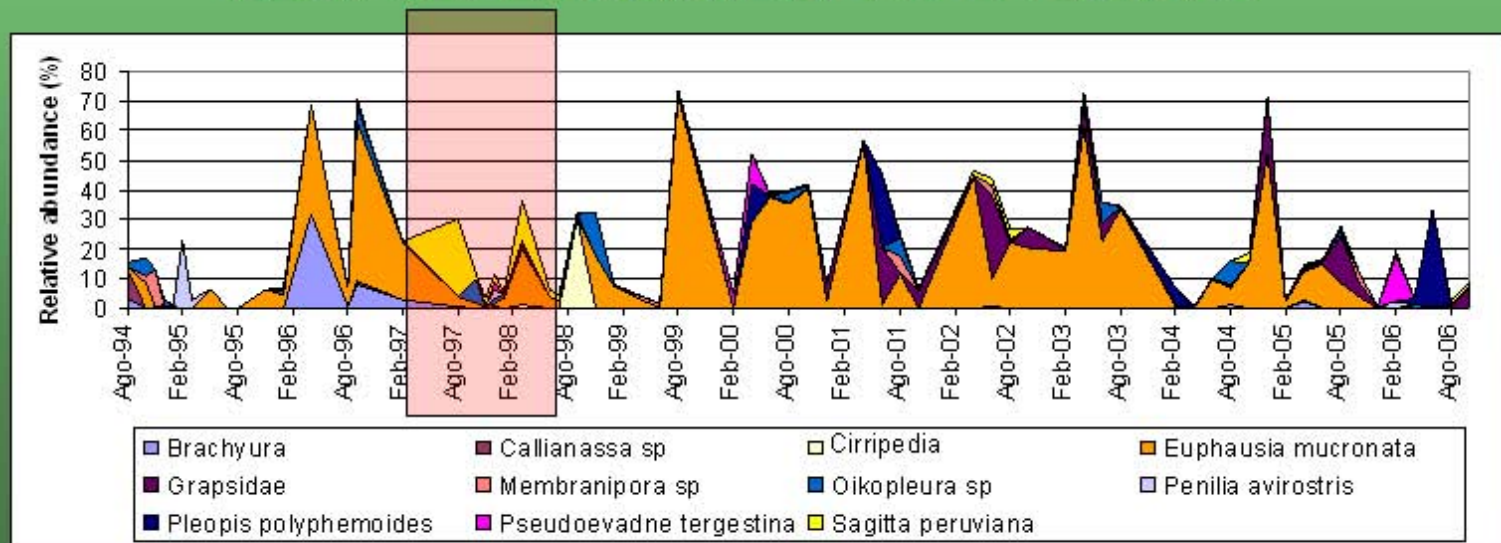
# RELATIVE ABUNDANCE OF MAIN GROUPS OF ZOOPLANKTON



## RELATIVE ABUNDANCE OF DOMINANT COPEPOD SPECIES

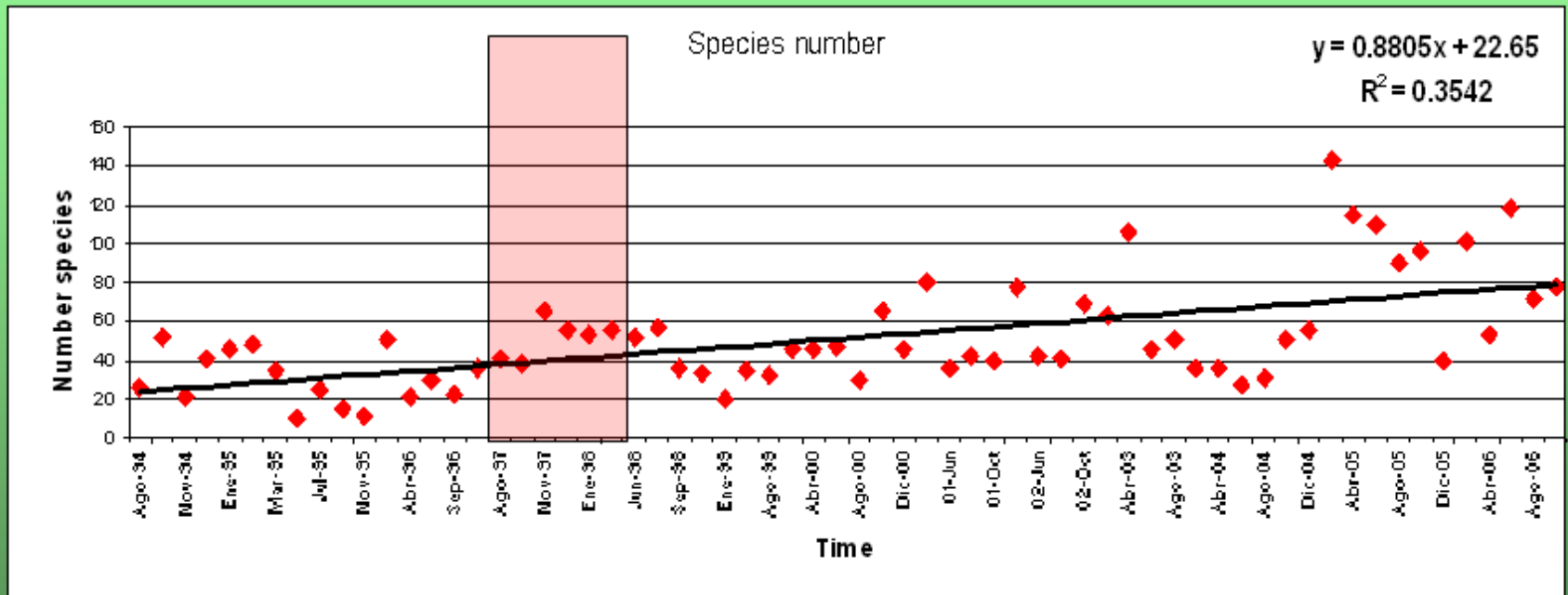


## RELATIVE ABUNDANCE OF OTHER GROUPS

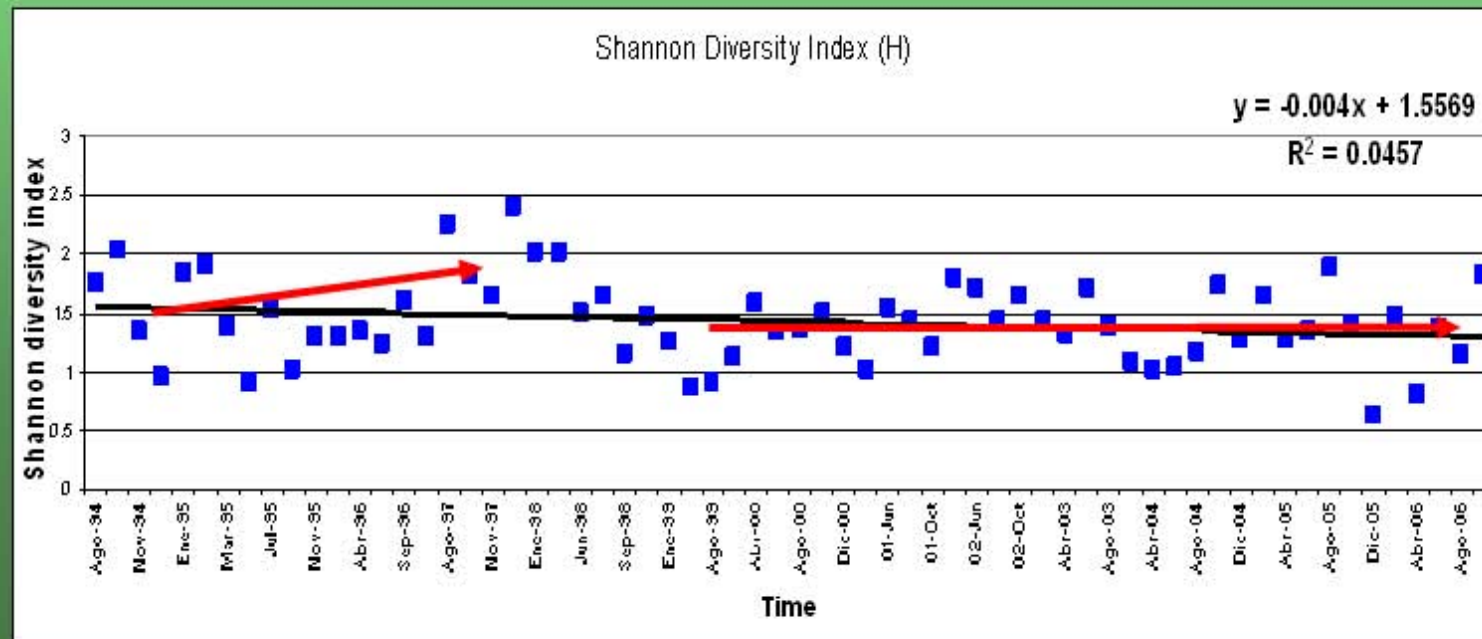
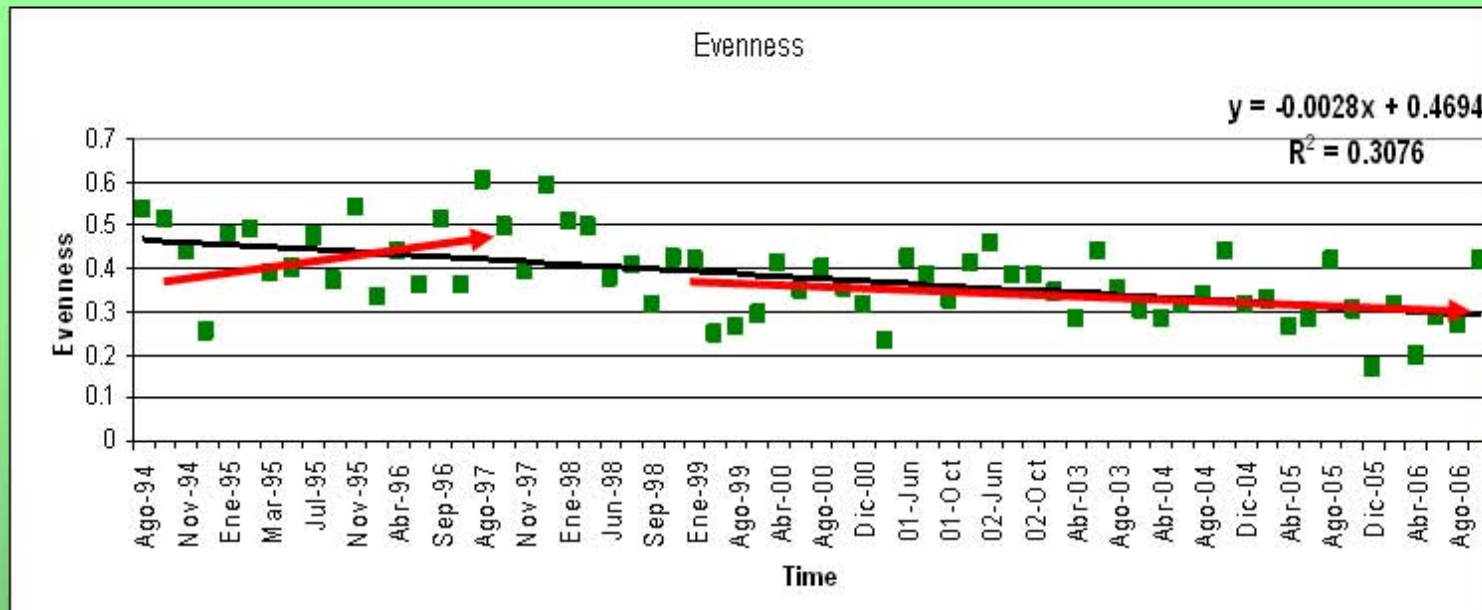




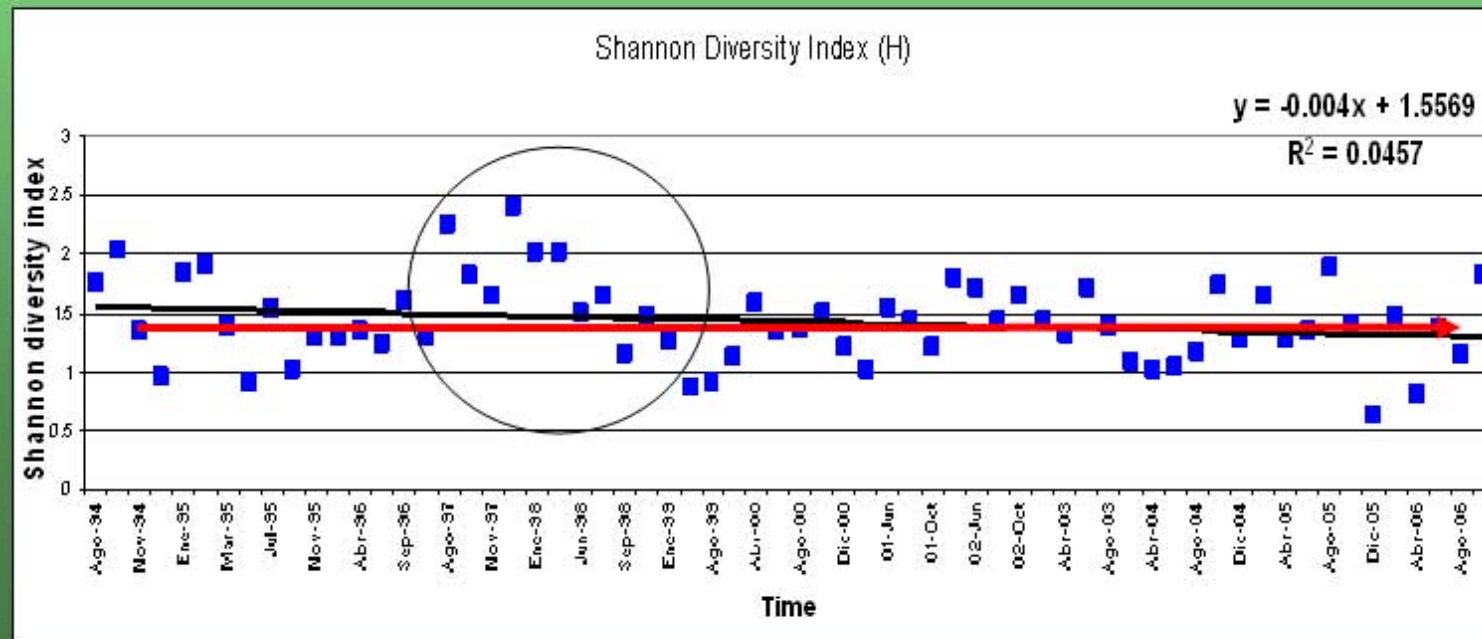
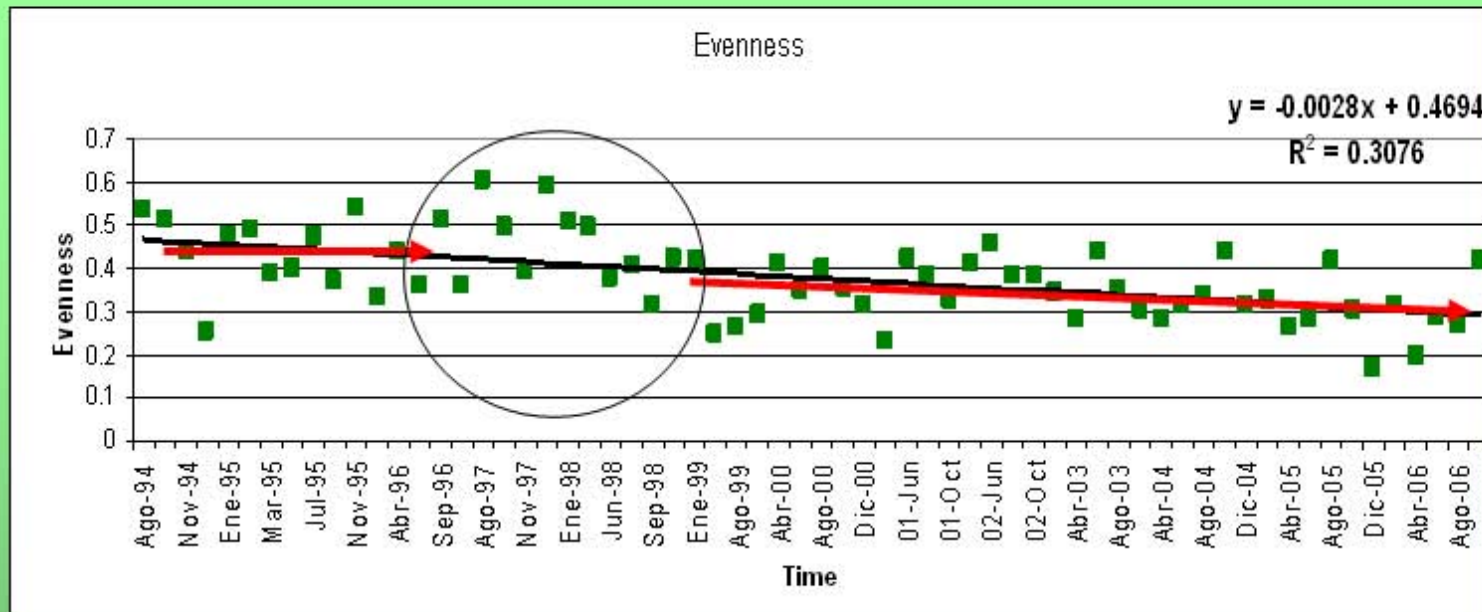
# GENERAL TREND IN SPECIES NUMBER



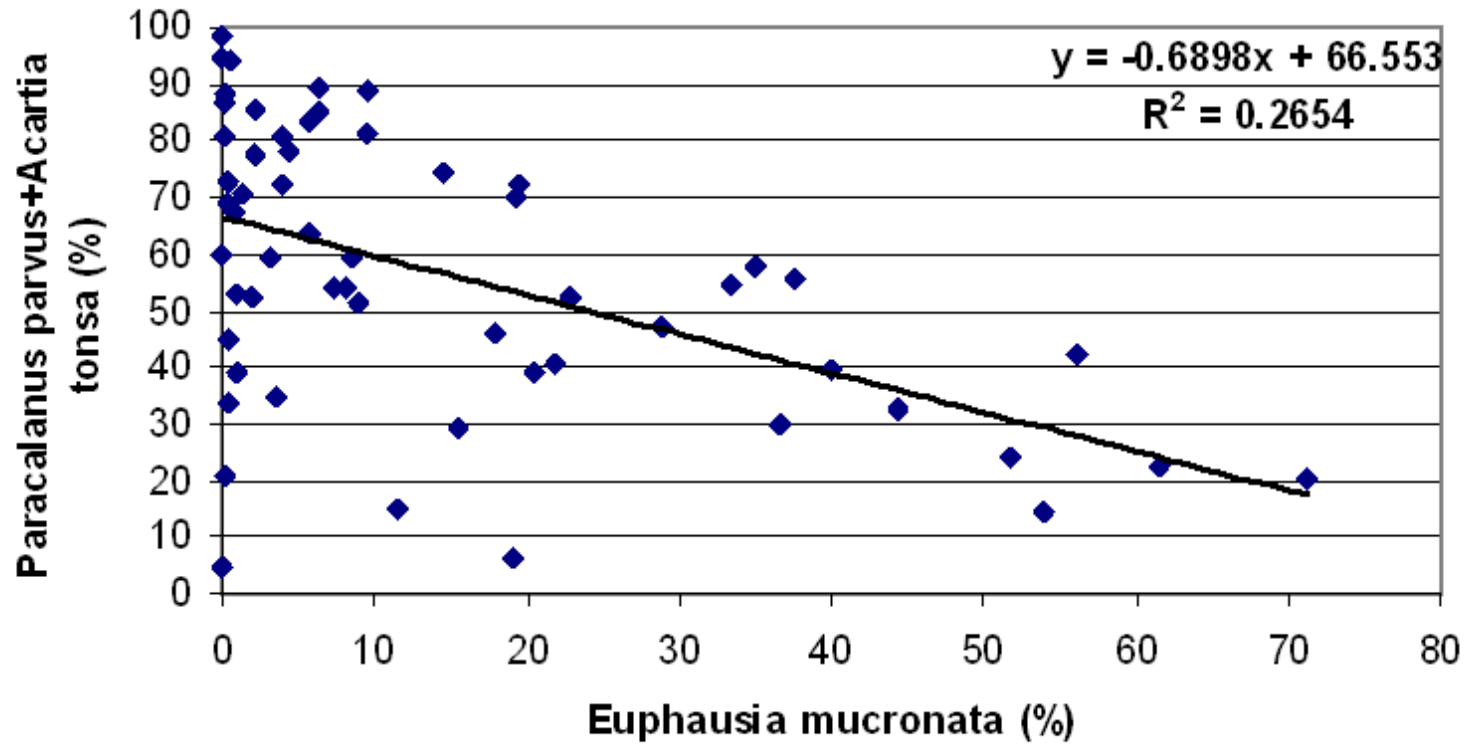
# BIOLOGICAL INDICES



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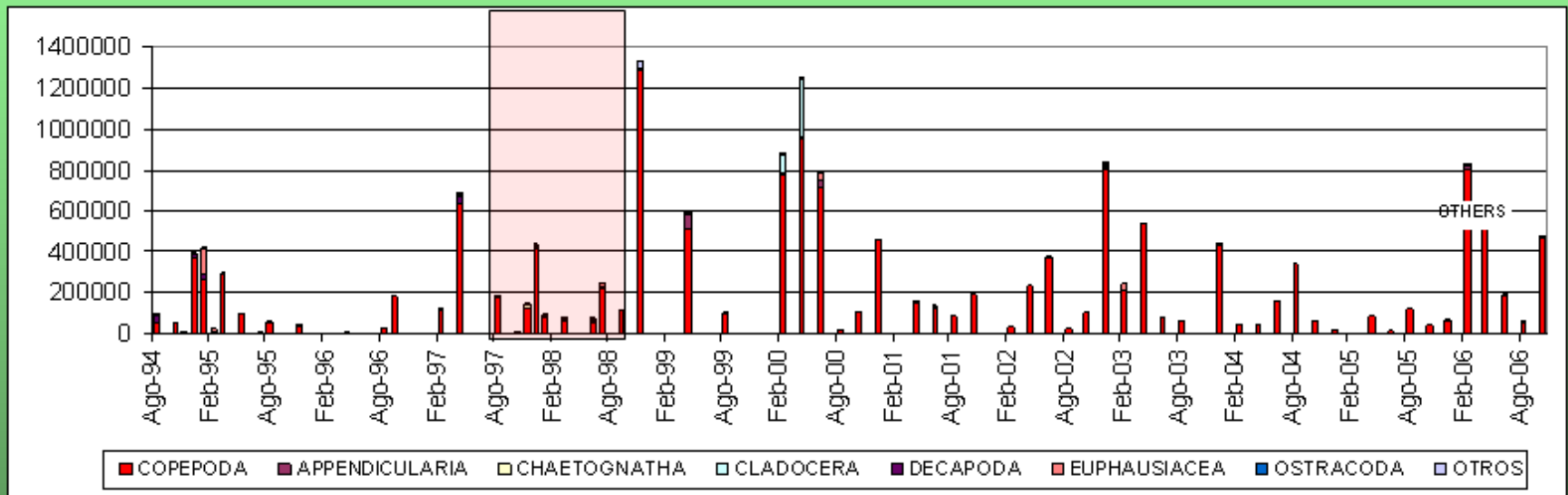


## Euphausiids vs Copepods

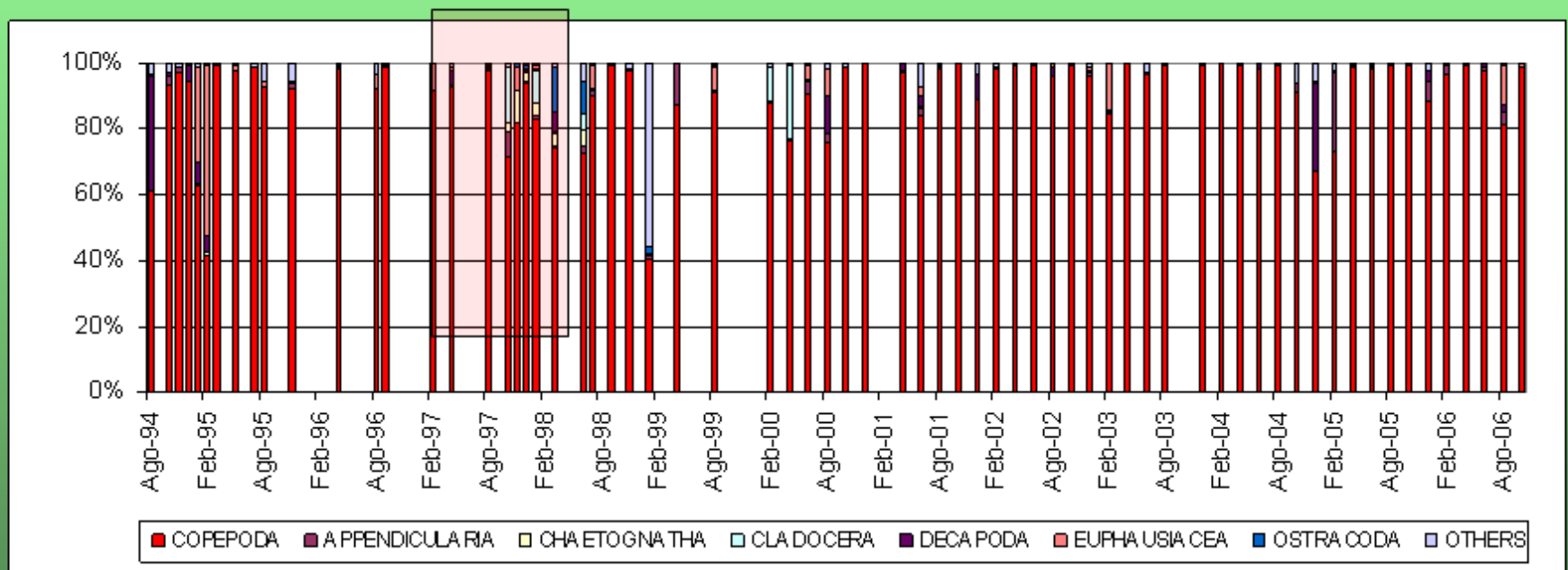




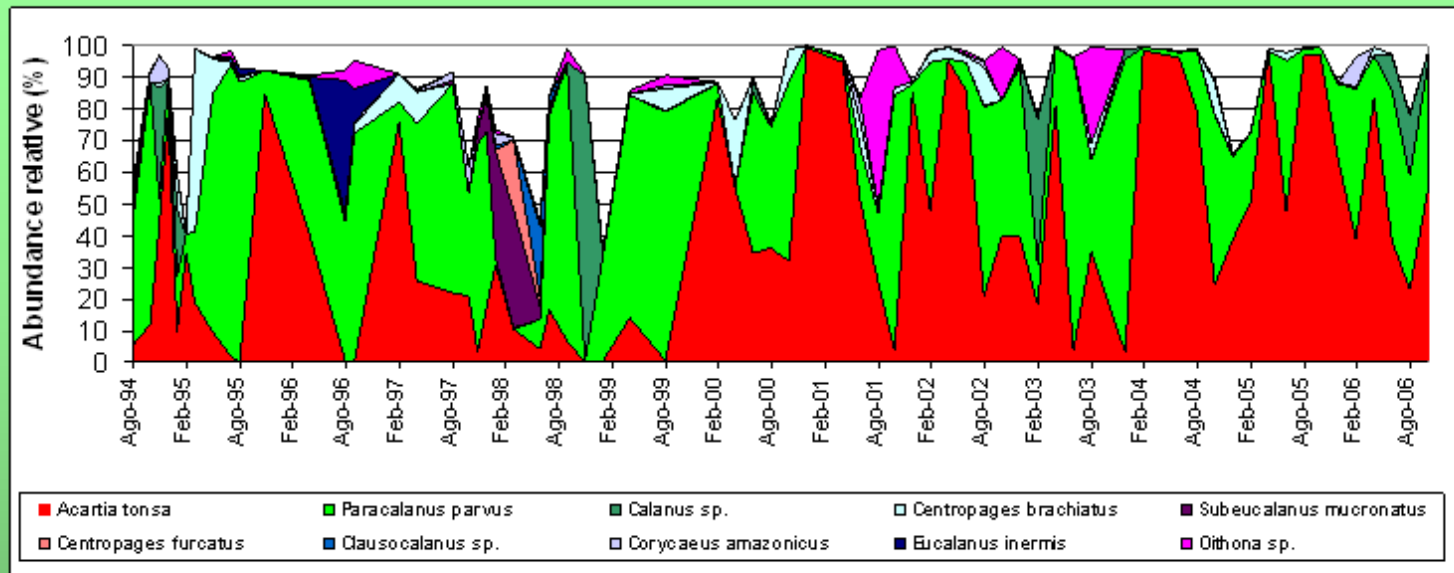
## MEAN ZOOPLANKTON ABUNDANCE OFF SAN JOSE (1994 - 2006)



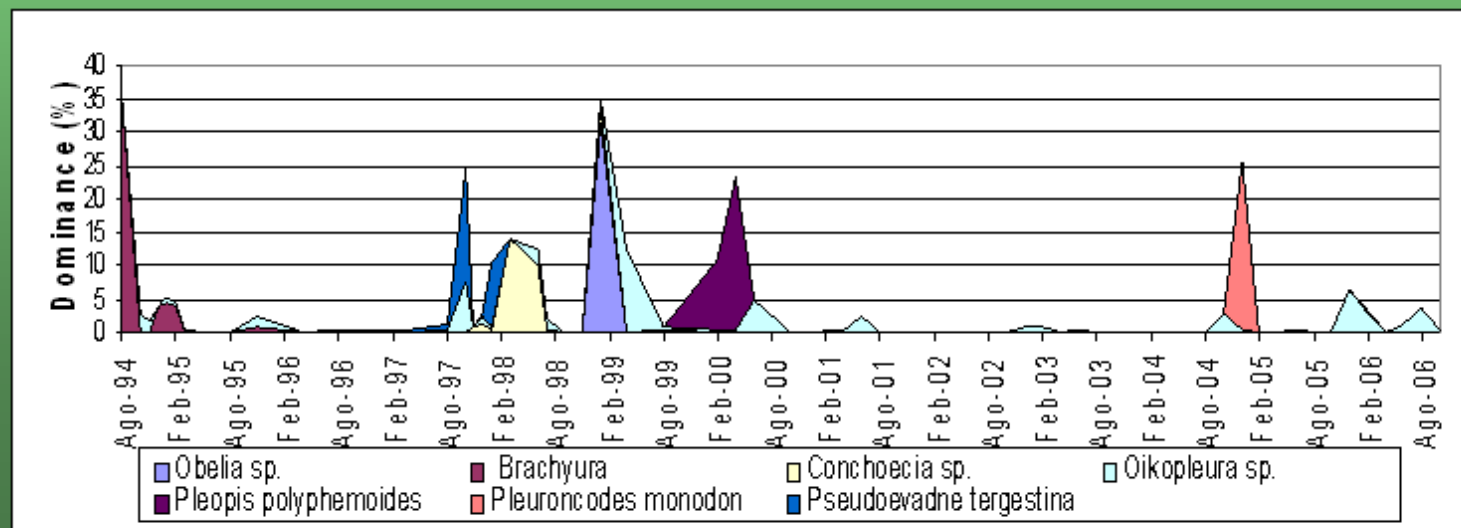
# RELATIVE ABUNDANCE OF MAIN GROUPS OF ZOOPLANKTON



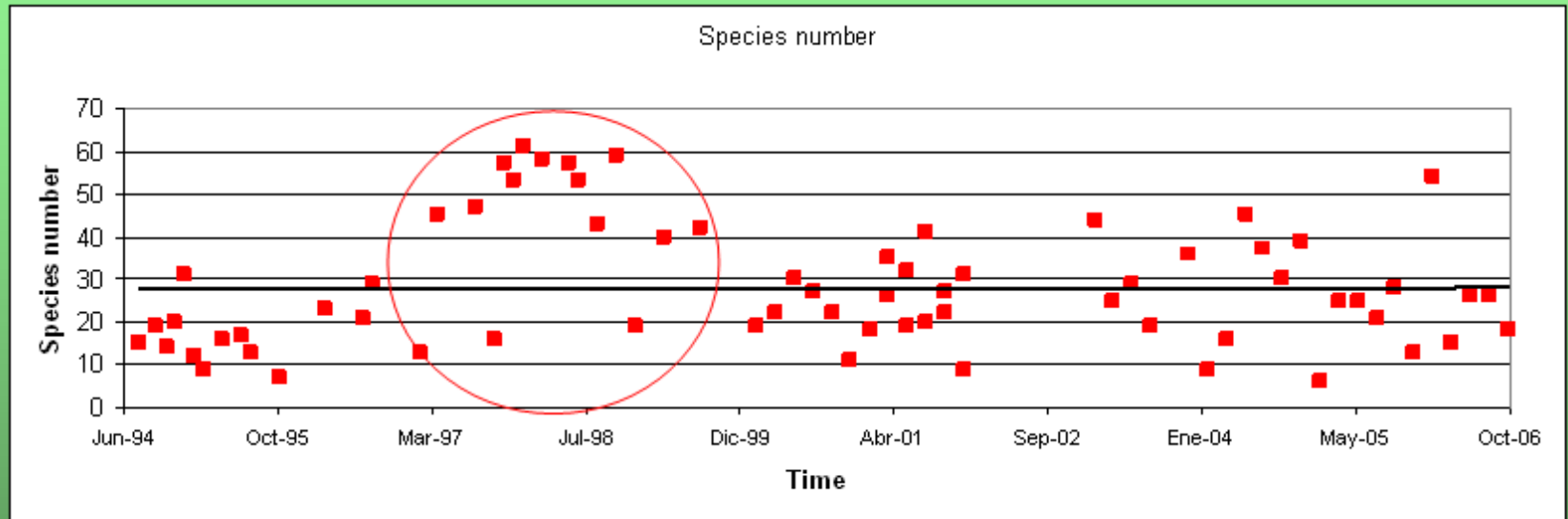
## RELATIVE ABUNDANCE OF DOMINANT COPEPOD SPECIES



## RELATIVE ABUNDANCE OF OTHER GROUPS

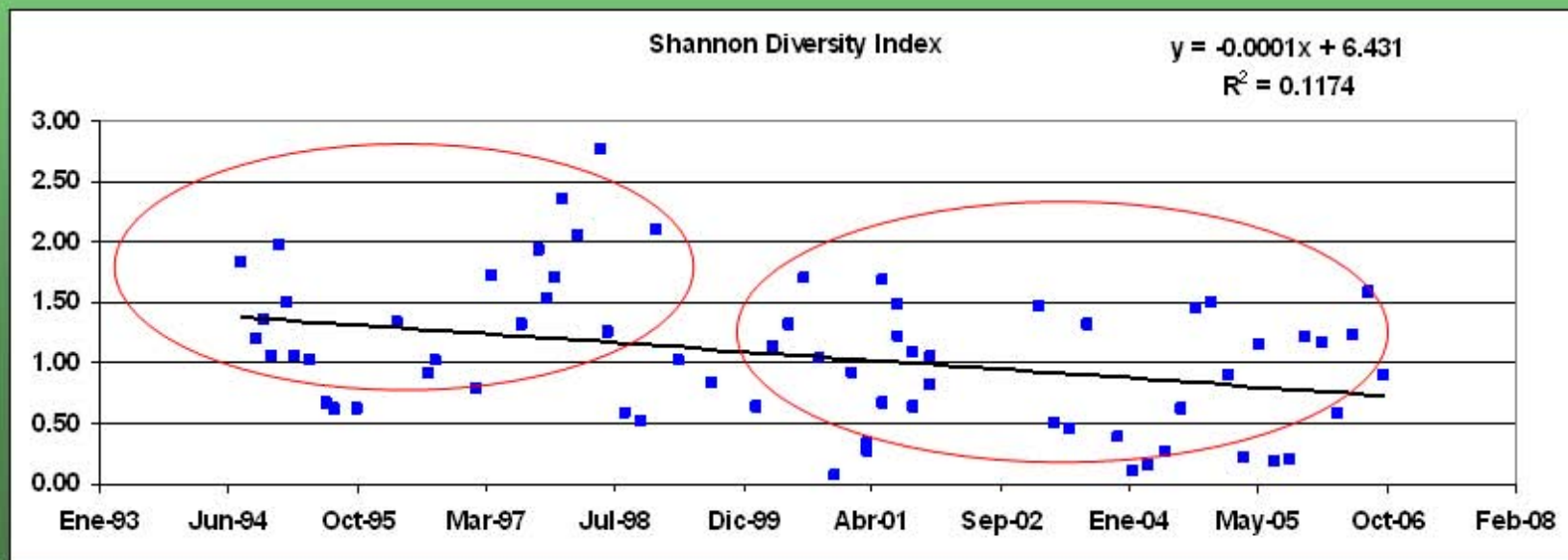
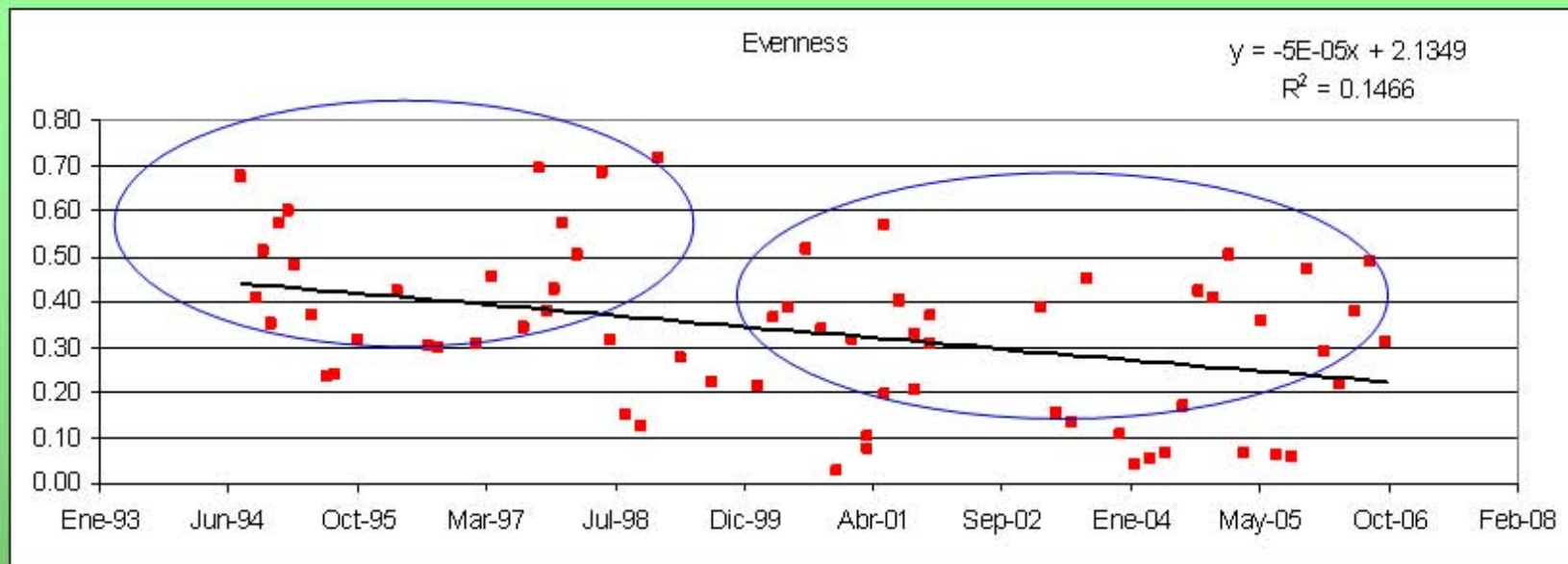


## GENERAL TREND IN SPECIES NUMBER

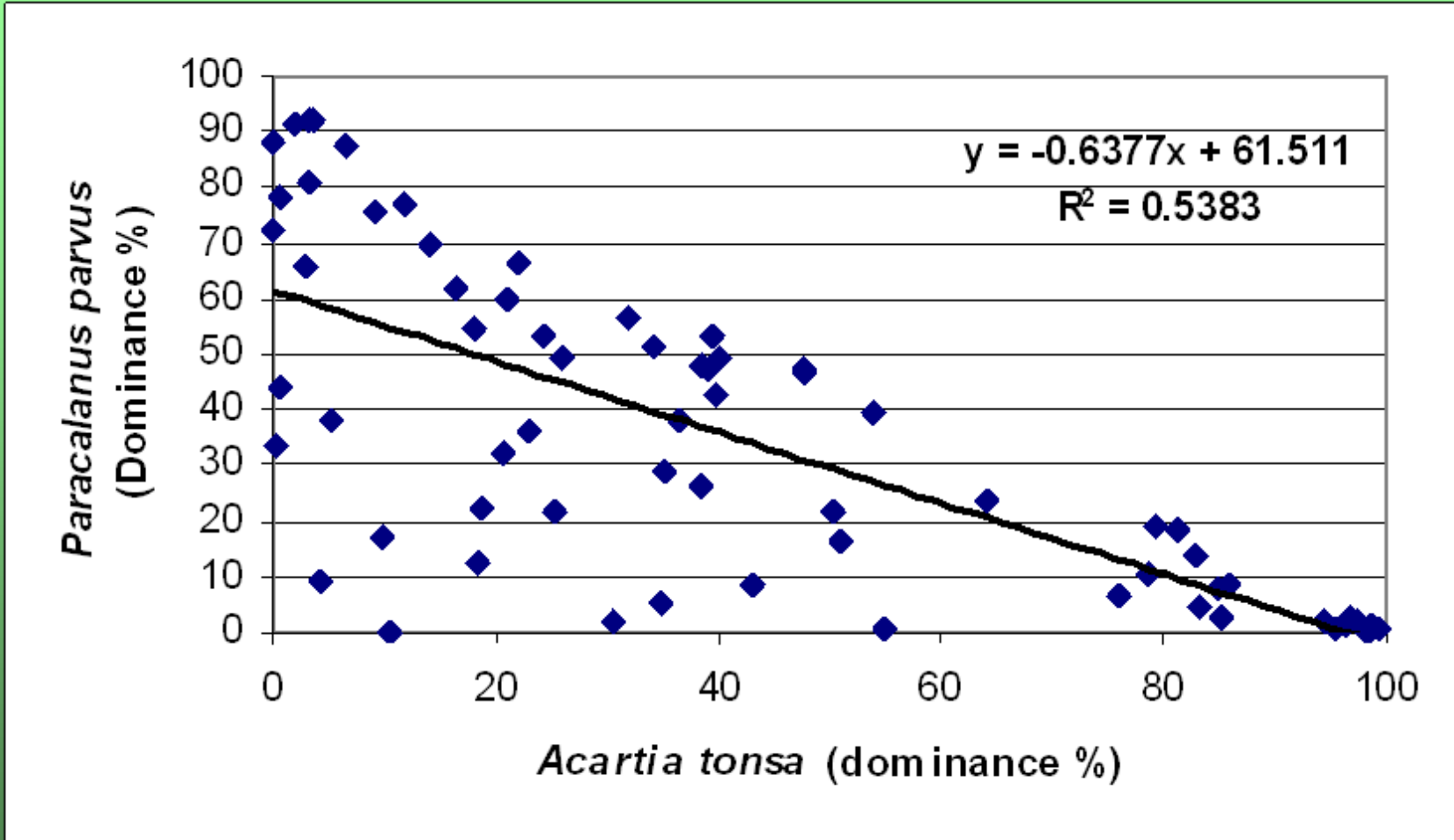




# BIOLOGICAL INDICES



SAN JOSE



# CONCLUSIONS

- The zooplankton community is more diverse and abundance is higher off Paita than off San Jose, probably due to environmental variability (front of encounter of three different surface water masses).
- Copepods dominate both communities. However, at Paita, euphausiids are also important.
- *Acartia tonsa* dominates in cold waters phases, while *Paracalanus parvus* is more abundant during warm waters phases.
- Only the strong El Niño 1997-98 affected the abundance of both communities.
- After ENSO 97-98 changes were noticed in the abundance of *Acartia tonsa* and the biological indices.

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**Variability in zooplankton community indexes at  
two coastal areas of Peruvian waters between  
1994 and 2006**

**Arigato gozaimasu!  
¡Muchas gracias!  
Thank you very much!**