



Impact of mesoscale features for ocean biology: a brief qualitative approach of zooplankton

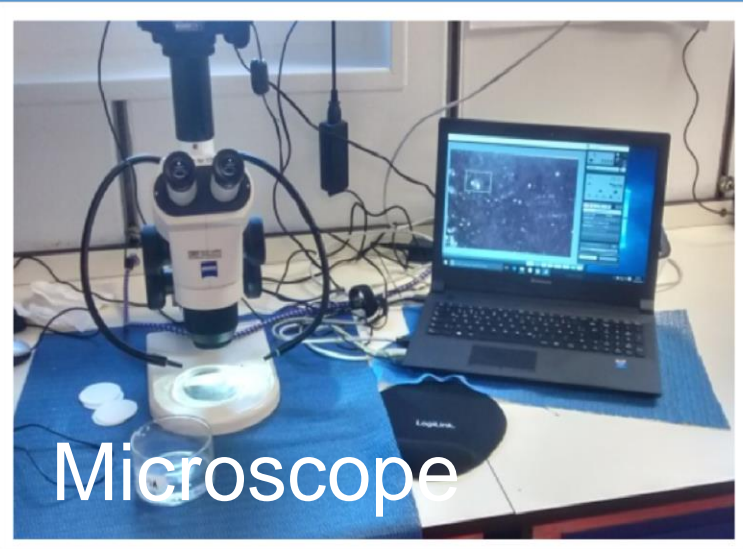
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Introduction

Mesoscale processes, such as Agulhas eddies contribute to heat flux, therefore impacting on the physics and chemistry of the northern area of the Southern Ocean, which can change biogeochemical cycles. They may be linked to the supply of new nutrients and elevated productivity in oligotrophic systems. In addition mesoscales eddies are important in controlling the structure and productivity of marine planktonic communities. Nevertheless, there are relatively few studies that highlight eddy-induced changes in the zooplankton community. Thus, the present study aims to contribute to the knowledge about zooplankton community associated with Agulhas eddies in the South Atlantic ocean.

Materials and methods



Zooplankton was sampled during vertical tows using a Multi-net(Multiple Plankton Sampler), with 100µm of mesh net, between 0-700 m of depth. Analysis were made by taking pictures of the organisms on a microscope. UCTD datas were use for temperature and salinity for the vertical profiles.

Results

Table 1: Estimated of group zooplanktonic in anticyclonic and clyconic eddies in South Atlantic ocean

Group	Depth	Stations									
		214	227	239	252	265	278	193	332	344	356
Acantharia	20-0										
	100-80										
	700-500										
Amphipoda	20-0										
	100-80										
	700-500										
Appendicularia Fritillaria	20-0										
	100-80										
	700-500										
Appendicularia Oikopleura	20-0										
	100-80										
	700-500										
Chaetognaths	20-0										
	100-80										
	700-500										
Copepoda	20-0										
	100-80										
	700-500										
Ctenophore	20-0										
	100-80										
	700-500										
Decapod larvae zoea	20-0										
	100-80										
	700-500										
Doliolids	20-0										
	100-80										
	700-500										
Euphausiacea	20-0										
	100-80										
	700-500										
Fish larvae	20-0										
	100-80										
	700-500										
Gymnosomata	20-0										
	100-80										
	700-500										
Hydromedusae	20-0										
	100-80										
	700-500										
Lobster larvae	20-0										
	100-80										
	700-500										
Lucifer	20-0										
	100-80										
	700-500										
Mollusk larvae	20-0										
	100-80										
	700-500										
Ostracoda	20-0										
	100-80										
	700-500										
Polychaeta larvae	20-0										
	100-80										
	700-500										
Pteropoda	20-0										
	100-80										
	700-500										
Salpida	20-0										
	100-80										
	700-500										
Tintinnids	20-0										
	100-80										
	700-500										



Study area

Cruise - 29th February to 18th March

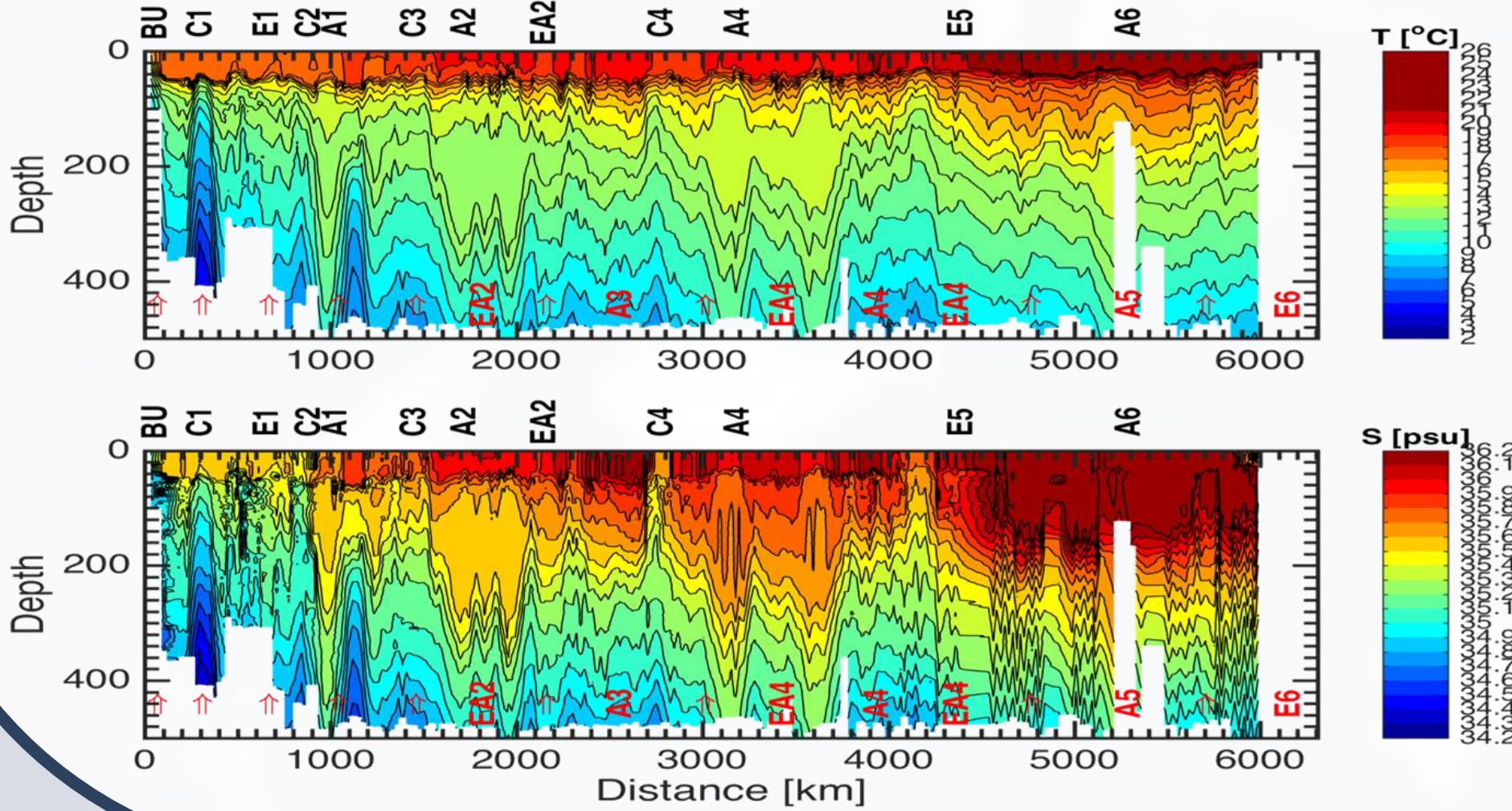
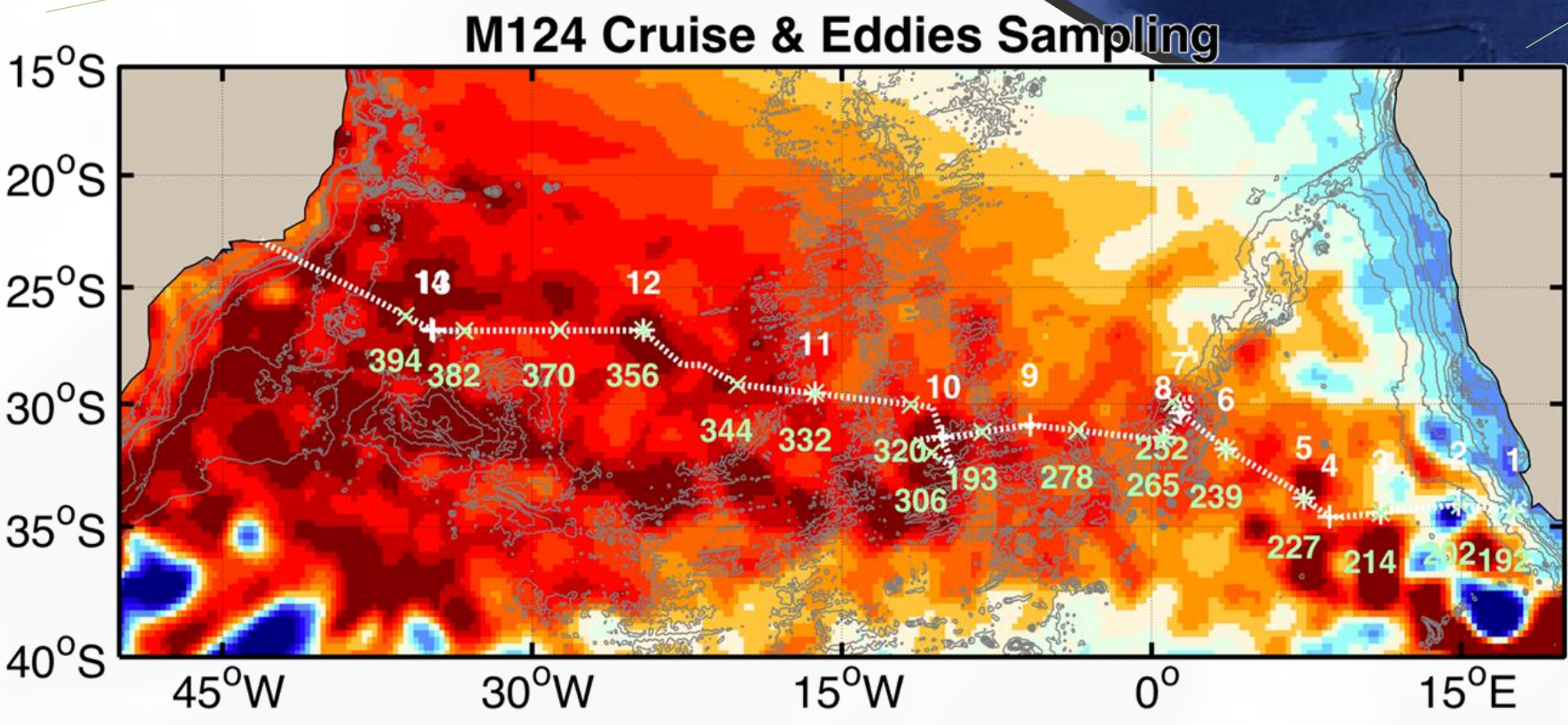
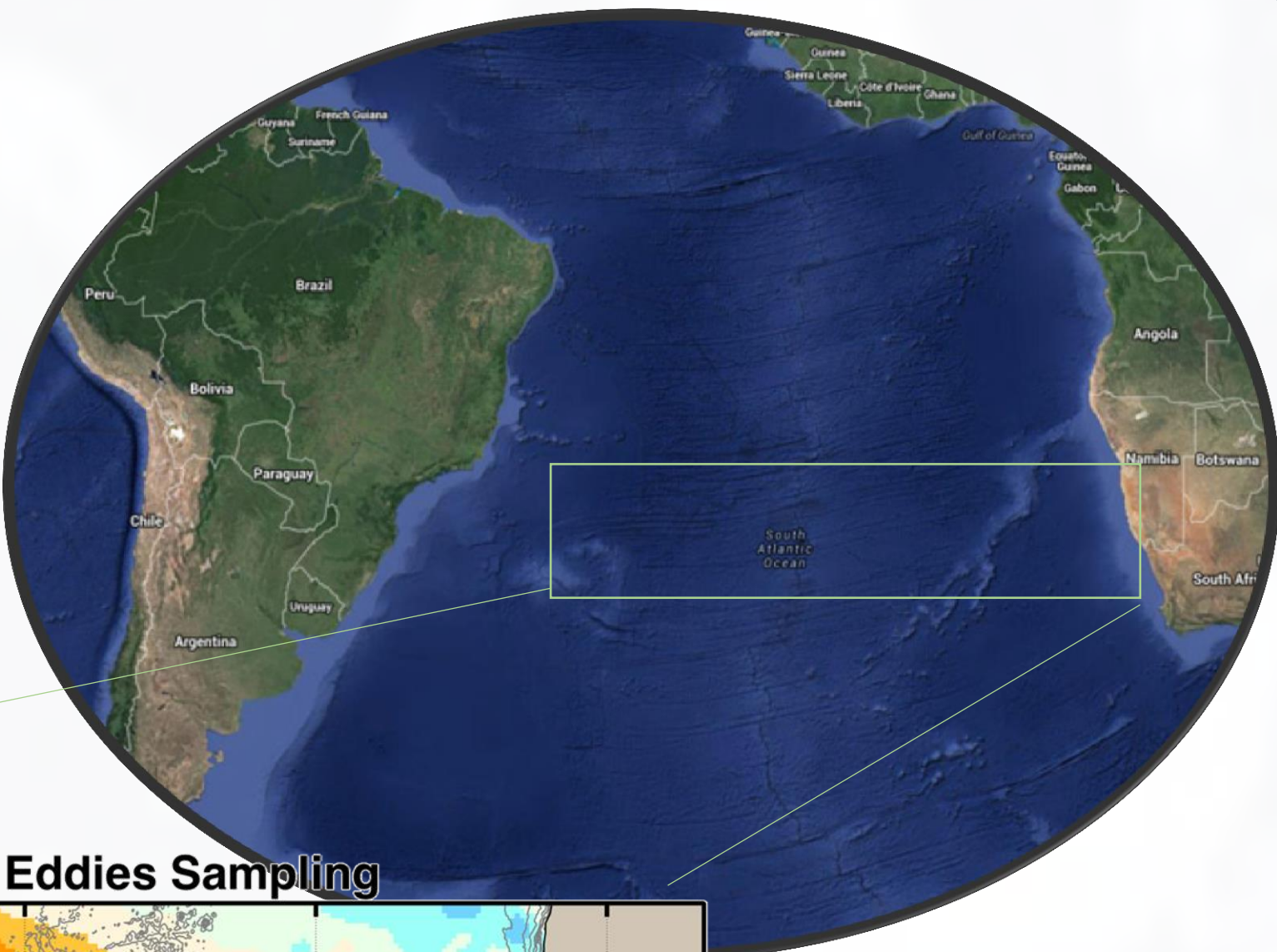


Fig.1 Temperature and salinity vertical profiles (by Sabrina Speich).

Conclusion

Acantharia and mollusk larvae seem to be associated with superficial waters, on the other hand euphausiacea and ostracodas in these results were found mostly in deeper waters, nevertheless all them have the potential to be affected by anticyclone eddies. From this point of view, water temperature and salinity can strongly influence zooplankton distribution patterns. Futhermore, it is important to undertake more studies concerning zooplankton communities, since these analysis were made based on great groups. It is well known that in each group, several species might be present in different water masses.

References:

Boltovskoy, D., Correa, N., Boltovskooy, A. 2003. Marine zooplanktonic diversity: a view from the South Atlantic. Oceanologica Acta, 25: 271-278.
Pakhomov, E.A. & Perissinotto R. 1997. Mesozooplankton community structure and grazing impact in the region of the Subtropical Convergence south of Africa . Journal of Plankton Research, 6: 675-691.