



Fluctuation of small pelagic species in response to exploitation and environmental variations: the case of Mauritania.

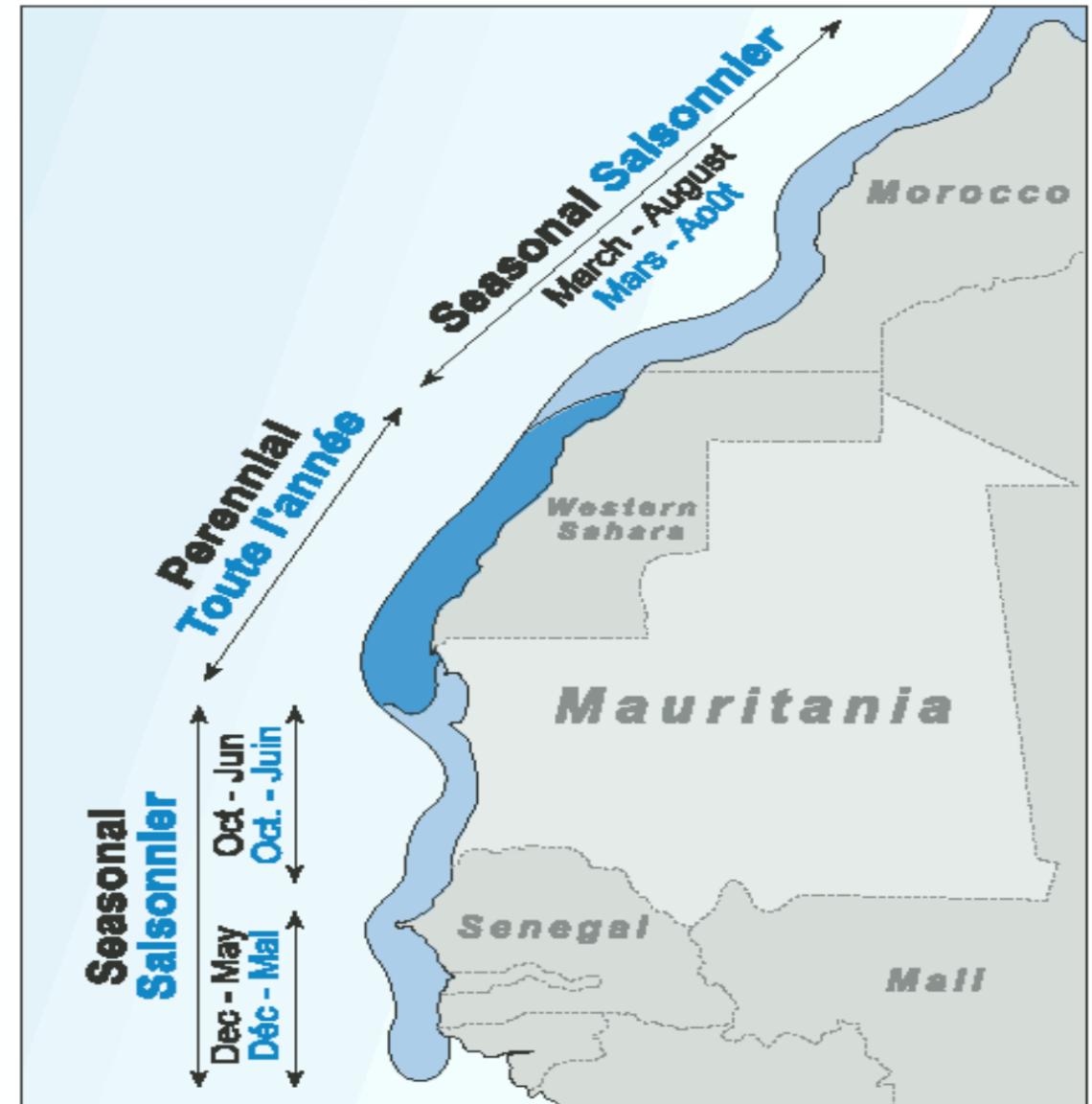
Cheikh Baye Braham
Mohamed Ahmed Jeyid
Bambaye Hamadi

Small pelagics in the North West African zone: transboundary resources

- Small pelagics: movement from southern Morocco to Senegal
- strong seasonal and interannual variability.
- Upwellings: main source of enrichment of these very fluctuating ecosystems.

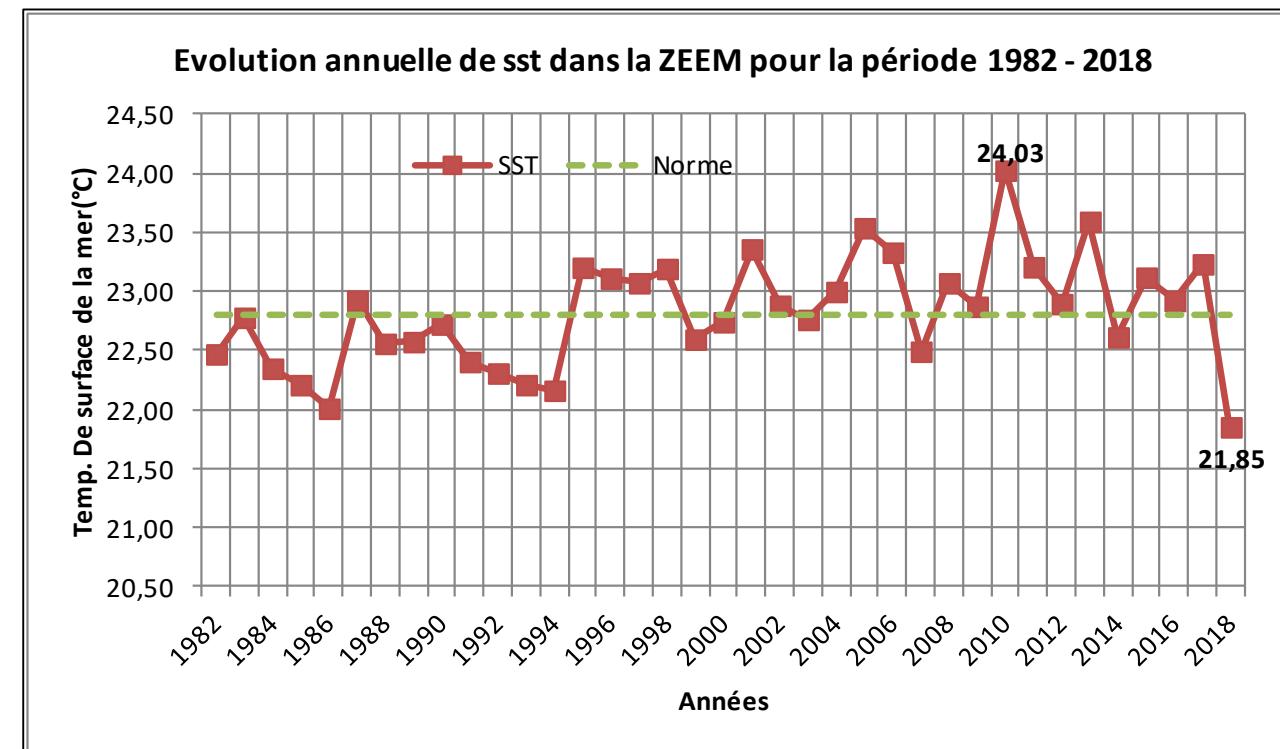
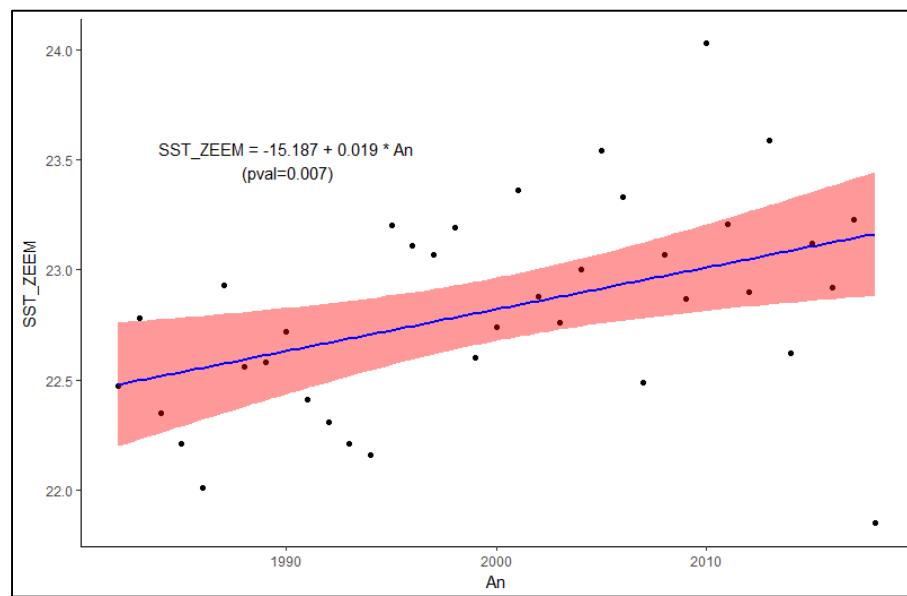


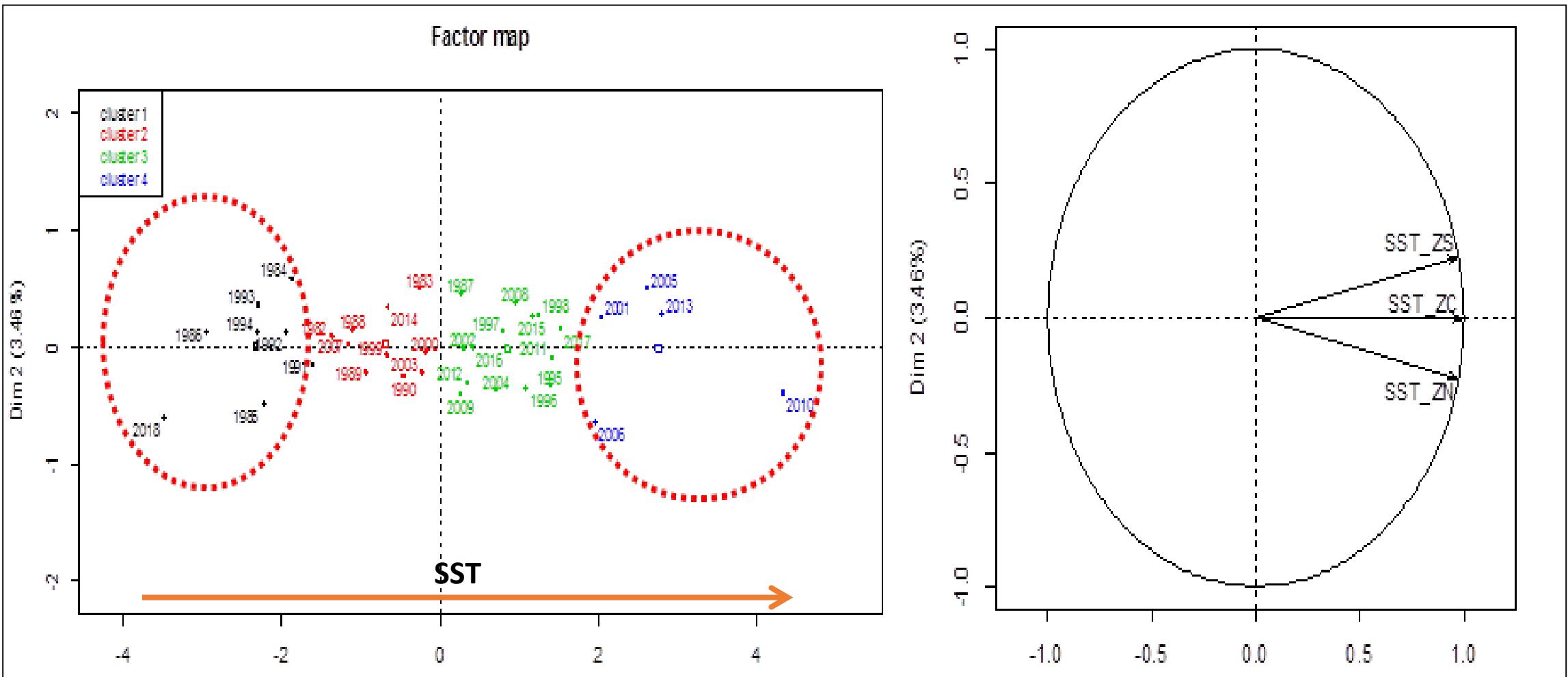
Are there any changes that can be allocated to the environment



Main climate parameters: SST

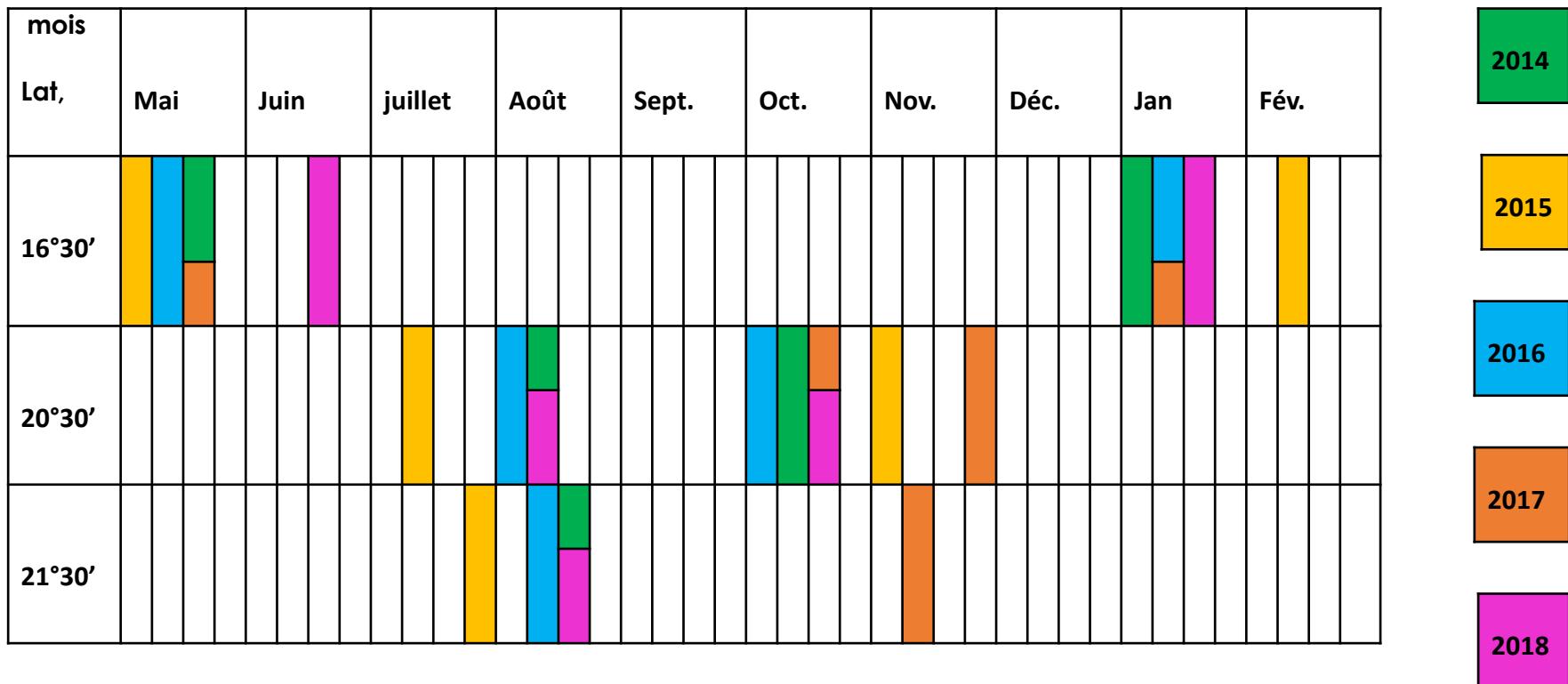
- The SST is a main physical parameter of the formation of water masses and a determining factor for the reproduction and migration of species
- The EMZ is located in a transition zone between two systems: the cold current to the north and the warm current to the south;





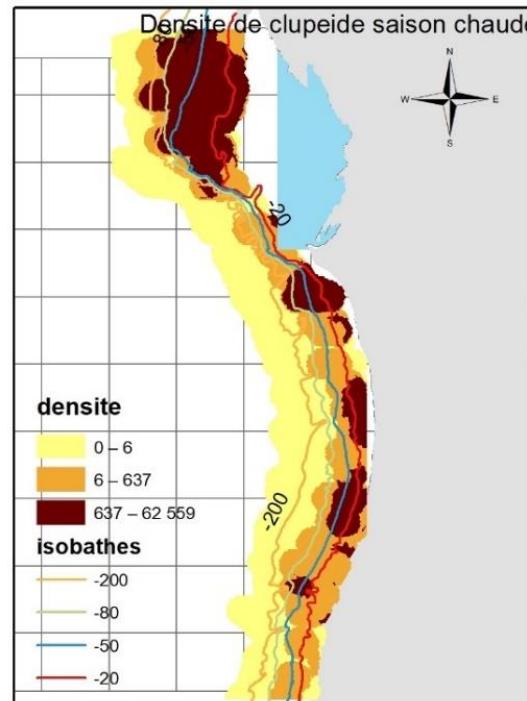
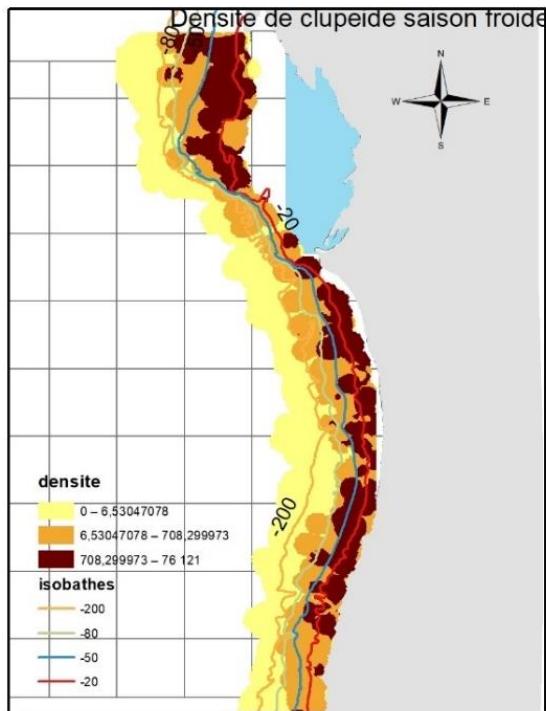
Thermal Front

- The thermal front is the result of the meeting of the two main currents in the area, namely the Canary Current and the North Equatorial Counter Current (Guinea Current): $22^{\circ}\text{C} \leq FT \leq 24.0^{\circ}\text{C}$
 - Determine the residence and the periods of entry and exit of the thermal front in the EEZ;
 - Determine the stay of warm waters in the EEZ;

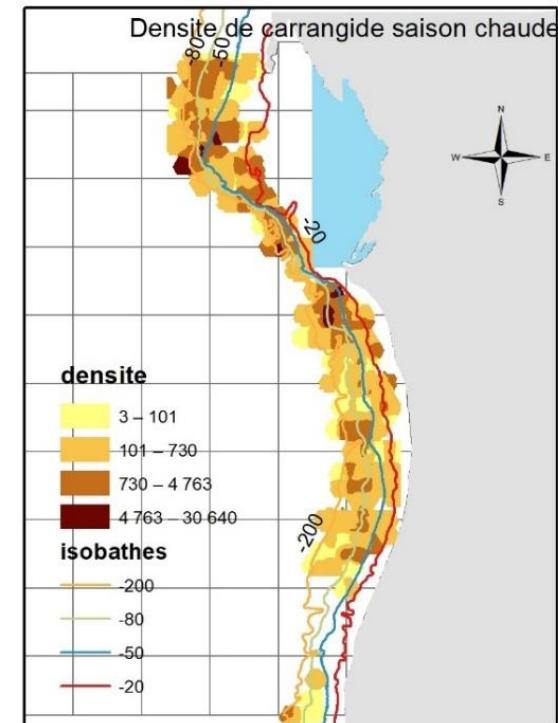
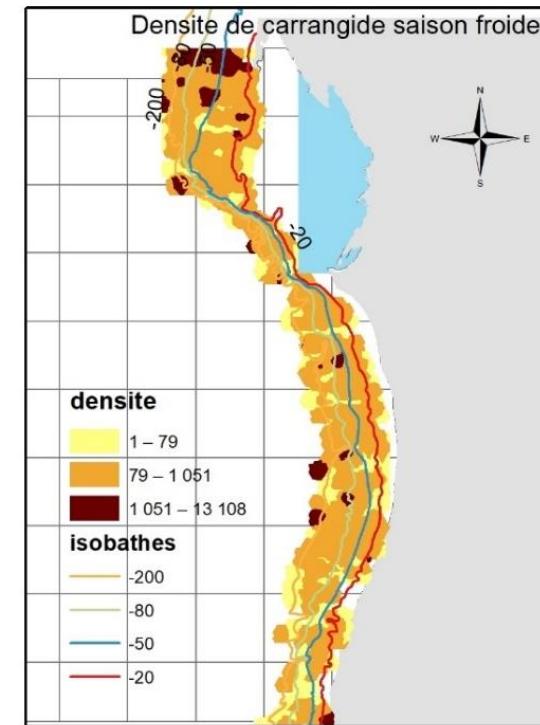


Two main pelagic resources stand out: acoustic campaigns

Clupéidés

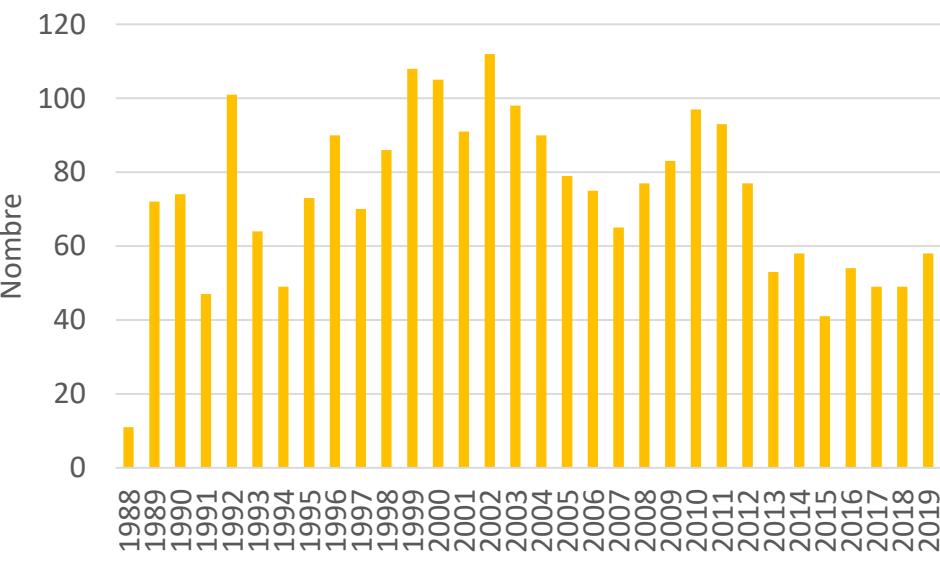


Carangidés

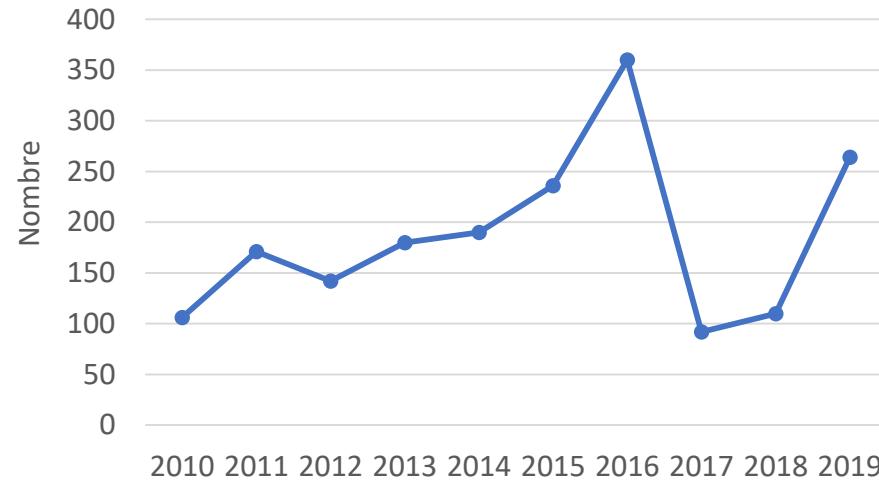


Presence of an efficient fleet

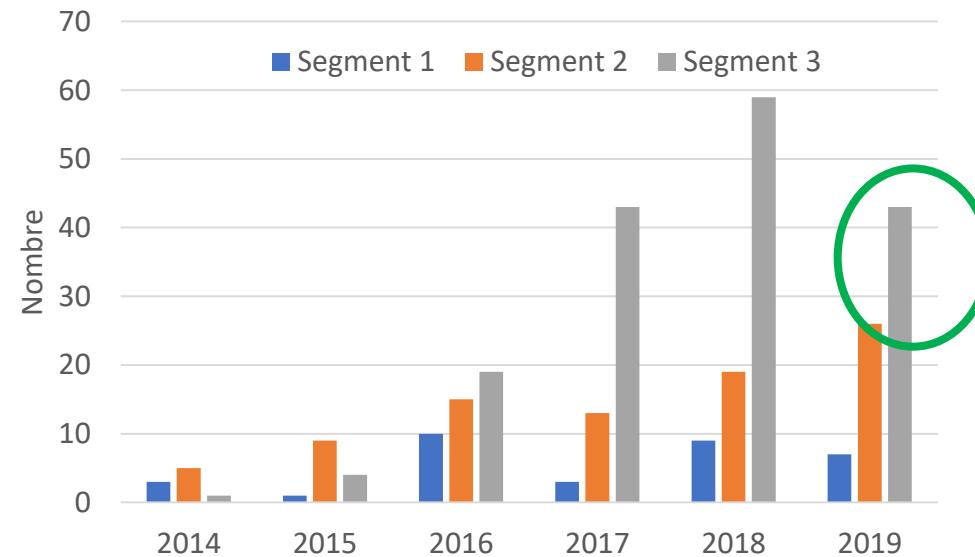
Offshore fishing



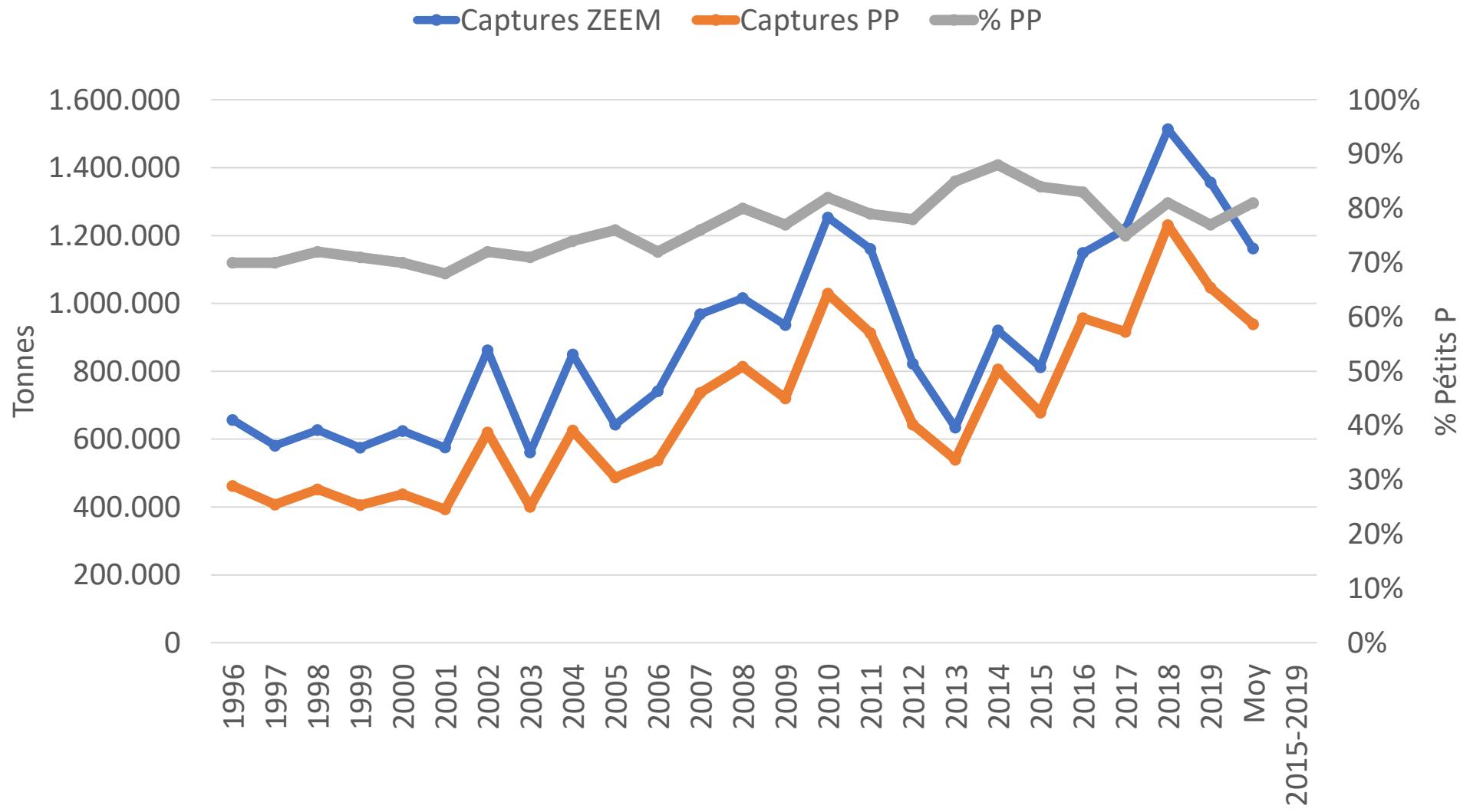
Seiner canoes



Inshore fishing boats

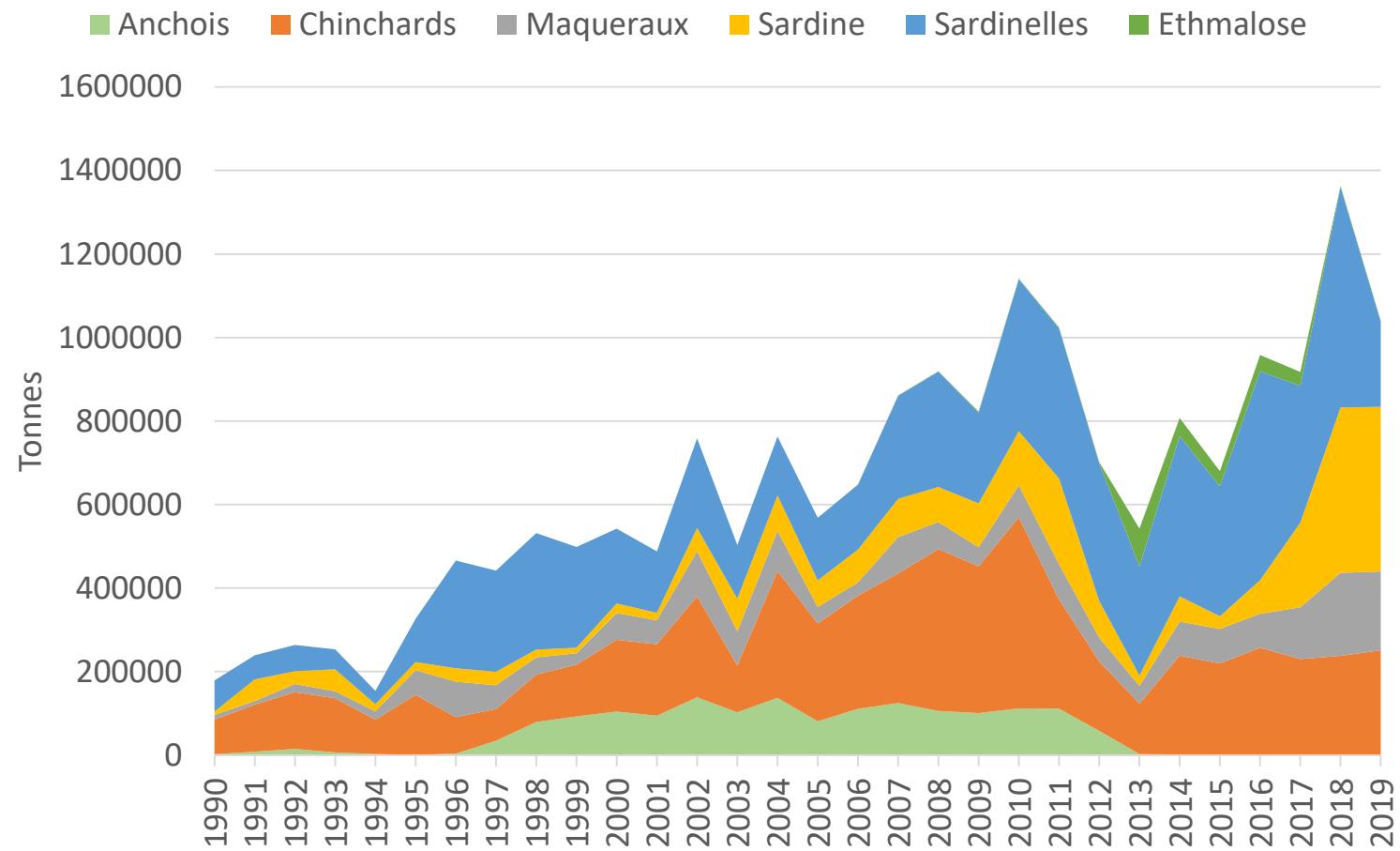


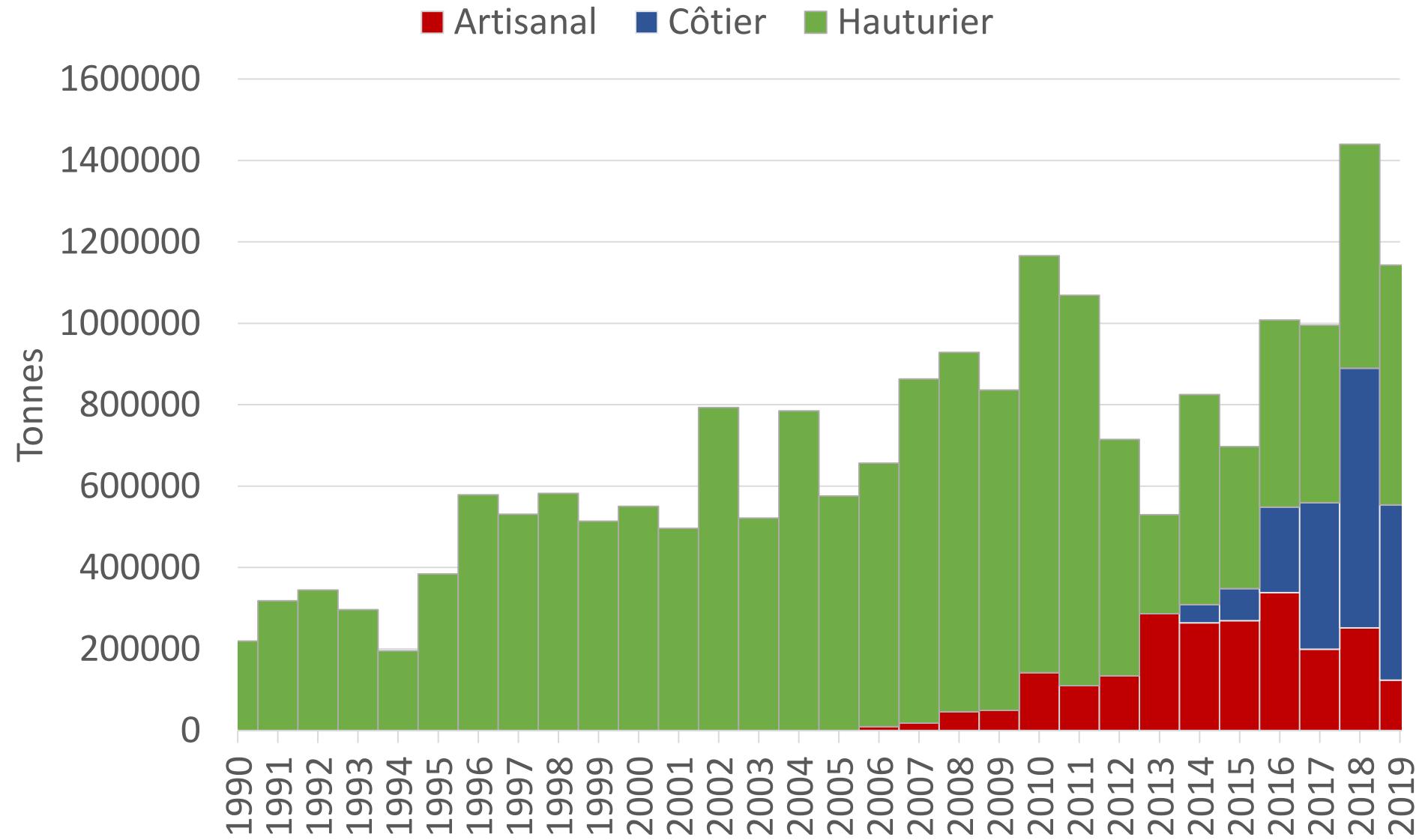
Pelagic catch trend



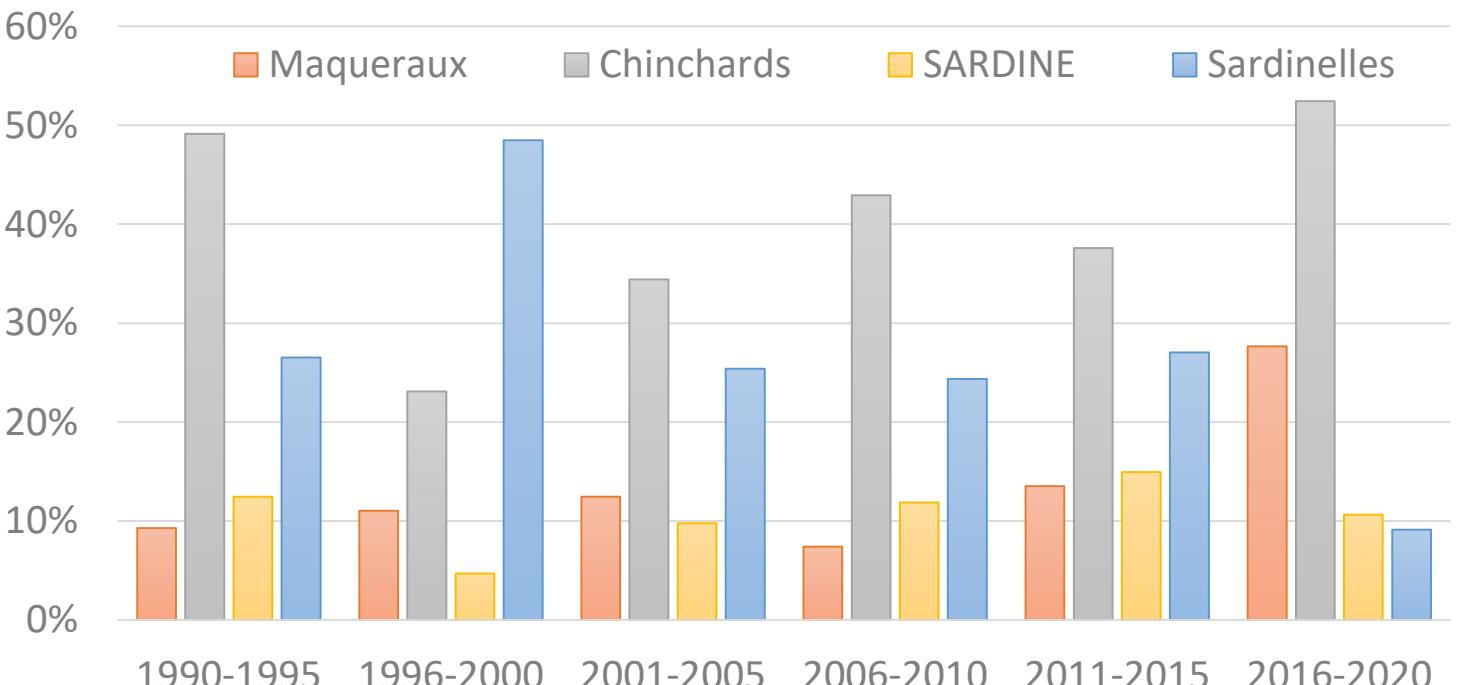
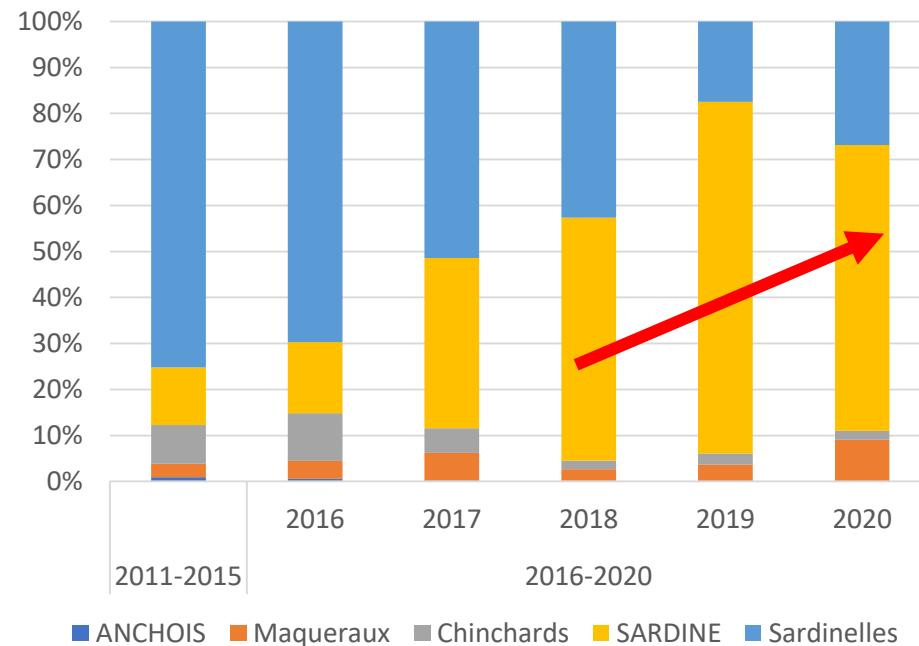
Evolution of small pelagic catches by species in the Mauritanian EEZ between 1990 and 2019.

- *Sardinella maderensis*
- *Sardinella aurita*
- *Trachurus trecae*
- *Trachurus trachurus*
- *Caranx rhonchus*
- *Scomber colias*
- *Sardina pilchardus*
- *Engraulis encrasicolus*
- *Ethmalosa fimbriata*

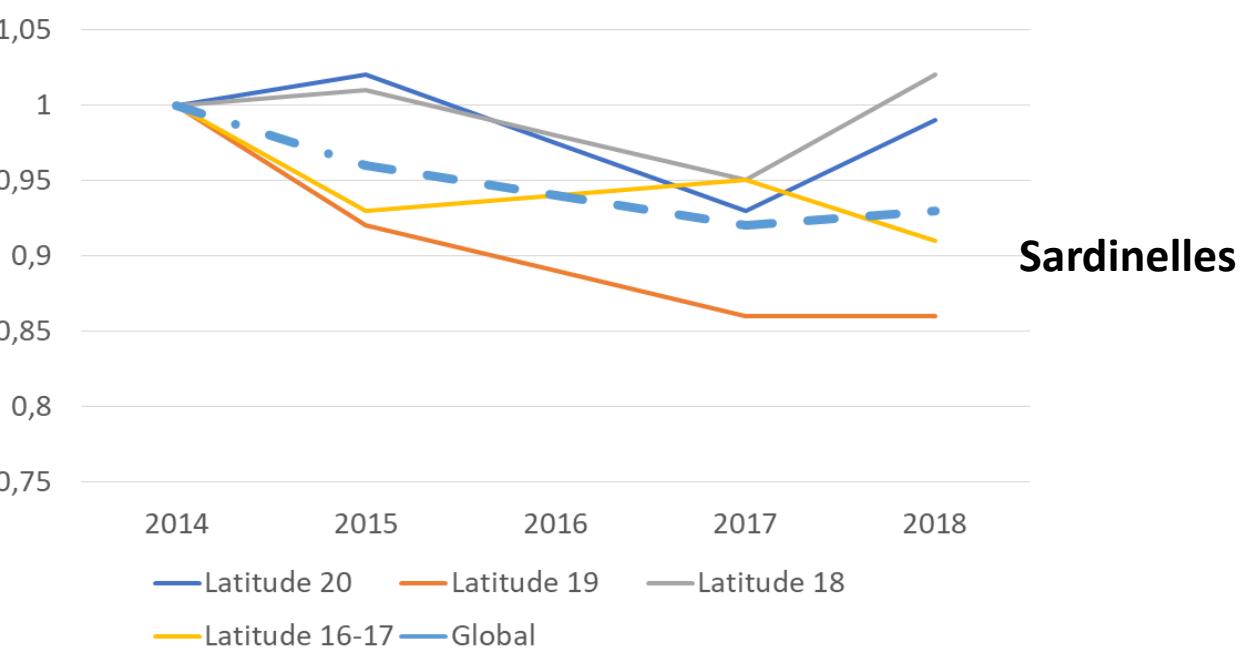




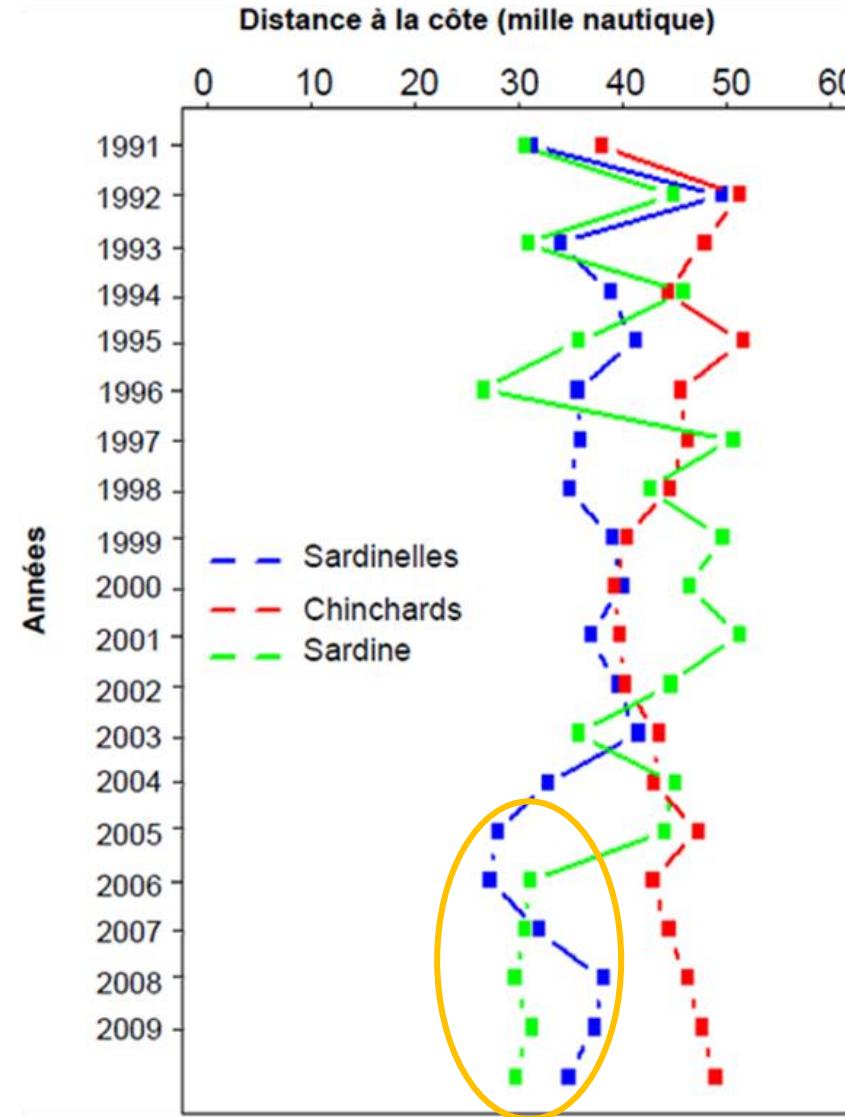
Coastal Fishing

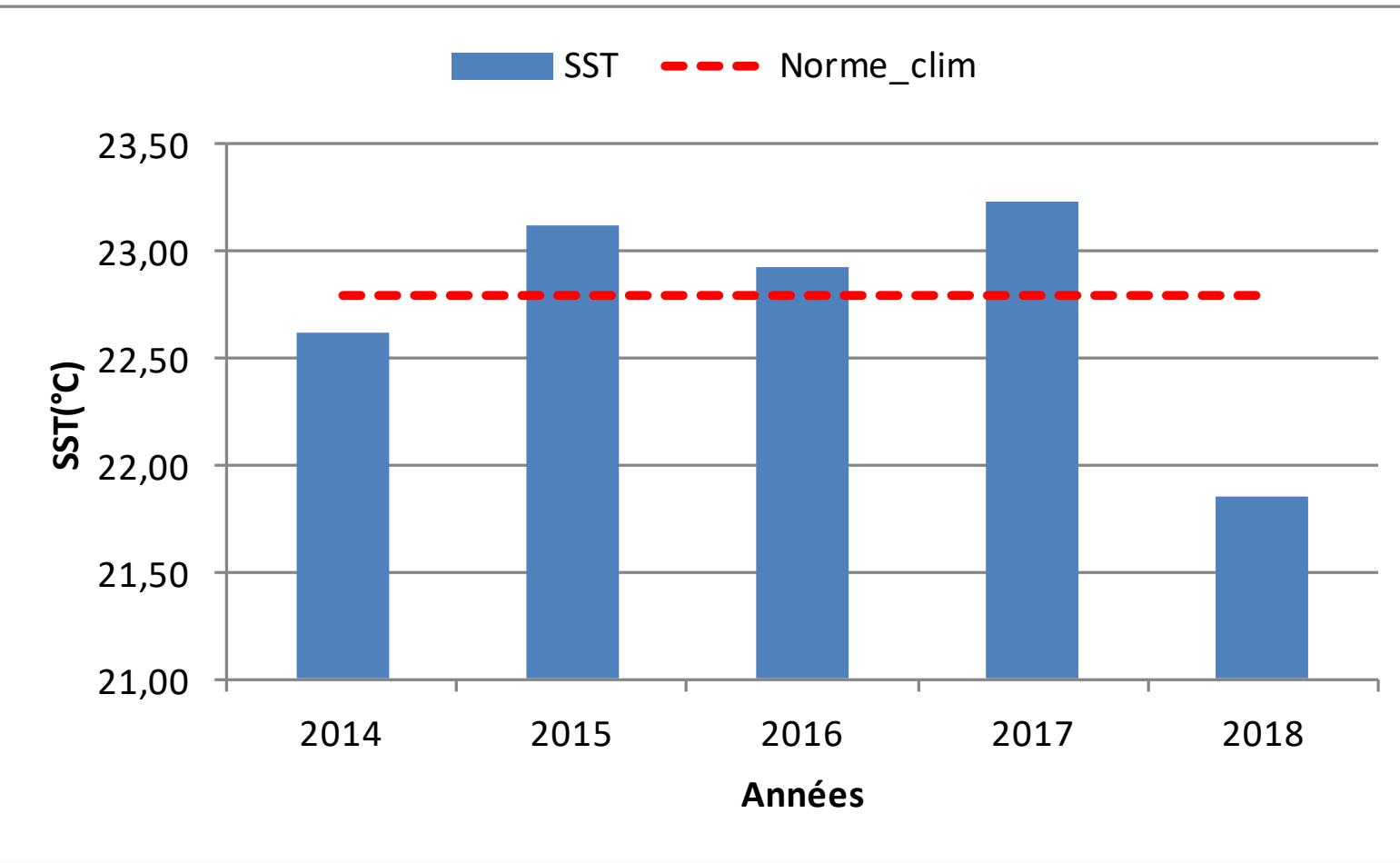


Sardinelles



Presence of the species in relation to the coast





Conclusions and perspectives

- Global warming in the area
- Some years are colder (year 2018)
- Strong pressure on the coastal zone after a strong concentration in this area
- Change in species distribution:
- Focus research activities on the study of the relationship between resource and environment

Merci de Votre attention