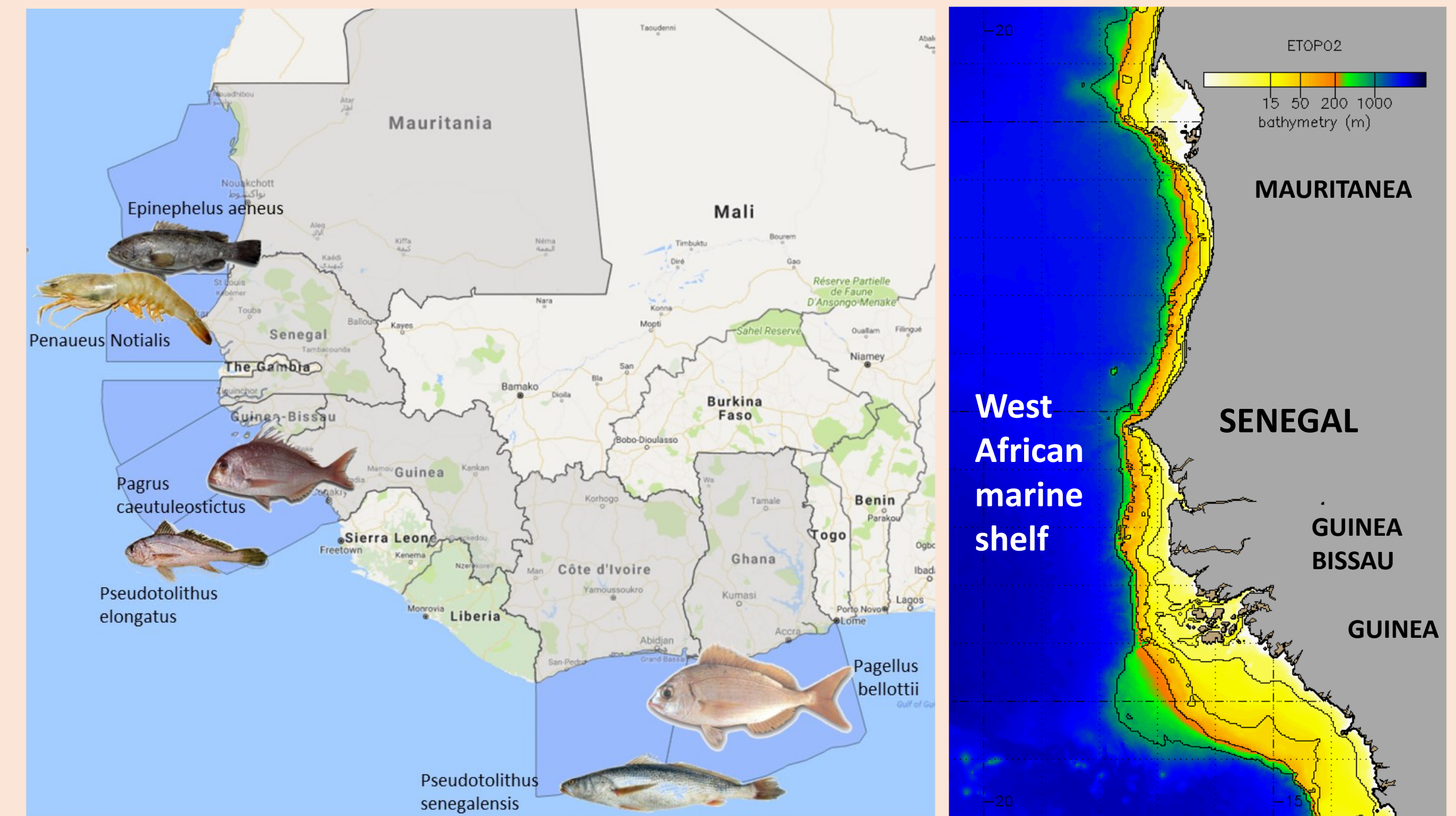


Topography of the study area of DEMERSTEM



1 Introduction

An indicator approach was developed in DEMERSTEM (WP4) to address the practical concerns linked to the objective of monitoring EAF indicators, computed in a standardized way, using data from different sources available in West Africa. The present study is an application of this approach for a comparative assessment of the Mauritania, Senegalese and Guinean marine ecosystems.

2 Data and ecological indicators

Research Survey data

In West Africa, there are long-term scientific research surveys and statistic data.

- **Mauritanian EEZ** - Data Sources surveyed catches : **IMROP database**
Surveys data over the **1997-2015** period
- **Senegalese EEZ** - Data Sources Landings and surveyed catches : **CRODT database**
Surveys data over the **1981 -2016** period
- **Guinea EEZ** - Data Sources surveyed catches : **CNSHB database**
Surveys data over the **1985 -2021** period

Research vessels

N/O Al-Awam, depuis 1997

- Length : 37.03 m
- Width : 7.8 m
- Draft : 3.3 m
- Power : 1000 hp
- Gross reg. tonnage (GRT) : 301 Tx
- Speed : 10 knots
- 8 scientific posts



N/O Itaf DEME, depuis 2000

- Length : 37.4 m
- Width : 8.1 m
- Draft : 3 m
- Gross Reg. Tonnage (GRT) : 318 Tx
- Speed : 11 knots
- Engine horsepower: 1100 hp
- 8 scientific posts



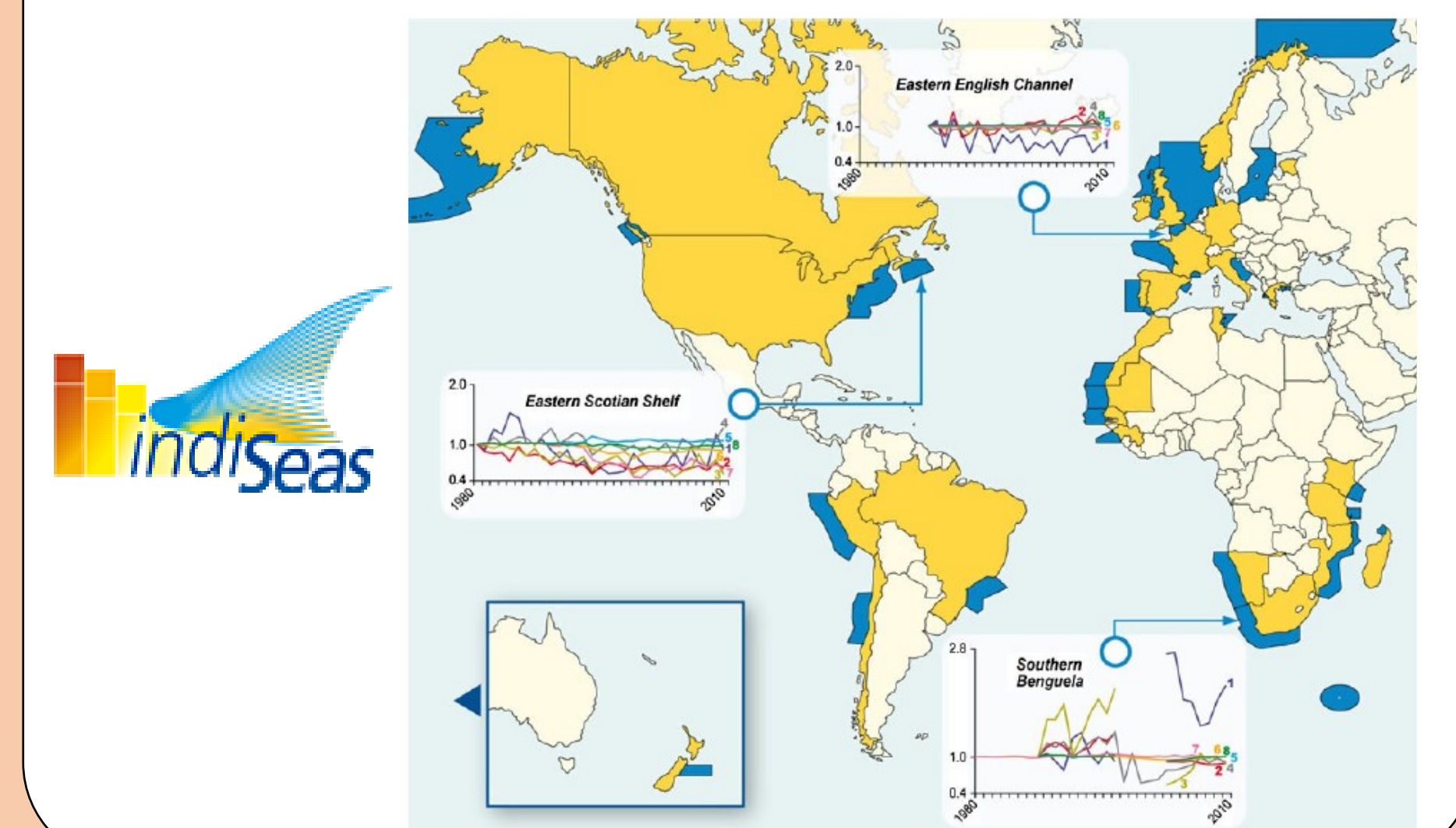
N/O Général Lansana CONTE, depuis 2003

- Length : 29.93 m
- Width : 7.30 m
- Draft : 3.25 m
- Power : 750 hp
- Gross Reg. Tonnage (GRT) : 198 Tx
- Speed : 10 knots
- 8 scientific posts



Biodiversity and ecological indicators

About 10 ecological indicators – derived from indiseas (<http://www.indiseas.org/>) and additional ones - are estimated from cruise data and fishing statistics and their trends are analyzed along four decades.

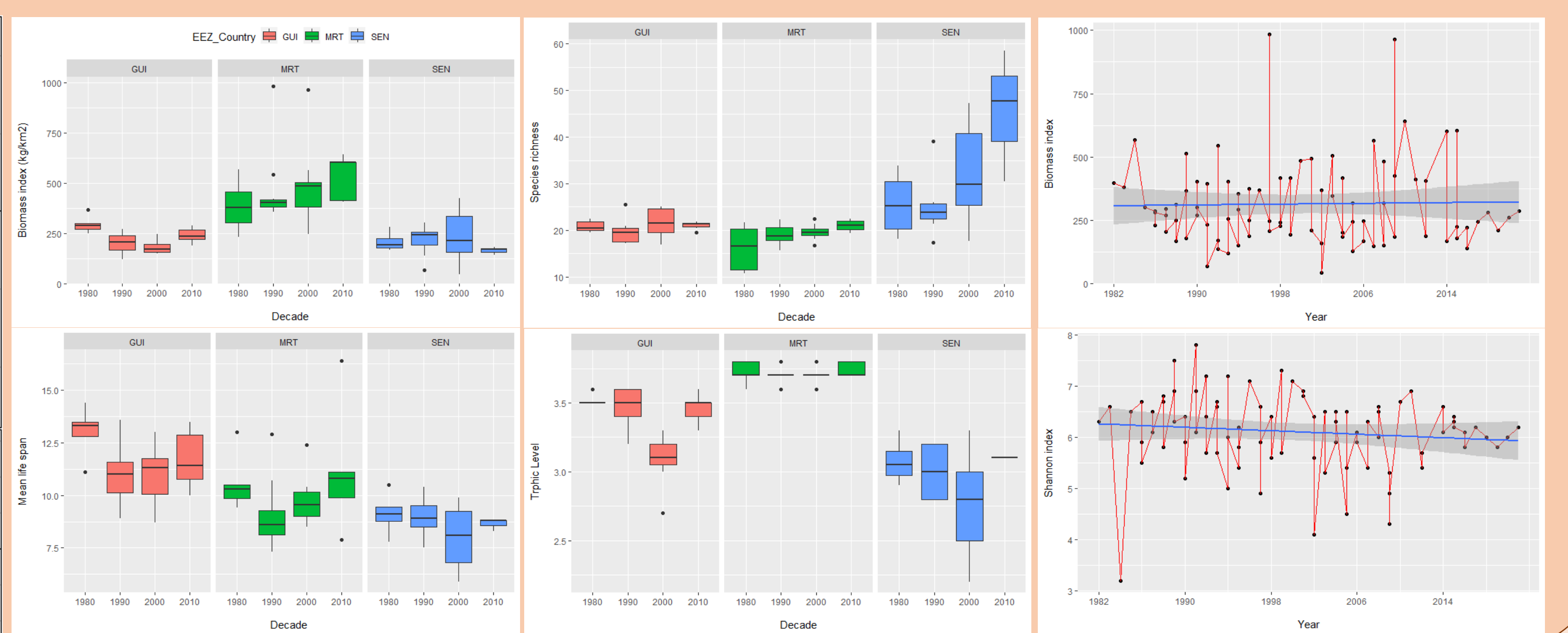
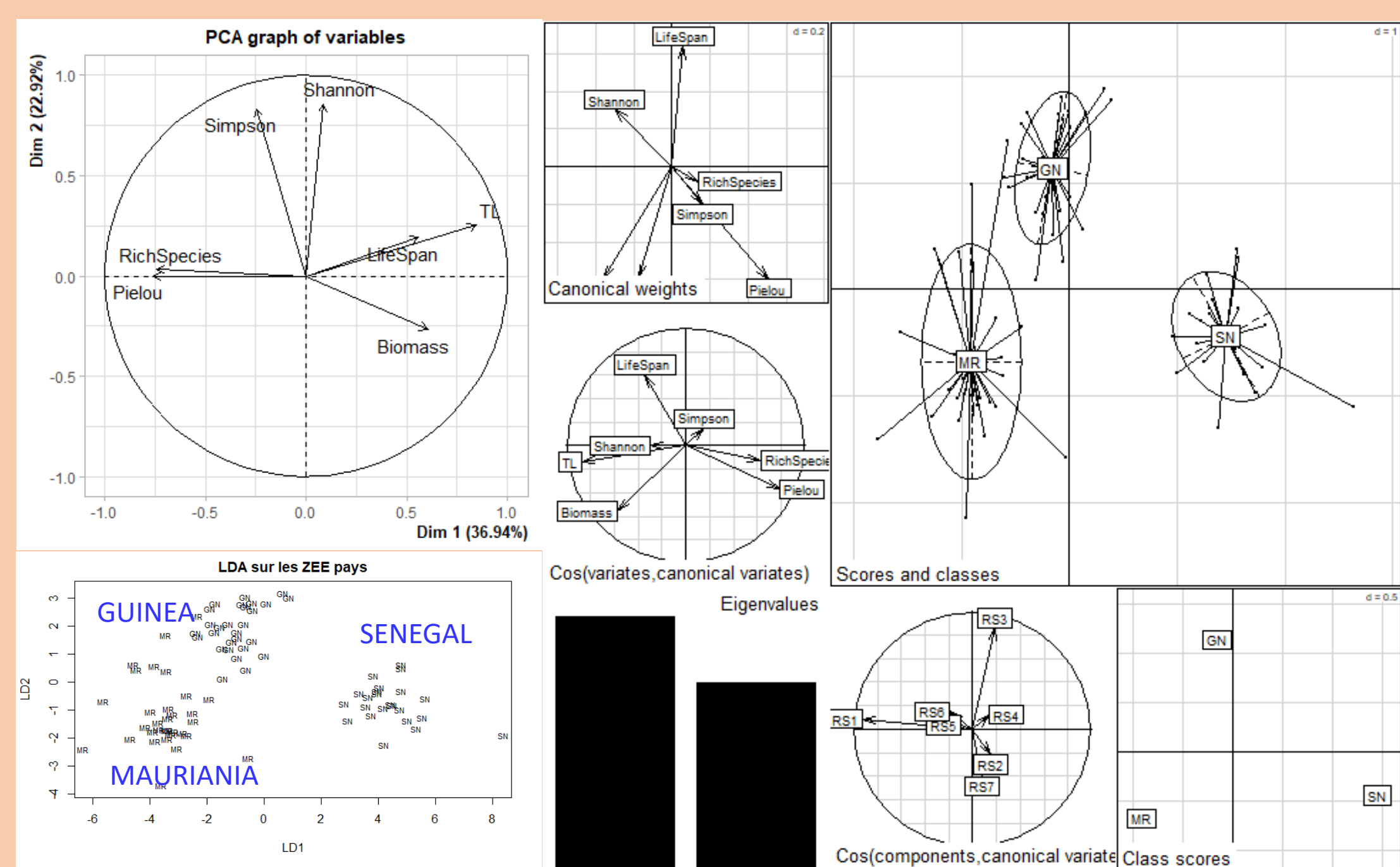


3 Results

The functional structure of coastal ecosystems are different. Mauritanian ecosystem is characterized by high biomass, the Guinean ecosystem by large predators and Senegal by shorter-lived species.

The Mauritanian ecosystem biomass is higher. The Senegalese ecosystem is more rich in biodiversity. And in Guinean ecosystem, predators are abundant.

At the scale of the West African region, biomass and biodiversity are relatively stable.



4 Conclusion

- The comparative assessment of the three marine ecosystems indicate that the structure of West African ecosystems is different, which proves the different level of exploitation according to the fisheries management system,
- Indicators analysis results show a relatively stable state of biomass and biodiversity in the West African zone.
- The analysis of the results recommends the implementation of ecosystem-based fisheries management that respects the sustainability of resources and the ecosystems state of health in West Africa.

References :

Coll M., Shannon L.J., Kleisner K.M. et al. 2016. Ecological indicators to capture the effects of fishing on biodiversity and conservation status of marine ecosystem. Ecological Indicators 60 (2016) 947–962.
 Shin Y-J., Bundy A., Shannon L., Simier M., Coll M., Fulton E., Link J., Jouffre D., Ojaveer H., Mackinson S., Heymans J., Raid T. 2010. Can simple be useful and reliable? Using ecological indicators for representing and comparing the states of marine ecosystems. – ICES Journal of Marine Science, 67: 717-731.

