

Characterization of Cr. gigas oysters mortalities according to the French Ifremer/REMORA monitoring network ; with complements from phytoplankton and meteorological data

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Spring+Summer mortalities

1) Distribution of the mortalities

Average mortality = 10-20% /year
 Importance of Spring + Summer mortality

Year-class and Sites :

- Juveniles mortalities occur in Marennes and several sites of Brittany.
- 2-year-oysters mortalities occur in same sites + baie des Veys with more differences according to years

Baie des Veys →

Brittany →

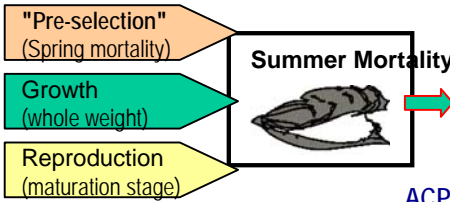
Marennes →

Juvenile oysters

2-years oysters

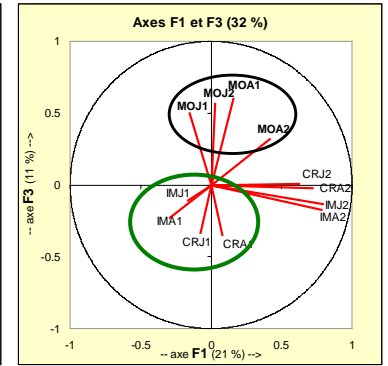
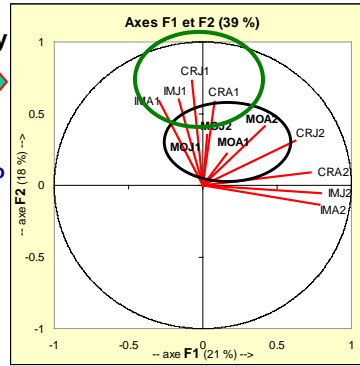


2) Internal (physiological) factors ?

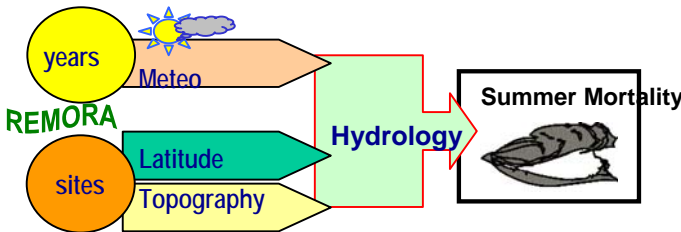


Legend of ACP :
 MO: mortality rate ; IMA: maturation rate ; CR: growth
 J: juvenile oysters ; A: 2-years oysters
 1: Spring - 2: Summer - 3: Autumn

Mortalities appears connected to Spring growth and gonad maturation.

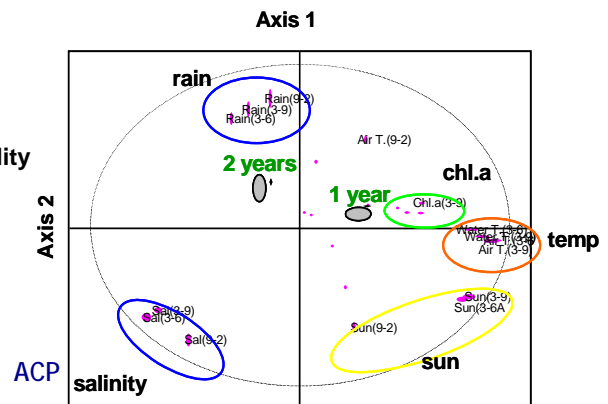


3) External (environmental) factors ?



ANOVAs of transformed data : $-\log(M+0.5\%)$

Differences between the 2 year-classes:
 - 1-year : mainly SITE effect (geography)
 = 51% of sum of variances
 - 2-years : mainly YEAR effect (meteo)
 = 74% of sum of variances



ACP → Differences between the 2 year-classes :
 - 1-year : Food and temperature effect (Site dependent)
 - 2-years : Rain effect (Year dependent)

4) General conclusion

Causes of mortality may be somewhat different between juvenile (geographical factors) and 2-years old oysters (meteorological factors).

Ref. : Soletchnik P., Ropert M., Mazurié J., Fleury P.G. & Le Coz F., 2007. Relationships between oyster mortality patterns and environmental data from monitoring networks along the coasts of France. *Aquaculture* 271,1-4: 384-400