High temporal resolution study all year round of *Pelagia noctiluca* in the NE Alboran Sea

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**INTRODUCTION**

The scyphozoa *Pelagia noctiluca* is the most common scyphozoan appearing on the Northern Alboran coast (Southwestern Mediterranean). This jellyfish has considerable socioeconomic consequences on human coastal activities and has a great negative impact on the ecosystem. When swimming is perceived as a “dangerous” activity due to the presence of jellyfish, tourists disappear. The economic damage is evident and can be serious when tourism is the main source of income, as is the case in many Spanish coastal economies.

**STUDY AREA**

The abundance of *P. noctiluca* was studied at a fixed station in La Herradura, Coast of Granada, Southern Spain (38.7202°N, 3.7283°W), between July 2012 and April 2016.

**MATERIALS AND METHODS**

In order to characterize which are the time windows of increased proliferation of *P. noctiluca* and their connection with the physical environment, several meteorological and oceanographical variables were analysed.

**DAILY ABUNDANCE OF PELAGIA NOCTILUCA**

Daily data were collected during seashore surveys recording the presence or absence of jellyfish and additional data were gathered in situ during snorkel surveys. Besides, everyday sea surface water temperature and salinity were measured using a CTD (conductivity, temperature, depth) probe.

**DATA COLLECTING**

- **Abundance**
  - 1 individual
  - 2-5 ind.
  - 6-10 inds.
  - 11-50 ind.
  - 51-100 ind.
  - 101-500 ind.
  - More than 501 ind.

**RELATION OF SUMMER ABUNDANCE WITH DJFM MEAN VALUES**

- Winter month with less rain seems to influence a higher abundance of jellyfish during the Summer months.
- Negative NAO (North Atlantic Oscillation) index and AO (Arctic Oscillation) index in Winter may affect lower abundance of *P. noctiluca* during the following Summer.
- The jellyfish Summer population appears to be influenced by a lower air temperature.
- Lower wind and wave stress seems to affect a higher abundance.

**MONTHLY OCCURRENCE**

- Results demonstrate the yearlong presence of *P. noctiluca*.
- All year round extreme fluctuations in abundance.
- Possibility of high abundance anytime.
- Sea surface temperature, salinity and rain have no influence on daily fluctuation.
- No specific wind pattern found, as *P. noctiluca* appear near coastal water either with westerlies or easterlies winds.

**CONCLUSIONS**

- No meteorological or oceanographical pattern was found to explain the daily pattern of the appearance and disappearance of *P. noctiluca* in our study zone.
- High abundance of *P. noctiluca* during Summer months seems to be associated to mean winter values (DJFM) of lower accumulated rain, positive NAO and AO index, lower air temperature and reduced wind and wave stress.
- There is a need of analysing longer time series to be able to confirm this trend.

**ACKNOWLEDGMENTS**

We thank Darius Enayati for support in the field and photographic materials. We thank the Puerto Deportivo Marina del Este (La Herradura, Granada) for allowing us to sample inside the Port.