

Ecology / Risks / Biotechnology /
Sustainable management

Littoral ENvironnement et Sociétés (LIENSs)

The LIENSs - Littoral Environment and Societies laboratory, an interdisciplinary research unit: scientific expertise to understand coastal socio-ecosystems, their functioning, their evolution on different time scales, their uses, and to enable the sustainable development of their resources in a context of climate change and increasing human pressure.



Director — **Valérie Ballu**

Permanent research staff — **95**

Phd students — **56**

Permanent technical assistant staff — **22**

Staff on research project — **33**

— **6 teams**

- ▶ Approach by Geography: Islands, Littoral areas and Environment (AGILE)
- ▶ Biodiversity and Functioning of Coastal Ecosystems (BIOFEEL)
- ▶ Biotechnologies and Chemistry applied to Bioresources for Health (BCBS)
- ▶ Marine animals' responses to environmental variability (AMARE)
- ▶ Physical Dynamics of the Littoral zone (DPL)
- ▶ SpacEs, Societies, TerritoRies of Ancient and New shores (ESTRAN)

Disciplines — **Biology . Ecology . Geophysics .
Oceanography . Geography . History . Chemistry .
Biotechnology . Environmental law . Political science .**

biological and human factors, in a global environmental health approach.

Coastal risks

Understand and study the evolution of coastal hazards (storms, erosion, earthquakes, volcanoes, submersion, pollution, invasive species, etc.) and the vulnerability of populations and biodiversity of the French coasts, tropical islands, as well as at the level of polar zones, territories of interest.

Attractiveness of the space

Study of the interactions between the different categories of populations living in the coastal strip and their consequences on the natural balance of the area. Half of humanity lives in this 140 km wide zone, it is a highly coveted space where many uses and socio-economic exchanges are developed.

Sustainable management

Long-term monitoring of the marine environment through the acquisition of human and environmental data for sustainable coastal management.

Living organisms, bio surveys

Study of the roles and functions of marine organisms. Understanding their functioning makes it possible to valorize these biomasses through biotechnologies and bio-prospecting to produce molecules with health benefits (antibiotics, antidiabetics, anti-tumors, etc.).

Historical perspectives

Study of ancient periods at the scale of the coastal zone and understanding of the past to shed light on future developments in human issues linked to these specific territories.



Societal challenges

Coastal socio-cosystem, evolution and adaptation

Study of the functioning and evolution of different coastal socio-ecosystems, integrating physical,



– Research Network

1 «senior» member of the Institut Universitaire de France, 1 IPCC member, 3 PIA3, around fifteen ANR programs, 7 European programs including 3 INTERREG and 3 FEAMP and at the origin of nearly 70 conventions and research programs.

LIENSs is today a key player in the observation and understanding of the coastal system. Observatories: OASU, SNO-INSU, SONEL, SOMLIT, PHYTOBS, DYNALIT, BENTHOS, OBIONE, ECOP. Networks: INCREASE, ForM@Ter, IR-ILICO, BIOSENA, RIVAGE, FUTUR act, ACCLIMATERRA, ONCOSPHERE, H2SR, EAU, SFDE, LUDI, SFC, GP2A. Brevets: 12



– Expertise Achievements

The laboratory is associated with two start-ups from La Rochelle, Valbiotis and Peatiadis, in the field of biopharmaceuticals, around patents in the field of nutrition and health and anti-infectives.

The laboratory is a constituent unit of the OASU, reinforcing part of the research themes and supporting the technical and observation activities (UMS Porea) and the structuring of data led by the CeDONA.

Conducting research fed by the reality of the field, the observation and acquisition of in-situ data are a strong point of our activities as evidenced by the number of observation services of the Infrastructure of Coastal Research (IR-ILICO) to which the laboratory contributes.



Training

MASTER SCIENCES FOR THE ENVIRONMENT

- ▶ programme Coastal Geosciences and Geophysics
- ▶ programme Environmental Management and Coastal Ecology
- ▶ programme Geography applied to coastal management

MASTER DROIT PUBLIC

- ▶ programme Local authorities, environment and coastline

MASTER BIOTECHNOLOGIES

- ▶ programme Biochemistry
- ▶ programme Biotechnological engineering and management in agro-industries
- ▶ programme Marine biotechnology

– Partnerships Collaborations



LIENSs collaborates with local authorities: Nouvelle-Aquitaine Region, Charente-Maritime Urban Communities, national institutions (OFB, marine parks, DREAL, League against cancer, etc.).

Research is carried out in partnership with French (INRAE, BRGM, IPGP, MNHN, IGN, CNES, etc.) and foreign (NASA, MIT) scientific laboratories and organizations, associations or unions. mixed (LPO, UNIMA), design offices (Créocéan, Berger-Levrault) and several French companies (Créocéan, Valbiotis, Innov'ia, Seprosys, QUALYSE...) which finance theses via the CIFRE system.

LIENSs is a stakeholder in the PIA3 La Rochelle Zero Carbon Territory project led by the La Rochelle Urban Community and a partner of the PIA3 MARMOR coordinated by Ifremer.



CONTACT

**Littoral ENvironnement
et Sociétés**

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