

Environmental History and Law

Since man appeared on earth he began to influence and alter his environment

History & Perception 18th - 20th century

Urbanisation - Industrial exploitation - River pollution - Relationship between men & animals

Socio-historical aspects

Produits du terroir - Natural disasters - Volcanic eruptions & earthquakes

Environmental Law

Treaties - Regulations - Directives
Mobilized principles - International level



Environmental and Natural Resource Management in the South

ILEE collaborates with partners located in Southern countries: Africa, Central and South-America, South - Eastern Asia. Focus lies on:

- Characterization and sustainable management of natural resources
- Production of aquatic ecosystems and the sustainable development of aquaculture
- Impact of environmental changes on human populations
- Environmental history



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Environment Regulation **Participation** Behaviour **Pollution** crops **Population**
Experiments **Disease** Physiology
Local Actors Modelling **Evolution**
Sustainability **Ecology**
 Art **Humans** Freshwater **Analysis** Integration
Plankton Archaeology **Physics** Vector-borne
Biodiversity Stressor **Geological Resources**
 Aquaculture Immune System **Theory** Atmosphere
Adaptation **Technologies**
 Spectroscopy **Ecosystems** Culture
Bioindicators **Ecotoxicology**
Impact Chemistry **Photochemistry** Biology **Law**
Mining Climate Change **Perspectives**
Challenges **Interdisciplinary**
 Geography **Ores** Dynamics **History**
 Migration **Reproduction** Geology
 Epigenetic **Life** Biomimetics
 Alternatives **Life** Elicitors

CONTACT

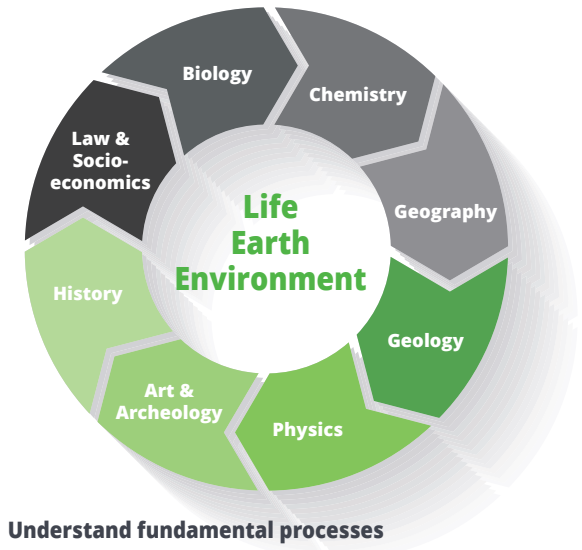
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MULTIPLE DISCIPLINES FOR INTERDISCIPLINARY APPROACHES



- Understand fundamental processes
- Identify anthropogenic pressures on the environment
- Manage natural resources, reduce pollution, conserve and restore biodiversity

Evolution, Adaptation and Biodiversity

Fundamental questions related to the evolution of reproductive modes and factors contributing to genomic variation and adaptation, human impact on the environment and the evolution of organisms, biodiversity & ecosystem functioning.

Ecological theory

Models - Field data - Experiments

Biological mechanisms

Physiology - Behaviour - Proteomics - Epigenetics

Evolution

Evolutionary processes at population & genome level - Extreme resistance



Characterization and Management of Natural Resources

Sustainable extraction and processing of non-renewable resources to reduce environmental problems.

Non-renewable resources

Geological resources - Supergene ores - Aquifer & karstic flow processes

Human utilisation

Natural resources - architecture & art - From antiquity to modern age

Renewable resources

Aquaculture - Restore aquatic ecosystems - Water quality analysis with ecological indicators - New georesources



Sustainable Plant and Animal Production

Find alternative solutions of chemical and pharmaceutical products.

Plant molecular & cellular biology

Association breeding - Agronomic performance of edible crops

Phytopathology & signal transduction

Elicitors to stimulate plant defence - Spin-off: FytoFend S.A.

Aquaculture

Immunostimulation - Vegetable fish food - Improve fish welfare - Temperate & tropical species



Pollution and Environmental Toxicology

Pollutants and stressors act on individuals and entire ecosystems. The aim is to identify, evaluate and finally control toxic agents.

Individual response

Physiological, immune, nervous, reproductive system of aquatic organisms as bioindicators

Ecosystem change

Theoretic models & case studies (plankton microcosm experiments) - Atmospheric pollutants

Innovative technology

Molecular spectroscopy - Photochemical and - voltaic devices - Bio-inspired materials



Ecosystem Services

Foster sustainable landscape management and planning, to increase the well-being of local actors.

Integrated valuation frameworks

Combine social, economic & biophysical values - Participatory approach

Methods

ES Mapping - Agent-based modelling of landscape change - Integrated ES assessments



Environmental Impacts on Human Populations

Evaluate the economic, social & health risks due to environmental hazards and associated population vulnerabilities to design adaptation strategies.

Environment & population

Distribution - Migration - Vulnerability - Land use - Natural disasters

Health risks

Vector-borne & zoonotic diseases - Accessibility to health services

Approach

Resilience indicators - Game - Spatial modelling - Focus groups - Integrated spatial analyses - Satellite image & mobile data

