

MISSION

The Research Institute on Terrestrial Ecosystems (IRET) of the National Research Council of Italy (CNR) is involved in **research**, both **basic and applied**, on the study of structure, functioning and productivity of terrestrial ecosystems, biotic and abiotic components and their interactions, with a specific focus on **global change** and anthropogenic pressure.

Special attention is paid to the different levels of **biome organization**, function, metabolism and evolution, as well as **ecosystem services** and their implications for environmental quality and human health. The analysis that stresses resulting from climate and land use changes, **pollution**, and increasing urbanization have on **biodiversity** and soils forms the basis for the study of adaptations and **mitigation strategies**, including socioeconomic ones.

The primary objectives of IRET are the study, protection, management and enhancement of **natural resources**, **biodiversity** and **land**, with a view to their sustainable use that moves towards the increasing affirmation of the **bio-economy** and **circular economy**, exploiting enabling technologies and "nature based solutions."



RESEARCH LINES

Biodiversity

at gene, population, species, community level. Taxonomy, evolution, genes and data banks

Ecological Processes

and interactions. Spatial ecology, remote sensing, modelling, environmental pressure, animal ecology, forest ecology

Circular Economy

Green economy, bioactive molecules, agrifood wastes valorization, green chemistry

Contamination of ecosystem

Pollution and contamination of ecosystems. Monitoring, impacts, emerging contaminants, mitigation and restoration strategies for soil, sediments and water

Climate change

and ecosystems. Monitoring, impacts, mitigation, adaptation, forest resilience, decarbonization

Sustainable Management

of ecosystems. Forestry, agroforestry, agriculture, urban areas, socio-ecology, nature-based solutions, green infrastructures

Conservation

Biodiversity and ecosystem conservation. Conservation priorities, strategies and planning, natural, forest and agroecosystems, biological invasion impacts

Soil Health

and resilience. Nutrient cycling, C dynamics and sequestration, soil-plant system, mitigation

Plant Sciences

Experimental plant sciences. Physiology, biophysics, biochemistry and genetics, biotic and abiotic stresses, agrospace, biofortification, environmental biotechnology and bioprocesses

Environment and Health

Environment and human health.

Genetic, epigenetic and metabolic effect



