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Remote strategies for fossil finding:

multispectral images and species distributional modelling applications for large-scale paleontological surveys

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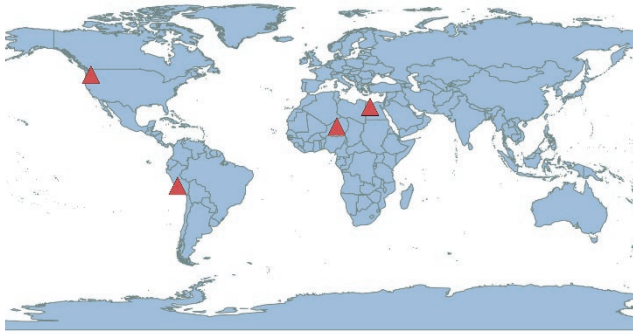
REFIND

The REFIND project joins paleontological research with GIS procedures.
The methodology has been developed by the University Ca' Foscari of Venice (Italy) and the University of Oregon (U.S.A.) and will be tested for both desert regions and the European mainland.

Desert discoveries (2018-2019)

Hundreds of the most astonishing fossils have been discovered at the surface of the largest deserts in Asia, Africa and South America. A larger portion is still waiting to be recovered, before to be completely destroyed by natural agents.
Most of them are iconic taxa, like theropods of the Cretacean age, and whales of early Quaternary, like *Liviyatan*.

The REFIND project aims to recover new specimens of these fossils using Remote Sensing. Few fragments of pre-selected fossils will be analysed with a non-invasive optical instrument and the results will be apply to multispectral satellite images to the correspondent region of their discovery and to related areas with high potentiality.



Covered lands (2019-2020)

Where vegetation excludes the recognition of fossils using aircrafts and satellites, we will apply common algorithms for the Spatial Distributional Analyses (SDM) to extinct animal geographic distribution of the Late Pleistocene.
Data will be selected from the most common and consistent databases, like Paleo-DP, NOW and PGG, for the European mainland.

These analyses will highlight the most probable geographic range estimation of carnivorans and herbivores, and changes of their distribution in relation to climatic changes and modern human spreading.
Gaps in the sites record will be evaluated case-by-case to estimate the probability of new palaeontological and paleoanthropological sites.