Metaprogram
BIOSEFAIR

RESOTEC

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Use of social networks and remote sensing to estimate forest cultural ecosystem services

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Partners
CEFE CNRS - Centre d'écologie fonctionnelle et évolutive
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Backgrounds and challenges

Optimising the ecosystem services provided by forests is a growing challenge for forest management, which requires clear quantification of the link between stand characteristics and service provision. Supply and regulation services (wood supply, carbon sequestration), which are easier to assess, are often favoured. On the other hand, cultural services (aesthetic value, recreational activities) are given less consideration because they are difficult to assess. Geolocalised data from social networks offers new ways of quantifying these services. At the same time, the development of remote sensing now makes it possible to characterise the structure and composition of forests on a national scale.

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Objectives

RESOTEC aimed at testing the potential of remote sensing and social network data to characterise the link between forest stand structure and composition and cultural ecosystem services.

The first objective is to establish a proof of concept on the potential of these data to improve our understanding of the forest attributes that structure the value of cultural ecosystem services by conducting an initial study focusing on the aesthetic and landscape value service. In the literature, this service has so far been assessed mainly on the basis of sociological questionnaires: here we propose a quantitative assessment based on the density of photos published on the Flickr social network.

The second objective is to explore the potential for diversifying data, methodological approaches (e.g. crowdsourcing) and the services considered (e.g. recreational activities such as wild gathering, sports or naturalistic use) in order to characterise the link between forest attributes and cultural ecosystem services.

Approaches

The project is structured around two complementary approaches:

1. To meet the first objective, we are going to study, via an M2 internship, the effect of forest structure and composition metrics and landscape attributes on the aesthetic value of forest stands, calculated from the IGN's HD LIDAR campaign and land-use databases (e.g. BD Forêt V2). For this purpose, geolocalised data from the Flickr application over the last 10 years in several regional nature parks with predominantly forested areas in the Mediterranean region (Sainte-Baume, Alpilles, Baronnies provençales) have already been compiled. This internship will provide an initial insight into the potential of data from social networks for linking forest attributes and cultural ecosystem services.
2. To meet the second objective, we are going to bring together a consortium of researchers working on the evaluation of cultural services in order to explore, through a 2-3 day workshop, the prospects for building a more ambitious project (ANR type). In particular, the workshop will look at the possibilities of diversifying both the cultural services evaluated and the methodological approaches considered.