



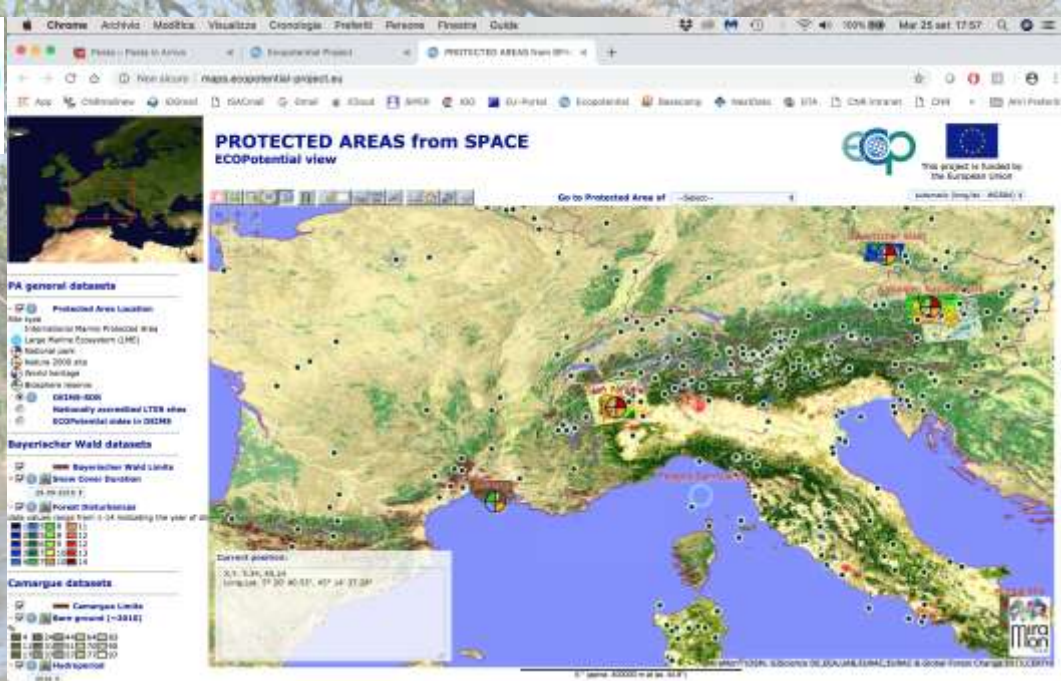
What do we study in the ECOPOTENTIAL Protected Areas:

**Current state of Protected Areas
using Remote Sensing and field data**

**Ongoing and future changes
in ecosystems and the environment**

**Narratives motivated by Protected Area needs:
The Storylines**





Remote Sensing: Sandbox, CNR ftp Server «PA from Space» interactive web site EODESM, Virtual Laboratory Platform Field Data: DEIMS with eLTER



This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 641762

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COMPREHENSIVE DETECTION OF CHANGE OVER MULTIPLE TIME SERIES: EXAMPLE FROM DONANA NATIONAL PARK, SPAIN, USING SENTINEL-2

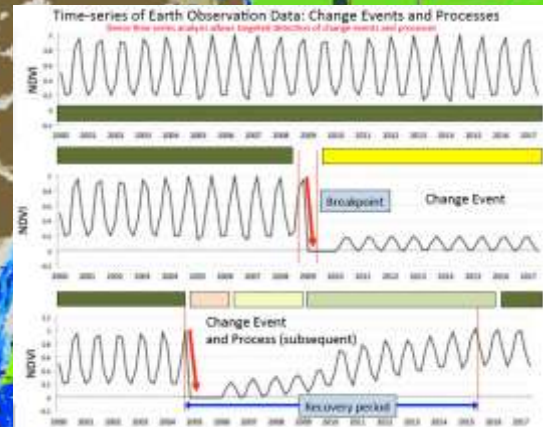
EODESM



LAND COVER
CLASSIFICATION
(2016)

HYDROPERIOD CHANGE
(2015/16 TO 2016/17)

WATER EXTENT CHANGE
APRIL 2018-MAY 2018

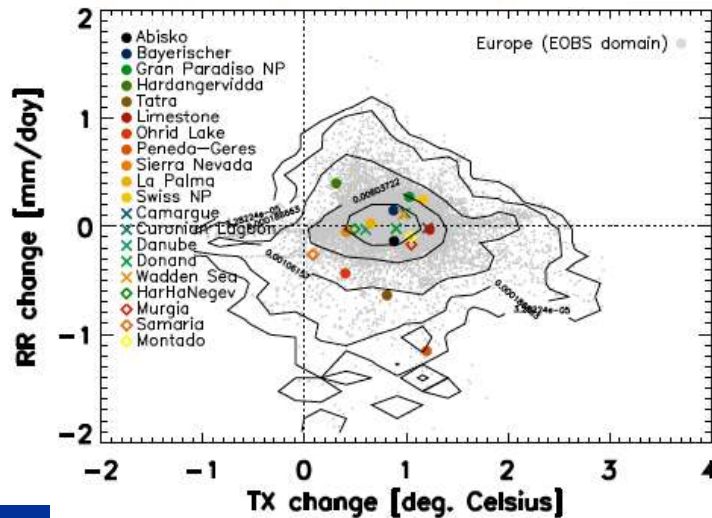
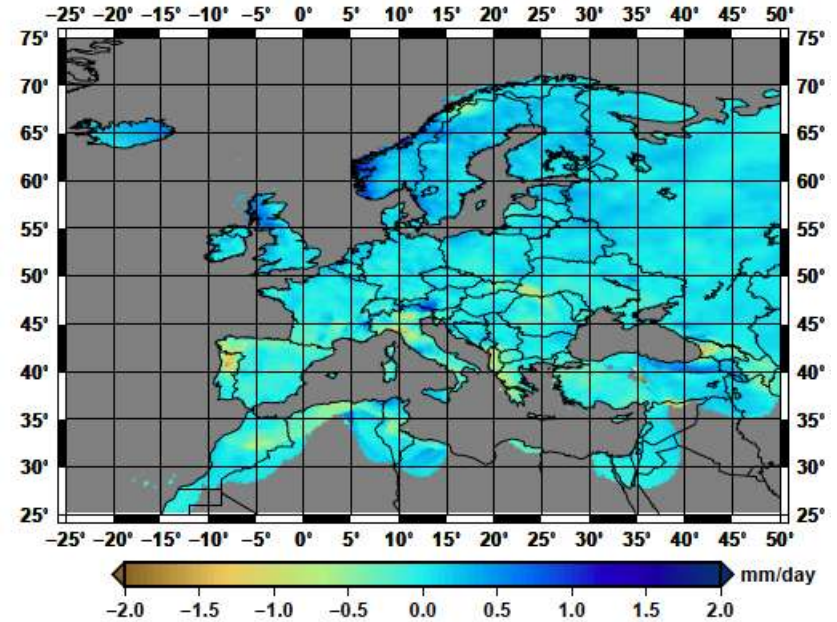
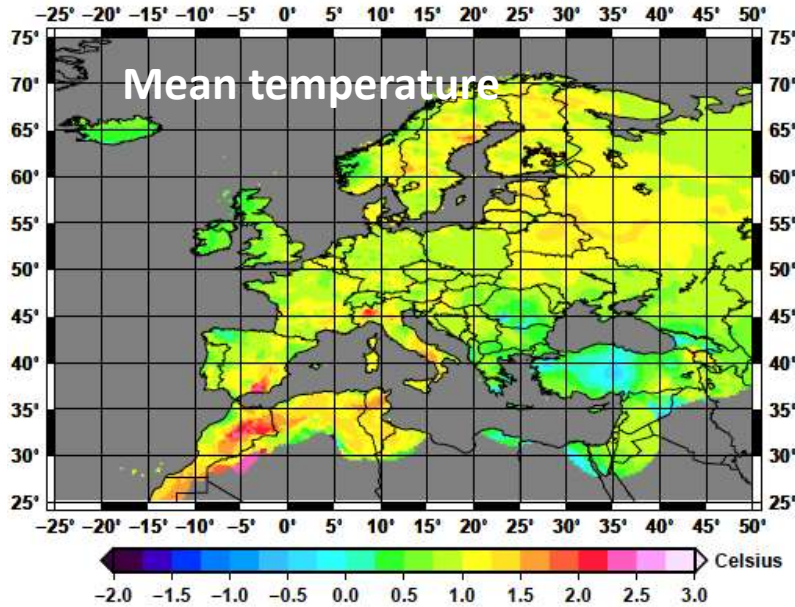


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Changes in meteo-climatic drivers



EOBS
(1986-2005) – (1956-1985)
Elisa Palazzi et al.





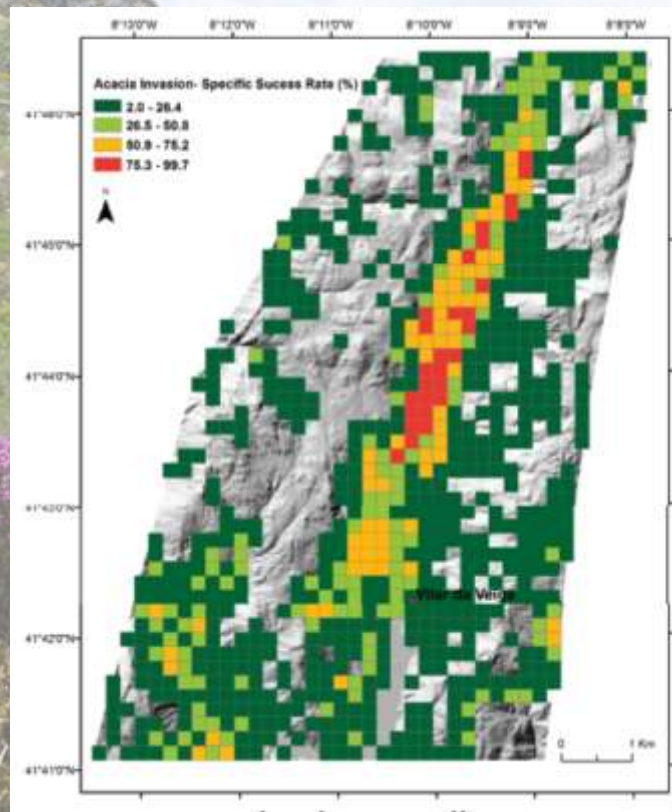
Integrated approach with PA Staff: The ECOPOTENTIAL storylines

- An example of **co-design** by scientists and PA staff
- Focus on given Protected Area(s) and **identify the main Ecosystem Services** of interest and the functions and processes supporting them, the **threats** and the **conservation/management** issues.
- Co-design a **strategy** to address the issues, identify the data needed to provide the required information, the models, and consider the policy implications.





Peneda-Geres: estimating invasion success of non-native trees using VHR satellite data and population dynamics models



**Monteiro et al,
Diversity**



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Gran Paradiso and Hardangervidda: health state of alpine/northern grasslands as a life support system for wild ungulates



**Changes in the Critical Zone
at high-altitude or high-latitude
treeless environments**

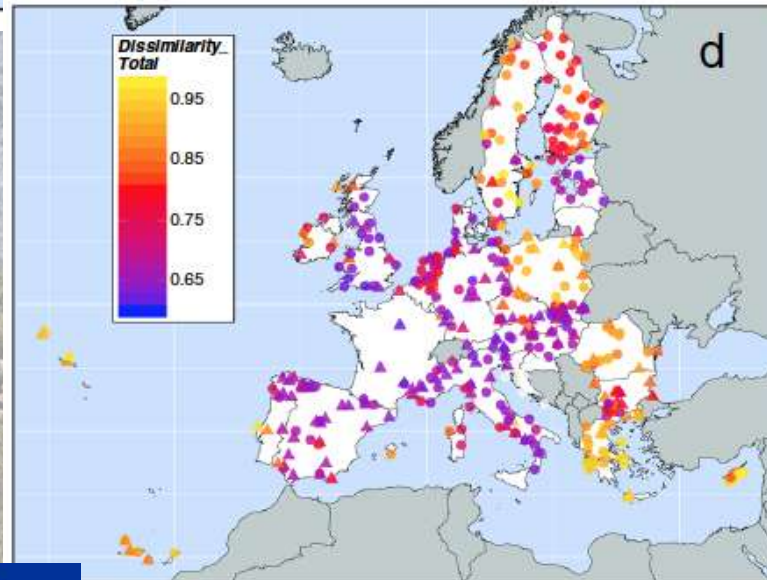
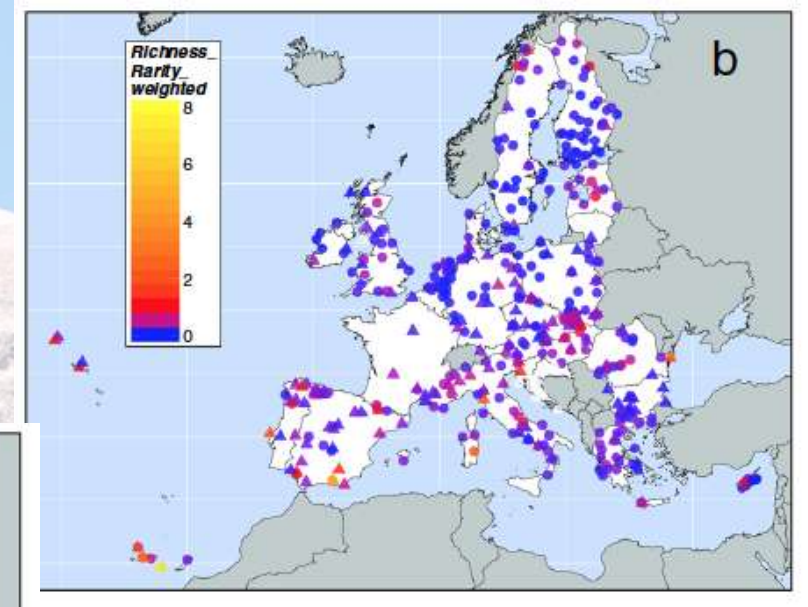
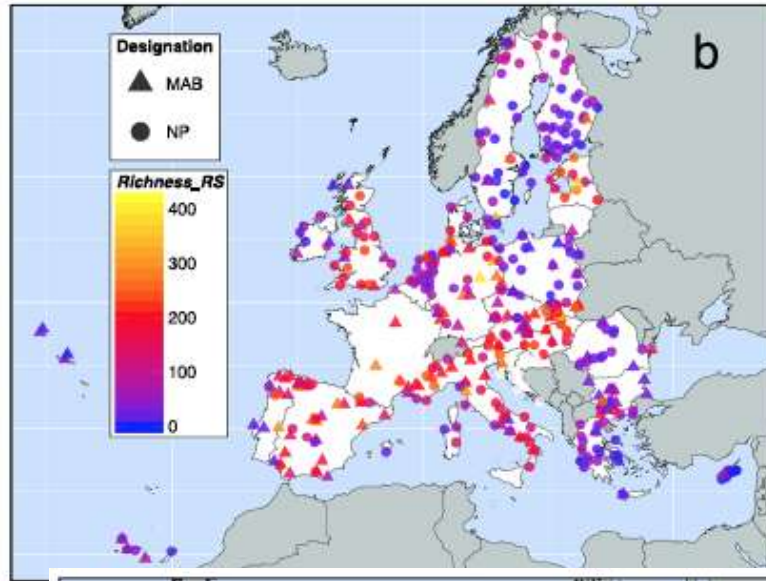


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Uniqueness of European Protected Areas



SCIENTIFIC REPORTS Uniqueness of Protected Areas for Conservation Strategies in the European Union

Samuel Hoffmann¹, Carl Beierkuhnlein², Richard Field², Antonello Provenzale³ & Alessandro Chiarucci⁴



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Brussels 27 September 2018



Fires in Mediterranean Europe



Use of European datasets:

EFFIS, CRU TS for SPEI

Use of national inventories

Summer burned area is highly dependent on same-summer drought conditions and delayed precipitation conditions

- With a global temperature rise > 1.5 °C above pre-industrial, estimated summer burned area in the Mediterranean can double**
- Empirical fire-climate models allow improving seasonal prediction of summer burned area**



**Marco Turco et al., Scientific Reports 2017
Nature Communications 2018a, 2018b**





***Open Earth Observation data are crucial
to monitor, understand and predict
ecosystem and environmental changes
and identify management and
conservation options***

***The ECOPotential
Community of Practice: a community
of data users and producers working
towards common goals***





Thank you for your attention