

Alberi e Foreste nel Litorale Romano in risposta al *global change*

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«Ridurre gli Impatti sul Litorale»
Ufficio Clima di Roma Capitale
Università Roma3
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State Natural Reserve of the Rome Coastal Area (Litorale Romano)

Surface: 15,900 ha

Location: south and north of the Tiber mouth

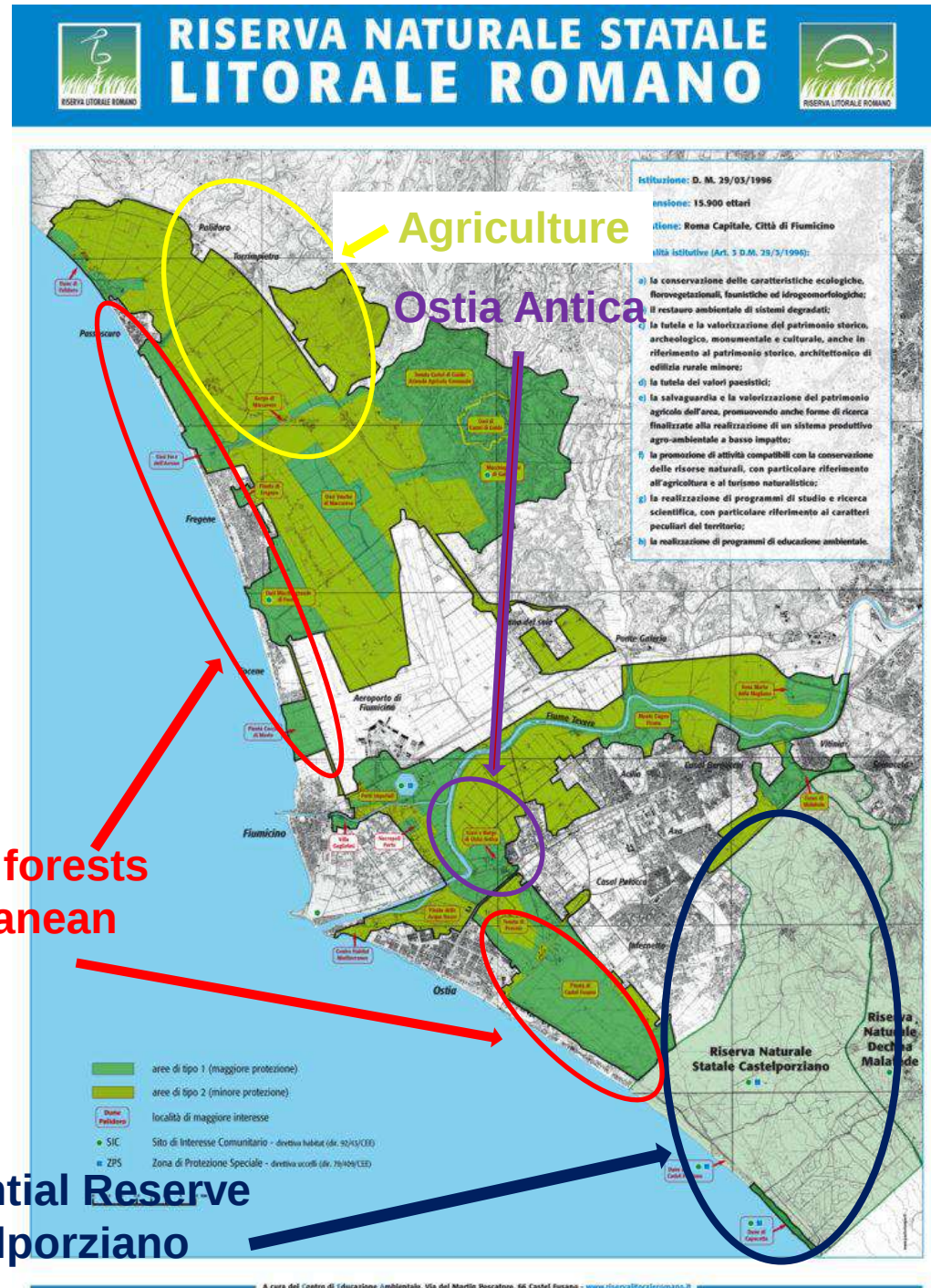
Main land uses: forests, agricultural land, archaeological sites

Connections with: Castelporziano State Reserve and Castel di Decima Regional Reserve

Total protected area: 26,000 ha of green belt West of Rome

Coastal Pine forests and Mediterranean macchia

Presidential Reserve of Castelporziano



HISTORIA DEL PAESAGGIO FORESTALE DI DE L'AGER LAURENS

10.000 a.C.

At the end of the last glaciation, the coastal plain of Latium was covered by swampy areas and the **primeval forest** with deciduous oaks, evergreen oaks and Mediterranean macchia

VIII sec. a.C.-IV sec. d.C.

The great forests of **Ager Laurens** still covered the floodplain of the Tiber delta, in the area of the ancient city of Laurentum, linked to the origin of Rome. Then the coast became residence of magnificent villas of rich Romans and Emperors. Finally, the Emperor Constantine donated these lands to Pope Sylvester I.

IV-VI sec. d.C.

Laurentum was in decline, as the other cities of the coast, Ostia and Lavinium, due to the growth of Rome. Procopius in the Gothic War states that in 540 AD those areas were covered with **impenetrable forests**, sparsely inhabited, subject to devastation by the barbarians.

X-XV sec. d.C.

Old maps provide evidence of the ownership of these lands by the Church and religious institutes (**domus cultae**), as the Santo Spirito Hospital, **providing food and firewood for hospitals and to the city of Rome.**

XVI-XVIII sec. d.C.

The entire Estate of the barony of Castel Porziano, with Castel di Decima and Castel Romano, passed to **private, rich and noble Landlords** (Del Nero and then Grazioli). Land Survey maps (Catasto Piano) of 1783 show that land cover was mainly forest utilized for hunting, firewood, and smaller agricultural surfaces.

XVIII-XIX sec. d.C.

The area becomes the destination of travelers and scholars, coming from all over Europe, as part of the **Grand Tour**. In Nicolay's work it emerges how the whole Ager Laurens was organized in a **continuous system of forests, pastures and agricultural land.**

1872

The **Italian government** purchased the Castelporziano, Trafusa and Trafusina estates from the Grazioli dukes, which were then assigned to the Crown, with the function of **official countryside residence** of the King, used for **hunting and charcoal production.**

1948

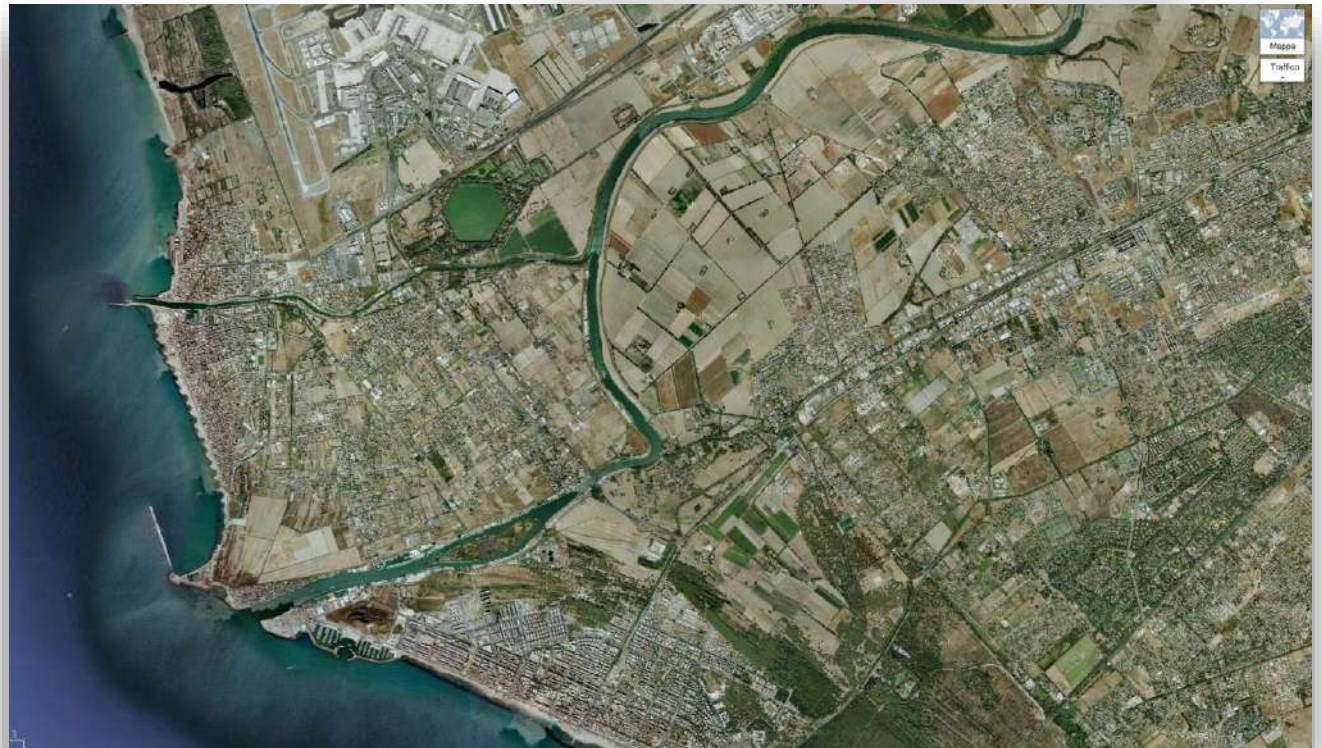
The Estate of Castelporziano becomes property of the **President of the Republic of Italy**. The Italian Government purchased also the **estate of Capocotta for environmental protection.**

A search with old maps to show the importance and continuity of the forest landscape in Castelporziano, as the last remnant of the Ager Laurens

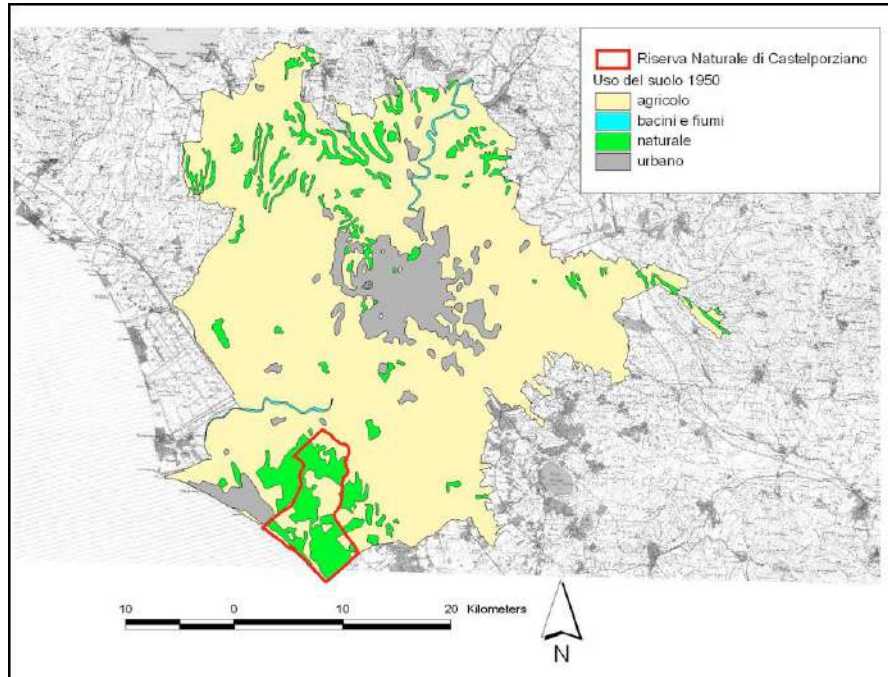


Map of Campagna Romana dated 1547 from Eufrosino della Volpaia

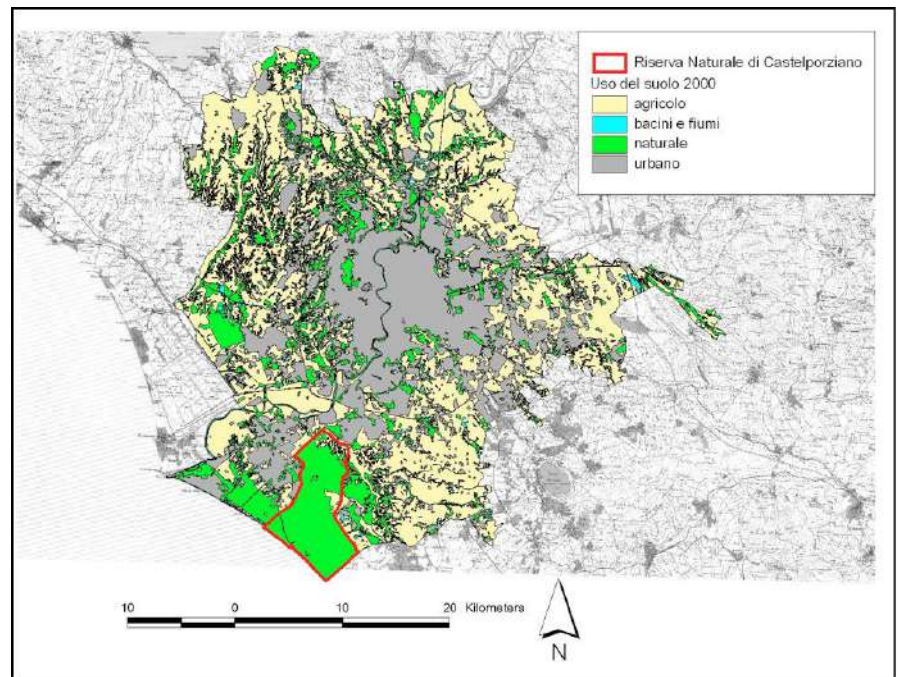
(Giordano e Recanatesi 2019)



In questo ambiente si colloca il paesaggio forestale della Tenuta, che costituisce ormai l'unico e prezioso territorio in cui sono presenti oltre cinquemila specie vegetali ed animali, secondo la check list, continuamente aggiornata dalla Direzione della Tenuta, in seguito alle indicazioni della Commissione Tecnico Scientifica.



Provincia di Roma - 1945

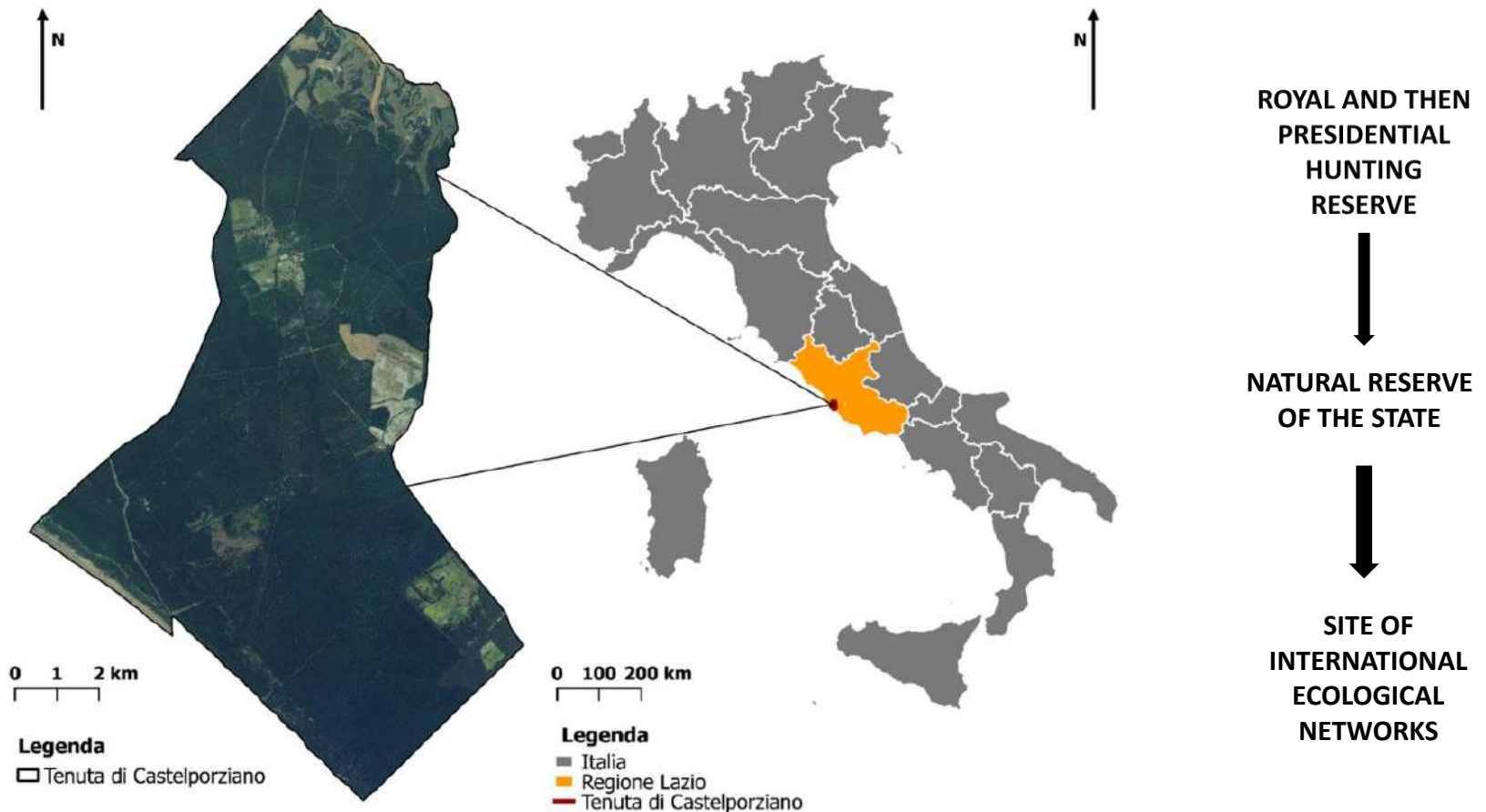


Provincia di Roma - 2010

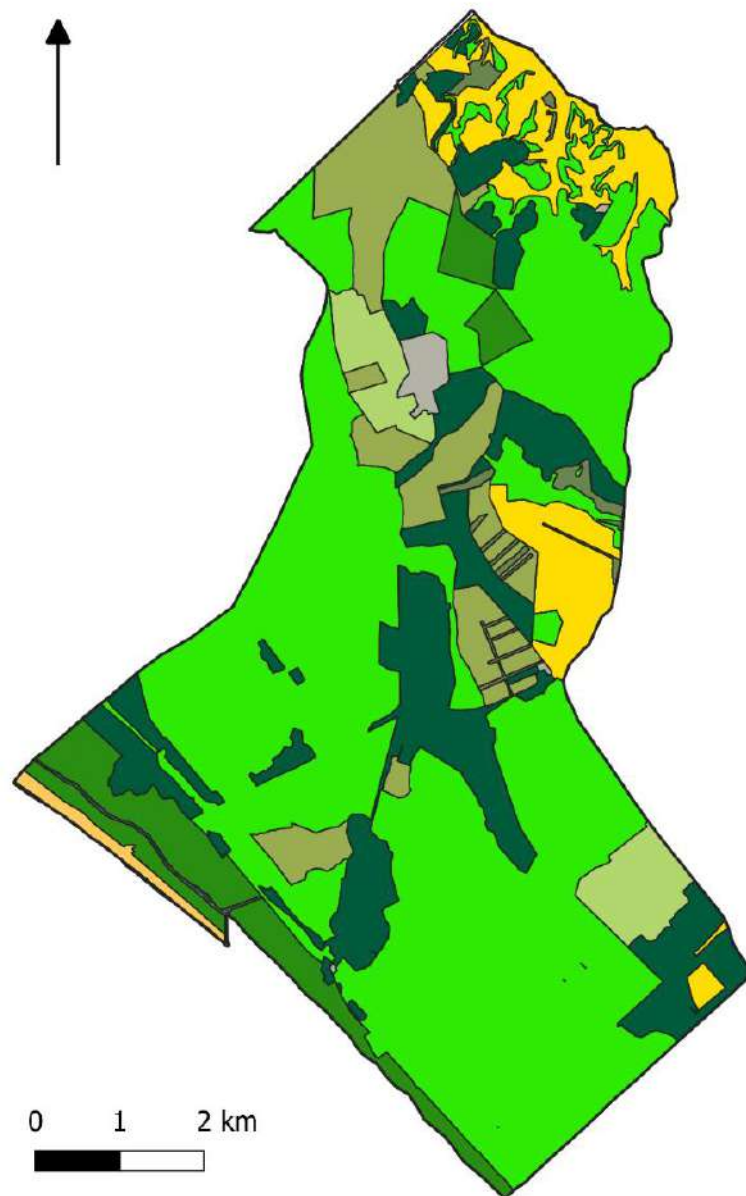
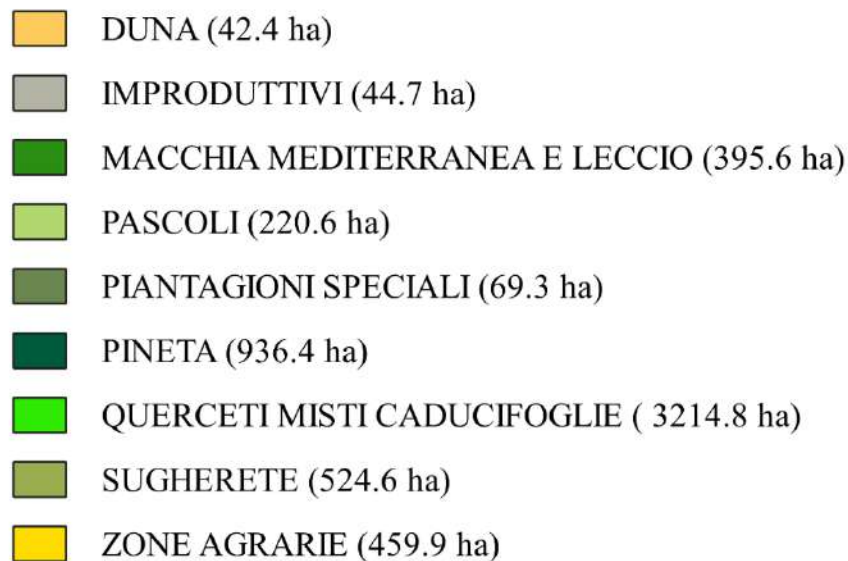
(Giordano e Recanatesi 2019)

TENUTA PRESIDENZIALE DI CASTELPORZIANO

*Castelporziano covers a surface of 6000 ha where the last few remnants of the
Temperate deciduous oak forests
of the Mediterranean region are conserved and protected,
together with evergreen oak forests, Macchia shrubland, Italian stone pine
forests, coastal sand dunes and agricultural fields and pastures*



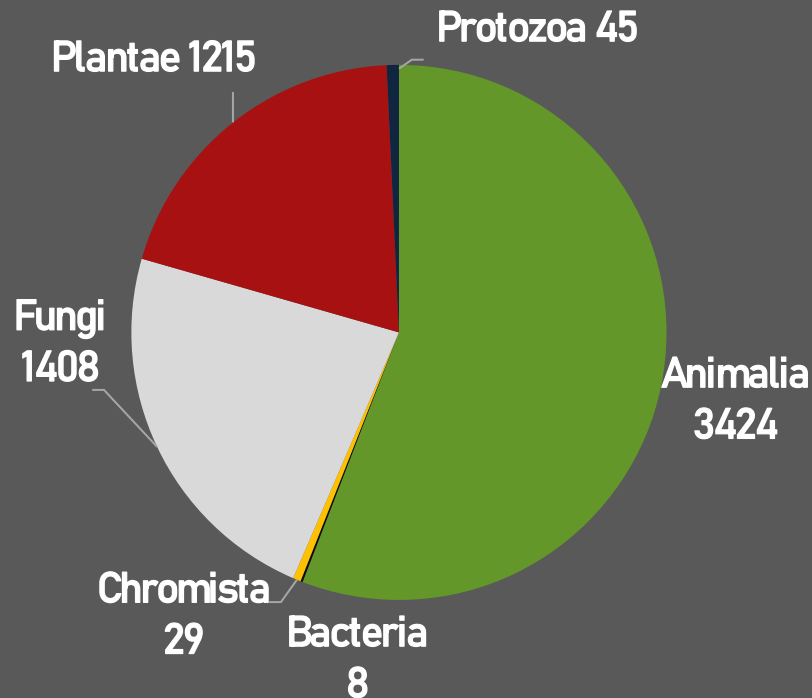
CLASSI DI COPERTURA DEL SUOLO NELLA TENUTA DI CASTELPORZIANO



LA BIODIVERSITA' DI CASTELPORZIANO

The checklist of species of Castelporziano includes 6129 taxa, about 10% of all the species found in Italy

Animalia	3424
Bacteria	8
Chromista	29
Fungi	1408
Plantae	1215
Protozoa	45



Veduta invernale della foresta con i Castelli Romani sullo sfondo



Dune costiere e Macchia mediterranea



Foresta di alto fusto a querceto caducifoglio



Piscine inel quesrceto a farina, farnetto e cerro



Pineta di pino domestico



Animali al pascolo



Villa Romana dell'Imperatore Commodo



Il Castello



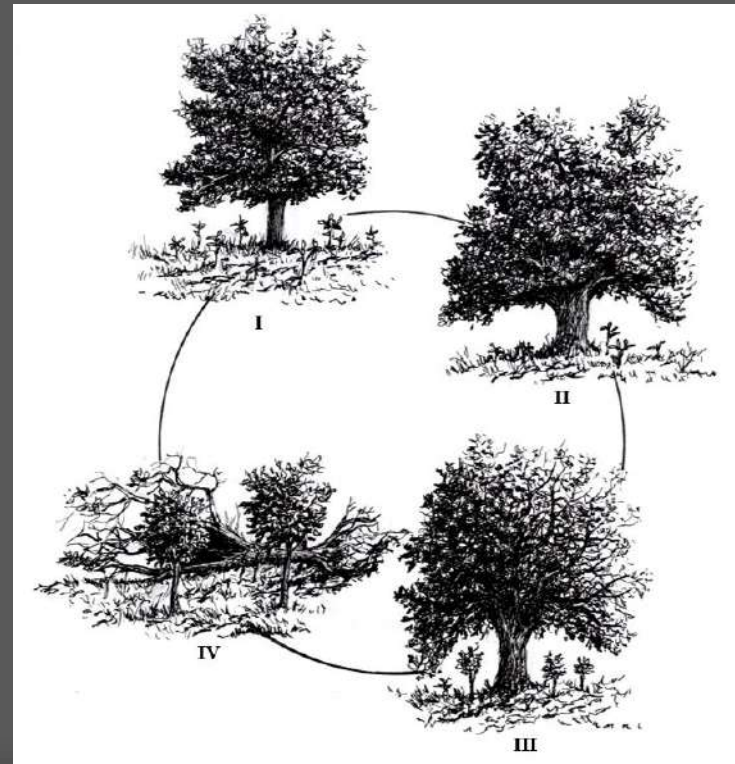
RISCHI CLIMATICI E GESTIONE DEL TERRITORIO METTONO A RISCHIO LA STABILITÀ FUTURA DELLA FORESTA DI CASTELPORZIANO

The plain forest of deciduous oaks, the component of greatest nature value of the Castelporziano Estate, is also the most vulnerable because of environmental changes and land management, related to:

- **Management of wild animal populations** → The too large populations of the four ungulates present: *Cervus elaphus* L. (red deer), *Dama dama* L. (fallow deer), *Sus scrofa* L. (wild boar) and *Capreolus capreolus* ssp. *italicus* (Italic roe deer).
- **Water resources for trees and plants** → Changes in the rainfall regime, increasing drought, lowering of the soil water table, land reclamation, expansion of surrounding infrastructures and soil consumption.
- **Senescence of the forest stands** → Senescence of forest stands, lack of silvicultural management and general phenomenon of oak forests decline in the Mediterranean region.

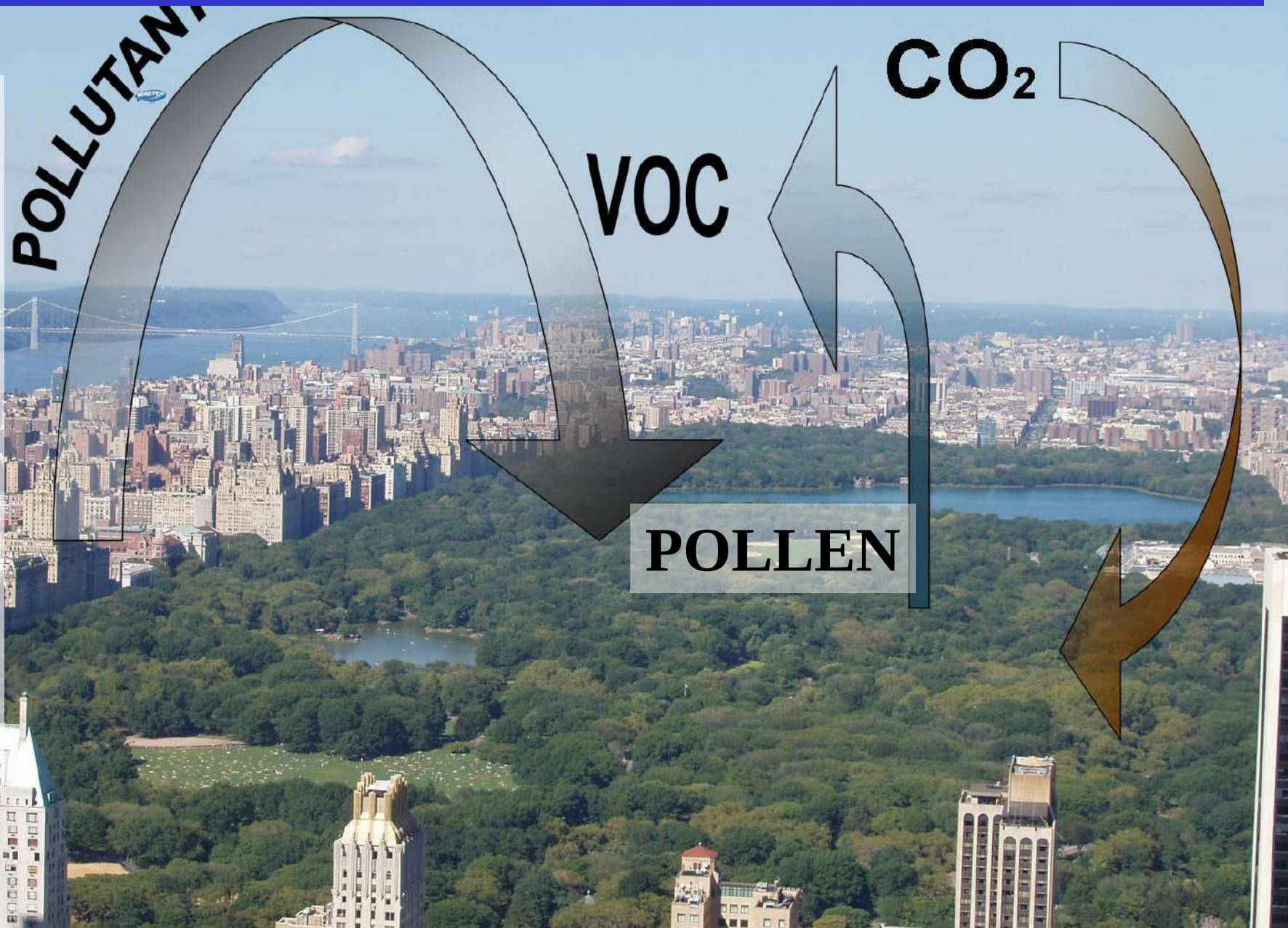
RINNOVAZIONE NATURALE DELLA FORESTA DI QUERCE A RISCHIO NEL FUTURO

**THE NATURAL REGENERATION
CYCLE OF THE OAK FOREST IS
CRUCIAL FOR THE RESILIENCE
OF THE ECOSYSTEM**

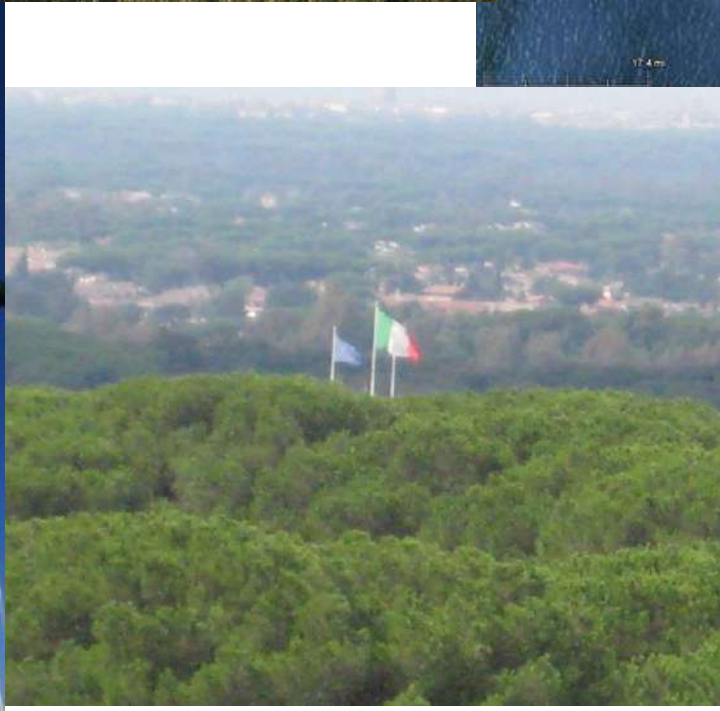
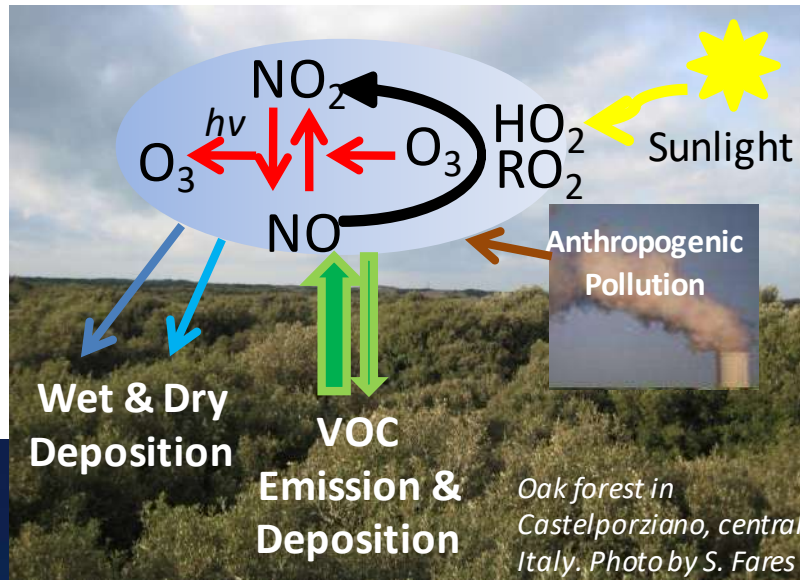


Servizi ecosistemici delle foreste urbane e implicazioni del cambio climatico

CLIMATE CHANGE



Misurare l'assorbimento di Carbonio e di ozono nella foresta di Castelporziano



Stazioni di monitoraggio ecologico per assorbimento di Carbonio in risposta ai cambiamenti del clima degli ecosistemi di Castelporziano

Vista della torre in località «Grotta di Piastra»



Vista della torre in località «Castello»



Vista dalla torre in località «Scoponcino»



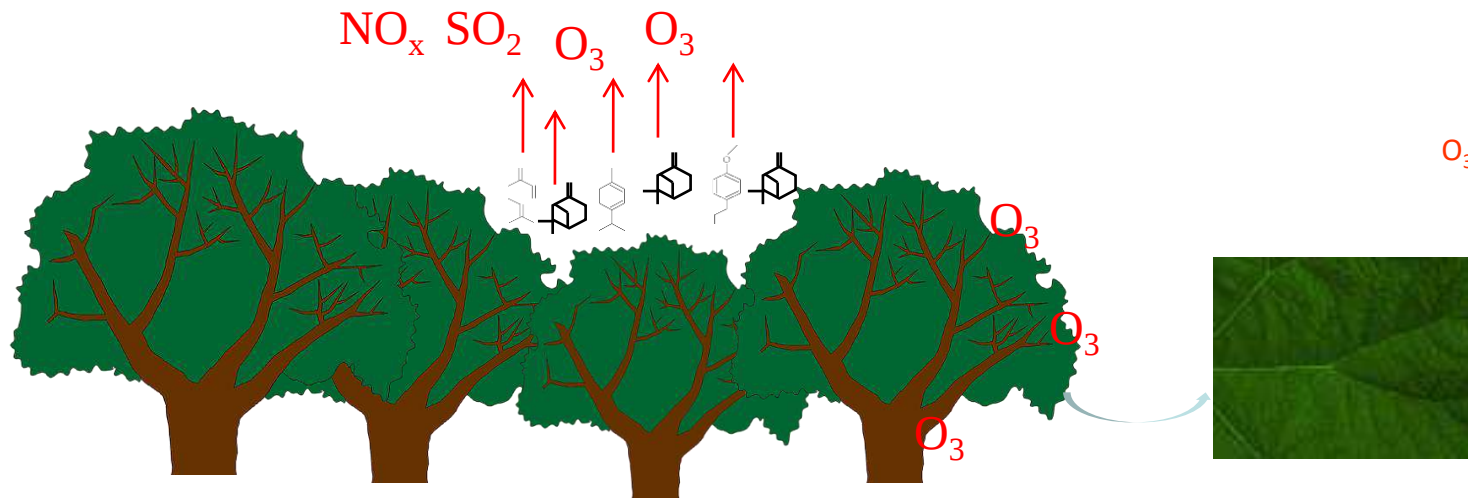
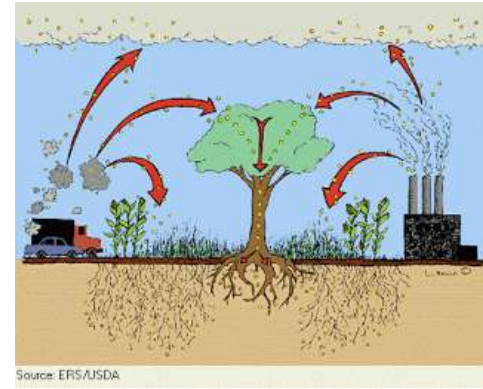
The data integrate the fluxes generated on a surface above the sampling point, of dimensions that can reach a few km², depending on the sampling height and the characteristics of the atmosphere

Sottoprogetto NBFC - Adaptation and mitigation of terrestrial ecosystems to climate change (CC) including ecological responses and prediction of future scenarios

(da Fares 2022)

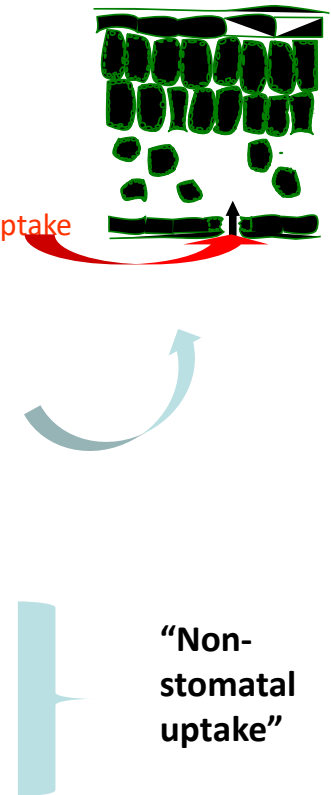
Rimozione degli inquinanti gassosi da parte delle foreste urbane e peri-urbane

1. Stomatal sink. Stomatal opening regulate leaf ozone uptake and largely contribute to ozone removal in the atmosphere

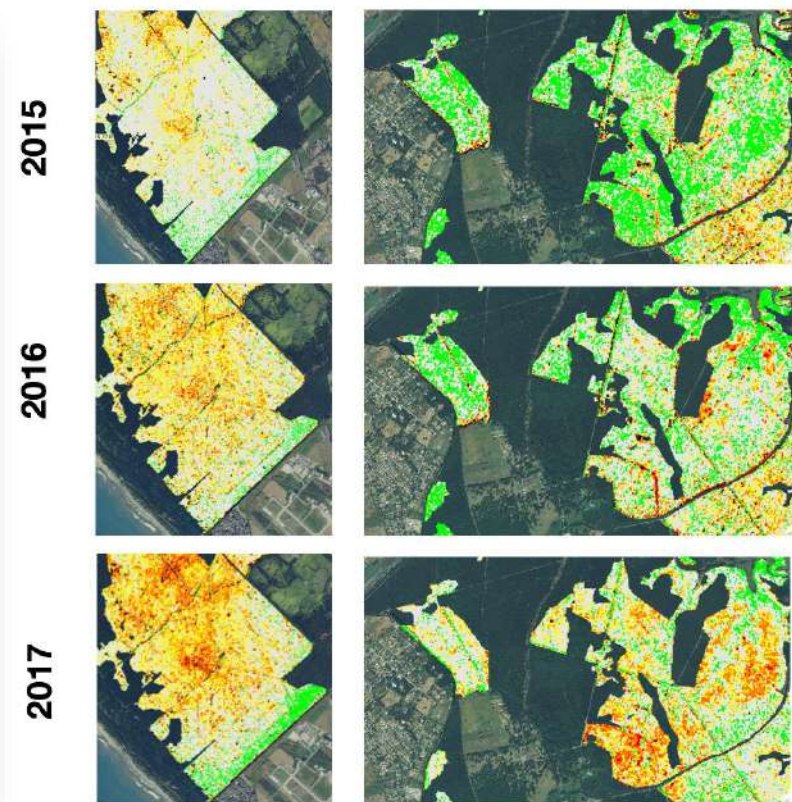
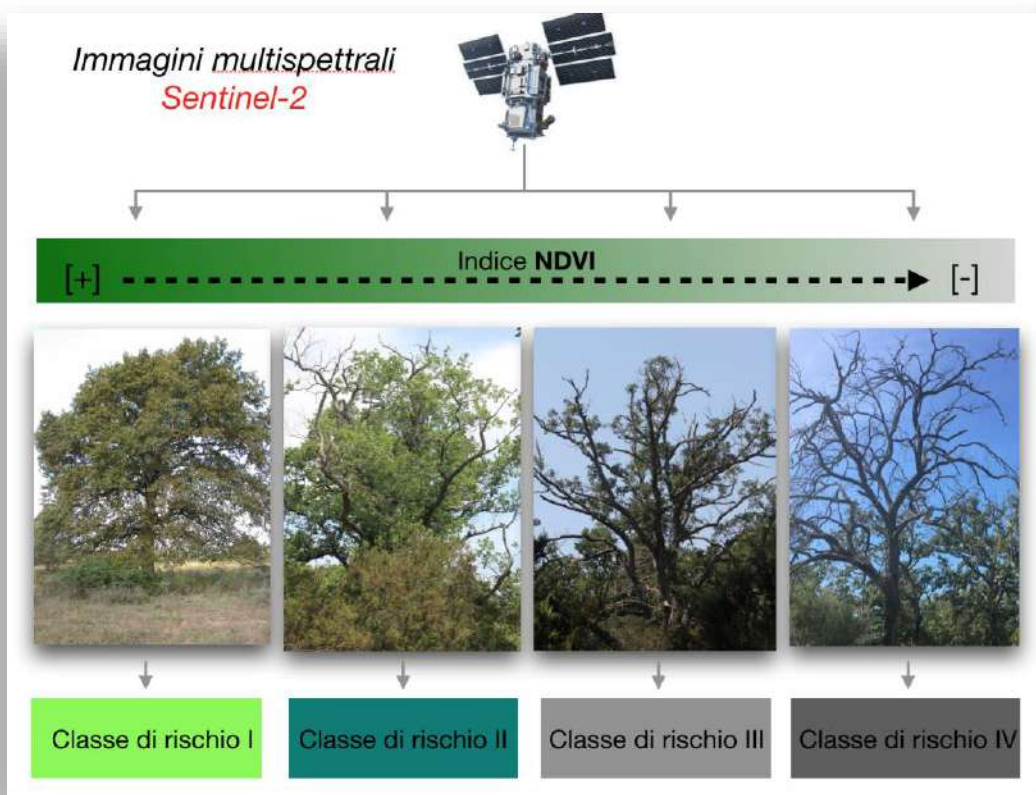


2. Surface deposition on cuticles and soil. Adsorption processes

3. Chemistry in the gas phase. Reactions between BVOC and ozone



Oltre agli aspetti dendrometrici ed incrementali la revisione ha riguardato anche l'individuazione diacronica delle condizioni di capacità foto sintetica delle pinete e dei querceti, mediante i rilievi satellitari e l'applicazione di un indice vegetazionale.



(Giordano e Recanatesi 2019)

Danni da *Toumeyella parvicornis* alla pineta



Litorale Romano centro-settentrionale – Tenuta presidenziale di Castelporziano (CPZ)				
POLIGONI DI PROGETTO	PTPG E RETE ECOLOGICA TERRITORIALE – TABELLA RIEPILOGATIVA			
CODICE	AREE CORE	AREE BUFFER	Zone di Protezione Speciale (ZPS)	Aree Protette Naturali (APN)
CPZ_1	-	SAV 14 (Castelporziano - Delta Moleto)	ZPS9 Castelporziano - Tenuta Presidenziale - Delta del Tevere (SAV)	APN 2 Riserva Naturale Statale Tenuta presidenziale di Castelporziano
CPZ_2	-			
CPZ_3A	AC Core 36 (Castelporziano - Delta Tevere)	-		
CPZ_3B	-	SAV 14 (Castelporziano - Delta Moleto)		
CPZ_3C	-			



Promuovere attività outdoor per prevenire e trattare patologie non infettive, videodipendenze e "disordini" psico-fisici



Molte istituzioni e organizzazioni sono impegnate nella relazione tra la natura e il benessere dei bambini.





Grazie!
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