

May 2022



MONITORING MOUNTAIN GRASSLAND TO SUSTAIN WILD HERBIVORES

>>> A few years later

Over the past few years, the research team of Italian National Research Council (CNR) has been focussing the research on the CO₂ fluxes in high altitude grasslands and on how to model them from both in-situ and with remote sensing measurements. The Gran Paradiso National Park is supporting these activities by investing further funding in the instrumentation for a long-term monitoring.

Mariasilvia Giamberini | National Research Council of Italy (CNR) - Institute of Geoscience and Earth Resources



BENEFICIARIES	National Research Council of Italy (CNR) - Institute of Geoscience and Earth Resources	Gran Paradiso National Park	Park managers and park technical staff; Researchers and scholars	Citizens and Society
SERVICES	TIER 1: SERVICE PROVIDER Sentinel -2	TIER 2 PRIMARY USER EO derived information on vegetation biomass growth; Weekly updated snow cover maps; Forecast of empirical models on the dynamics of large herbivore populations	TIER 3 SECONDARY USER Better understanding of criticalities affecting herbivore population trends; Programming and optimisation of field surveys; Planned management actions (e.g. forest encroachment).	TIER 4 END USER BENEFICIARIES Improved conservation of landscape, animal population and important ecosystem services; More sustainable ecological tourism in the Park; Enhanced protection of species and their habitats.

Value chain definition following SeBS Methodology - <https://earsc.org/sebs>

The space-based solution

This Copernicus-based solution was produced by a scientific entity for a for a Public Administration. In the past years there were No, there was no noticeable modifications of the solution.

The Usage Maturity Level

The solution remained at the same UML because its validation is still on-going. A European project that provided funding for this Copernicus-based solution has finished; new resources are being sought to consent further development.

Thematic Area



BIODIVERSITY AND ENVIRONMENTAL PROTECTION

Region of Application



PIEDMONT AOSTA VALLEY

Sentinel mission used



S2

Copernicus Service used



-

Usage Maturity Level



3/4

Overall benefits

ECONOMIC



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

INNOVATION



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

ENVIRONMENTAL



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

SCIENCE



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

REGULATORY



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

SOCIETAL



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

Benefits classification following SeBS Methodology - <https://earsc.org/sebs>

Interesting facts...

In the past few years, an Eddy Covariance tower and fixed flux chambers have been installed to monitor the CO₂ fluxes all years long. In 2020 an empirical model that links CO₂ fluxes from grasslands to meteo-climatic parameters, has been published by CNR team. Further scientific production is planned as outreach activity of the results achieved.

Outlook to the future

The research work on dynamics of high-altitude grasslands regarding CO₂ fluxes will be continued. The focus will be on understanding if this phenomenon is a carbon sink or a source and its evolution under climate pressures. The collaboration with the Gran Paradiso National Park (Primary User) will be continued.

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Contacts

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