



# **ECOPOTENTIAL Storylines: a whole system approach to Protected Areas ecosystems**

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**[www.ecopotential-project.eu](http://www.ecopotential-project.eu)  
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## *ECOPOTENTIAL in a nutshell:*

*Make best use of Earth Observations  
to characterize the state and changes  
of ecosystems and improve  
management and conservation  
in Protected Areas and beyond*





# ECOPOTENTIAL



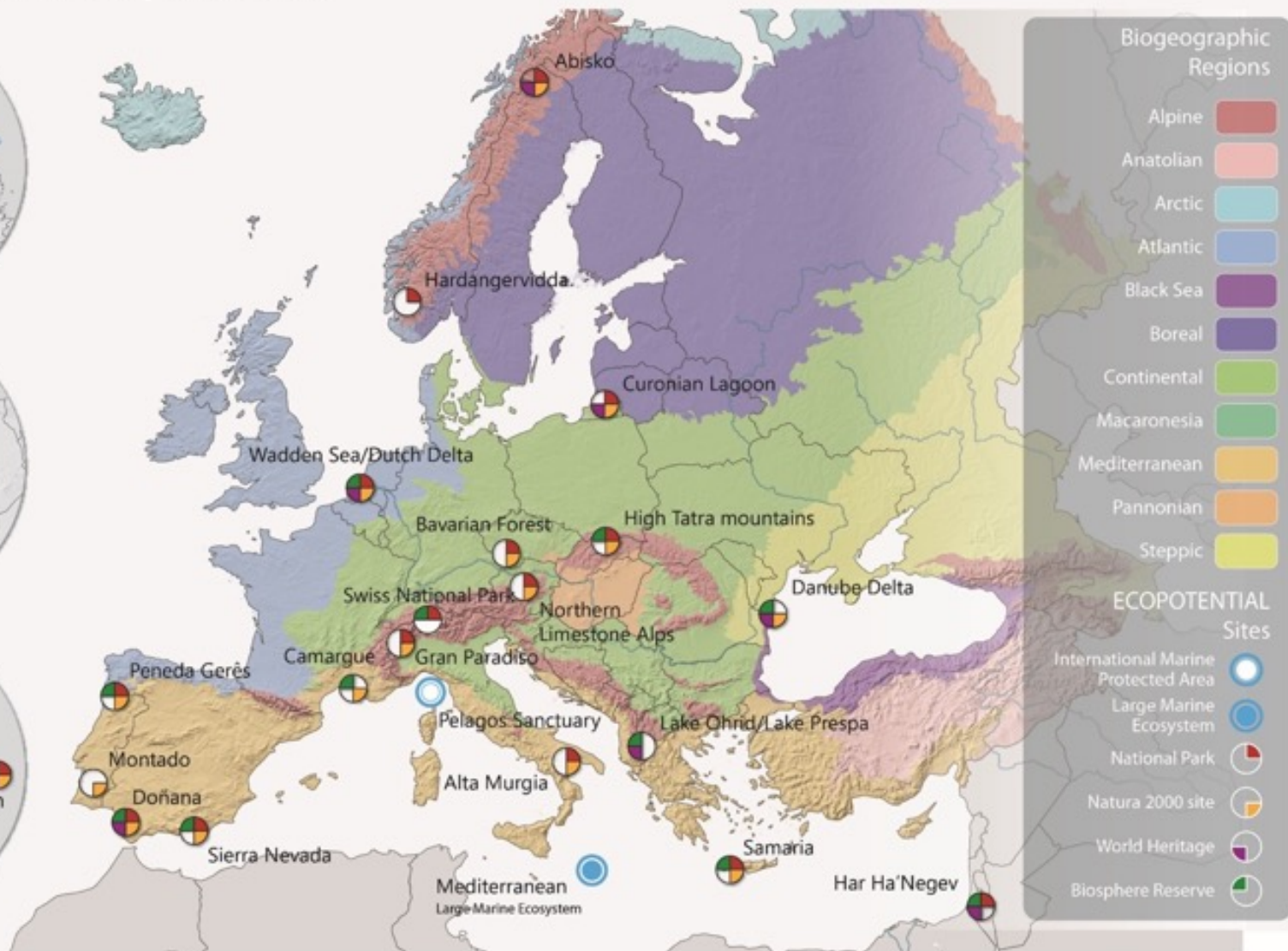
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## Working in partnership with Protected Areas in Europe and beyond

ECOPOTENTIAL Project Sites

25 protected areas    6 different protection status    17 countries





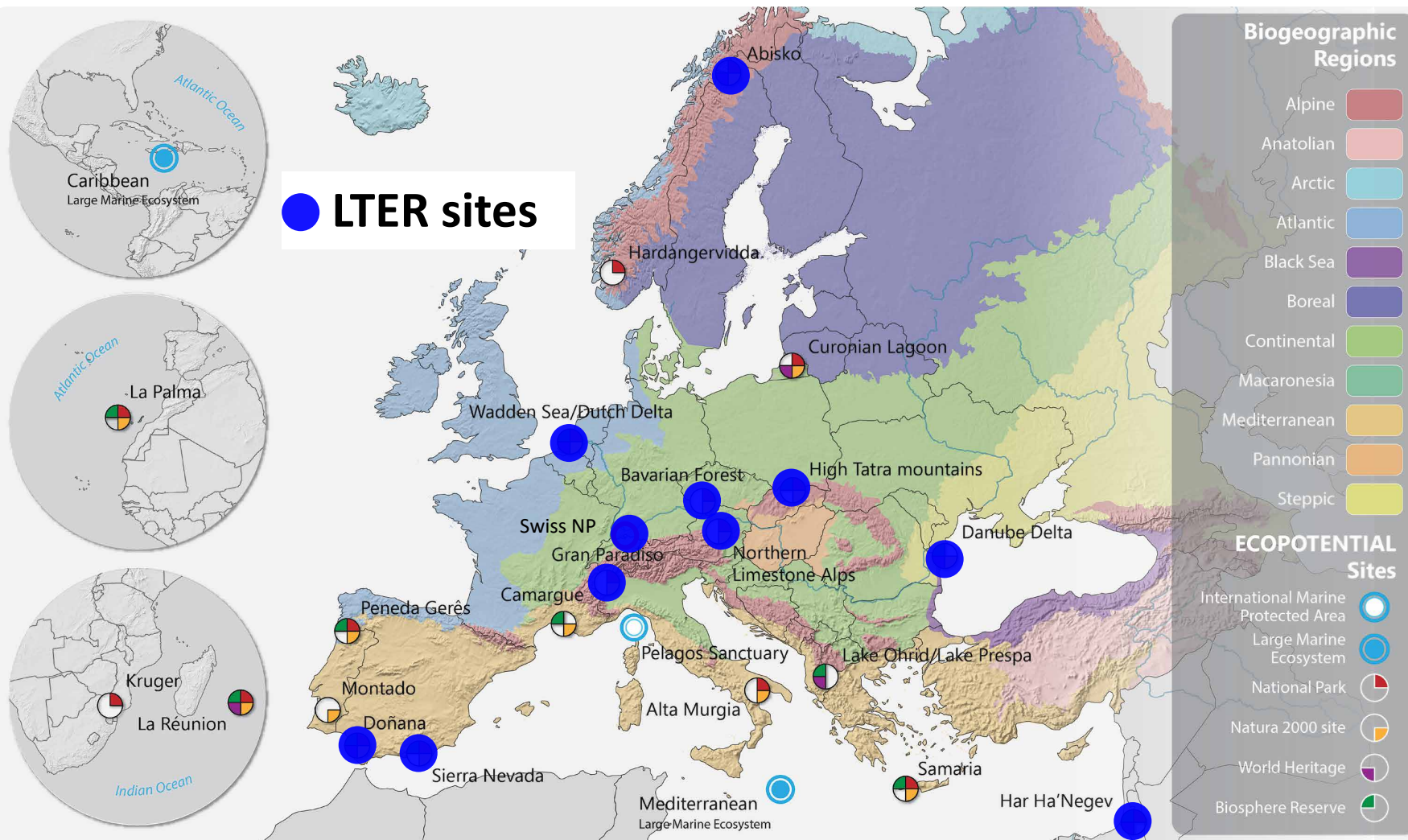
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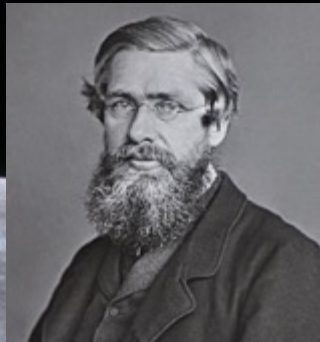
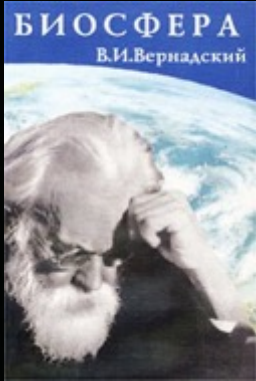
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*Keyword:*  
*Integration*

# Ecosystems as an integrating concept: “one physical system” with their environment



**Planet Earth as  
“One Grand Organic Whole”**



“Earthrise”, Apollo 8, 24 December 1968, photo B. Anders, NASA



# Integration between Remote Sensing and field measurements







# Integration of scientists views with PA needs





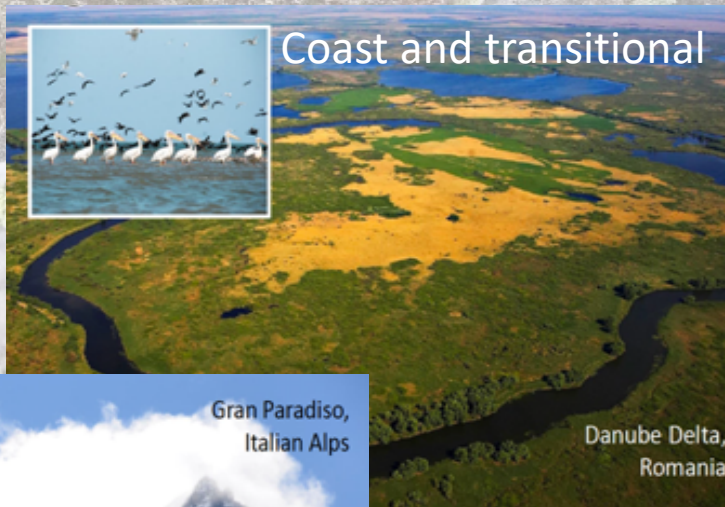
*The ECOPOTENTIAL storylines:*

## ***An Integrated approach with Protected Areas Staff***

- An example of **co-design** by part of scientists and PA staff
- Focus on given Protected Area(s) and **identify the main Ecosystem Services** of interest and the functions/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.
- Cross-WP threads and the circulatory system of the project



# Protected areas show different ecosystems and ecological challenges – different protection status



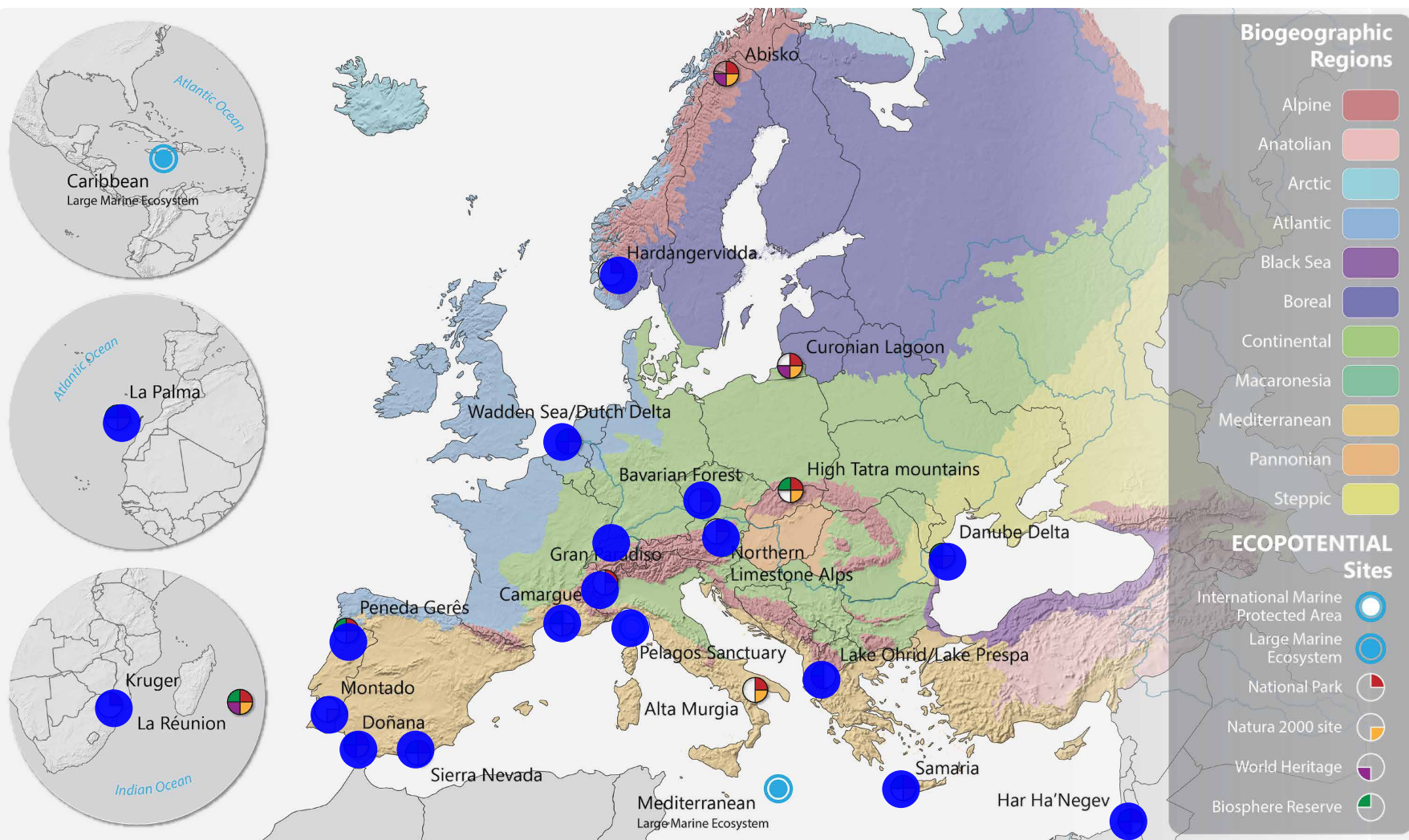
Arid and semi-arid







# The Protected Areas involved in the Storylines



The Doñana National Park was established in the 1960's for the protection of waterbirds.

Global (climate change), regional (water extraction, eutrophication) and local (modification of hydrological and grazing regimes) stressors could act in synergy and can push the ecosystem to undesirable states.

Doñana, Spain

ECOPOTENTIAL






To compensate the effect of climate change, it is necessary to maintain **local and regional stressors** under safe limits. Earth Observation is useful to understand wetland dynamics and to find the ecological requirements of its flora and fauna.







Montado is a  
High Natural Value  
wood-pasture system  
characteristic of the  
Iberian Peninsula.

Tree mortality and insufficient tree recruitment are causing a gradual decline in tree density which threatens the whole system and its survival.

Montado, Portugal

ECOPOTENTIAL






**Management practices** that protect and restore ground conditions are critical to improve tree condition and resilience to other threats and to ensure the regeneration and persistence of Montado in the long-term.

Montado, Portugal

ECOPOTENTIAL







**Gran Paradiso** is the oldest National Park in Italy, hosting the original surviving population of Alpine ibex. Sustainable tourism is associated here with **traditional landscape** and the presence of **mountain ungulates**


**Climate change** and the **abandonment of traditional management practices** cause modifications to **Alpine grassland** that can affect its forage value for wild herbivores.

Gran Paradiso, Italy

ECOPOTENTIAL







**ECOPOTENTIAL**  
uses in situ and Earth  
Observation data to  
quantify the status and  
forage value of  
pastures, comparing  
different management  
regimes, in order to  
develop conservation  
and management  
policy options.

Gran Paradiso, Italy

ECOPOTENTIAL



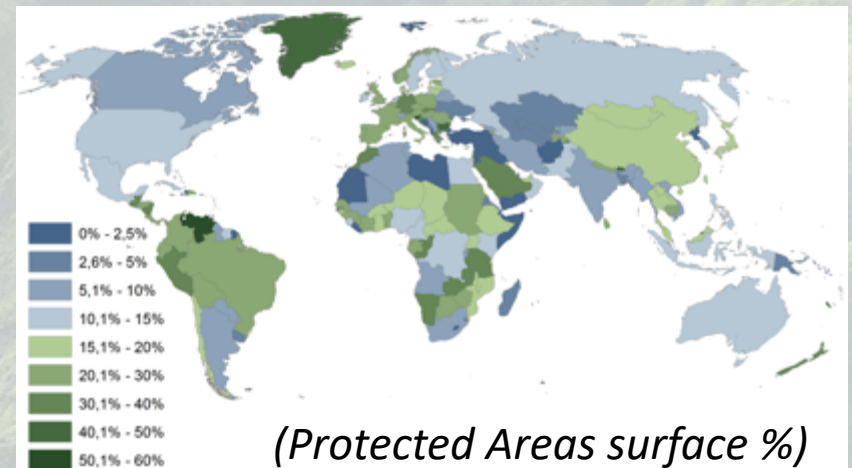
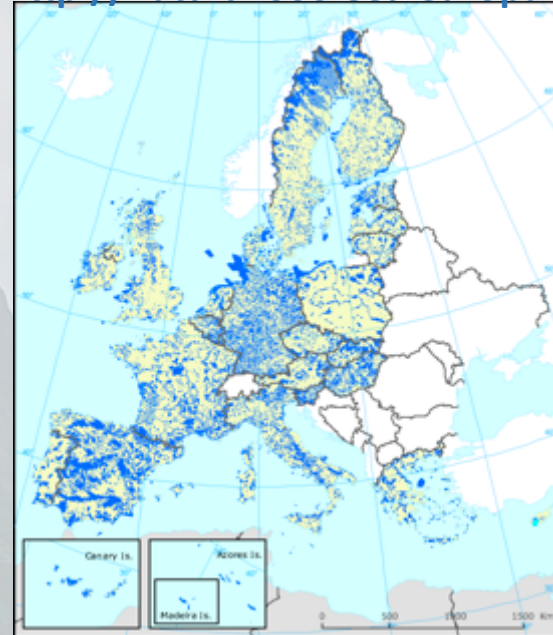


# The ECOPOTENTIAL LEGACY

Extend knowledge and products' use to other Protected (and non protected) Areas



<http://natura2000.eea.europa.eu/>





**User uptake of project results:  
strong link with PA staff and scientists  
(and other potential users)  
with continuous assessment of the  
possibly different priorities, views and needs**

**Provision of data, results and knowledge  
to larger-scale infrastructures and programs  
and transition to GEO ECO and EuroGEOSS**



# The ECO POTENTIAL LEGACY

Deliver the knowledge and products' use to other projects, research infrastructures and initiatives



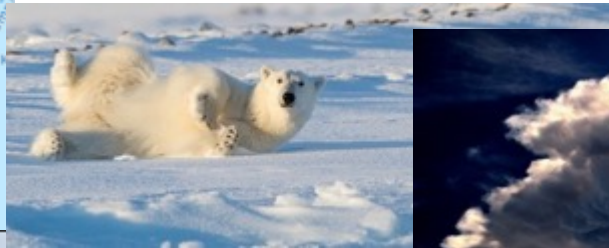
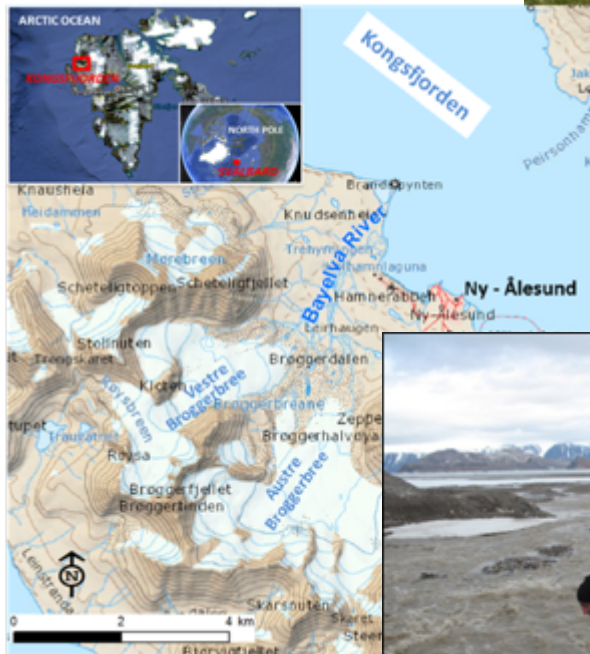




# Critical Zone Observatories in extreme environments

Need for  
combining  
in-situ  
measurements,  
remote sensing  
and modelling

Nivolet, GPNP



Svalbard

Mt. Etna







# **ECOPOTENTIAL**

**Improving future ecosystem benefits through  
Earth Observations**



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*Thank you for your attention*

[www.ecopotential-project.eu](http://www.ecopotential-project.eu)

