

“Protecting habitats and endangered species in EU...”, Heraklion, 22-10-2018

PROTECTION OF THE GEODIVERSITY IN GREECE THROUGH THE INITIATIVE OF GEOPARKS: THE CASE OF CRETE

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Content

1. Introduction for Geodiversity & Geosites
2. The Greek geoconservation legislation
3. The UNESCO Global Geoparks
4. The Cretan Geodiversity and Geoparks
5. Risks and Threats for Cretan geodiversity
6. Conclusions

Geodiversity-Geological heritage

We call **geodiversity** the natural variety of earth materials (rock, minerals, fossils, soil), of geomorphology (rocks shapes, landforms, landscape) and of the processes that are forming these.

Geosites are distinct parts of geosphere with important geological or geomorphological value. They comprise **geoheritage**.

Geodiversity has a substantial contribution in the creation of the:

- Relief and landscape,
- Ecotopes
- Human societies and
- Civilization



Geodiversity value

The value of geodiversity can be considered as:

- Intrinsic (being part of the Earth),
- Economic (raw material and resources),
- Cultural and aesthetic (landmarks...),
- Scientific (history of the earth and life)



Idaion Andro Cave



Threats to geodiversity

Geodiversity faces threats due to:

- Natural processes (erosion, atmosphere conditions...)
- Intensive use of raw materials,
- Big infrastructure development,
- Illegal extraction and trade
- Vandalism



The present protection status

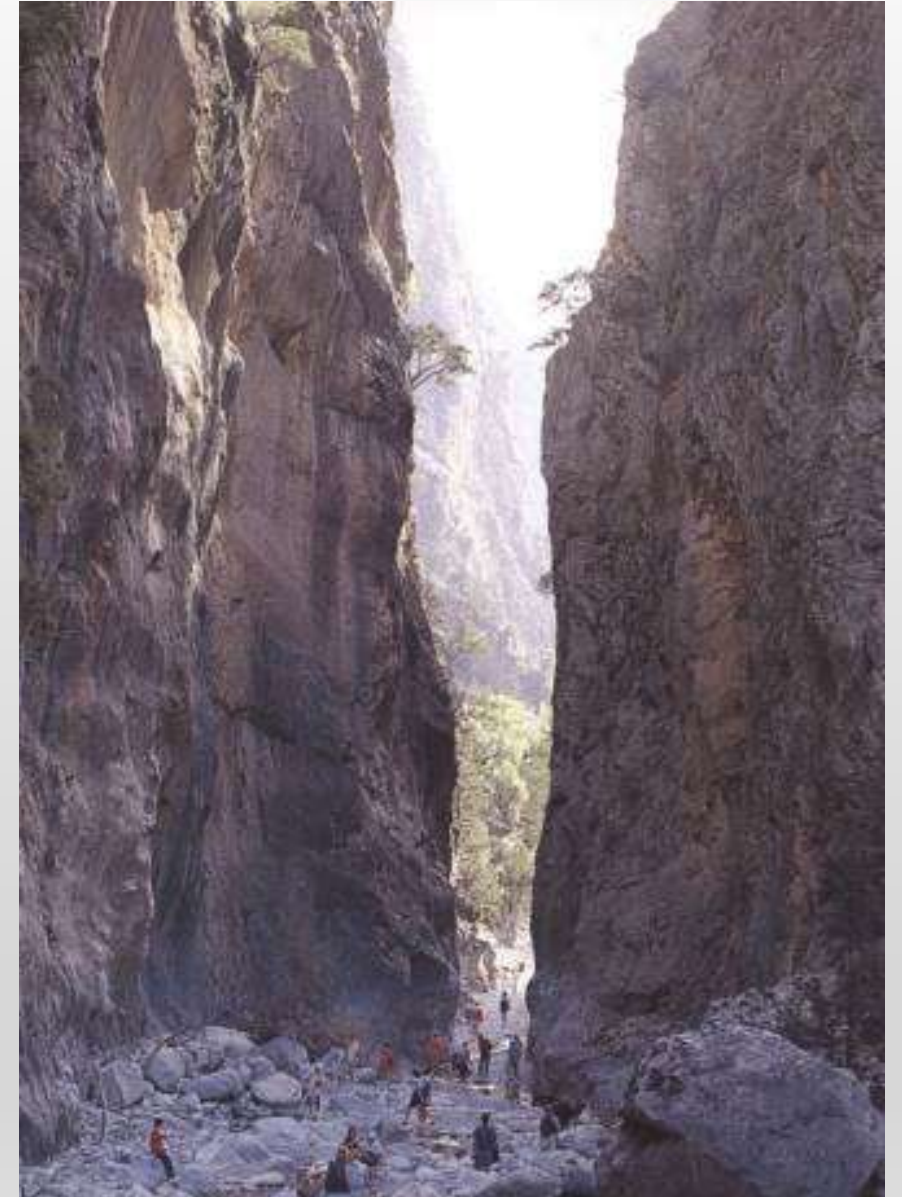
Protection of geodiversity under National Legislation in Greece:

- Law 1650/1986, for the “protection of Nature”, as natural Monuments (never happened)
- Law for Sustainable development (2742/1999), decision of the Secretary General (Never used)
- Indirectly through the archaeological and forestry laws.
- More recently under the law 1907/2007 for the Studies for Geological Suitability in case of Spatial and Town Planning (used in Crete)

The present status

Protected geosites in Greece:

- Samaria gorge and Olympus mountain as National Parks and Biosphere Reserves (biodiversity)
- Meteora as World Heritage Site for the Monasteries
- All caves as potential archaeological sites.



The present status

- Only the Petrified Forest of Lesvos is protected strongly under the Ministry of Culture and Archaeological law.
- Also two geosites in Lesvos and Limnos isl.
- However, the Law 3937/2011 for Biodiversity protection, describes for first time geodiversity and geosites, and permits the protection of geoheritage as geosites-natural monuments and geoparks-nature parks.
- Though still many problems for implementation due to lack of several Ministry and Presidential decisions that are necessary.



The new IGGP program: UNESCO Global Geoparks

On 17th November 2015 the General assembly of UNESCO approved the new International Geosciences and Geoparks Program nominating the UNESCO Global Geoparks



140 UNESCO
Global
geoparks exist
at present at
38 countries,
whereas 28
new
applications
were
submitted in
2018



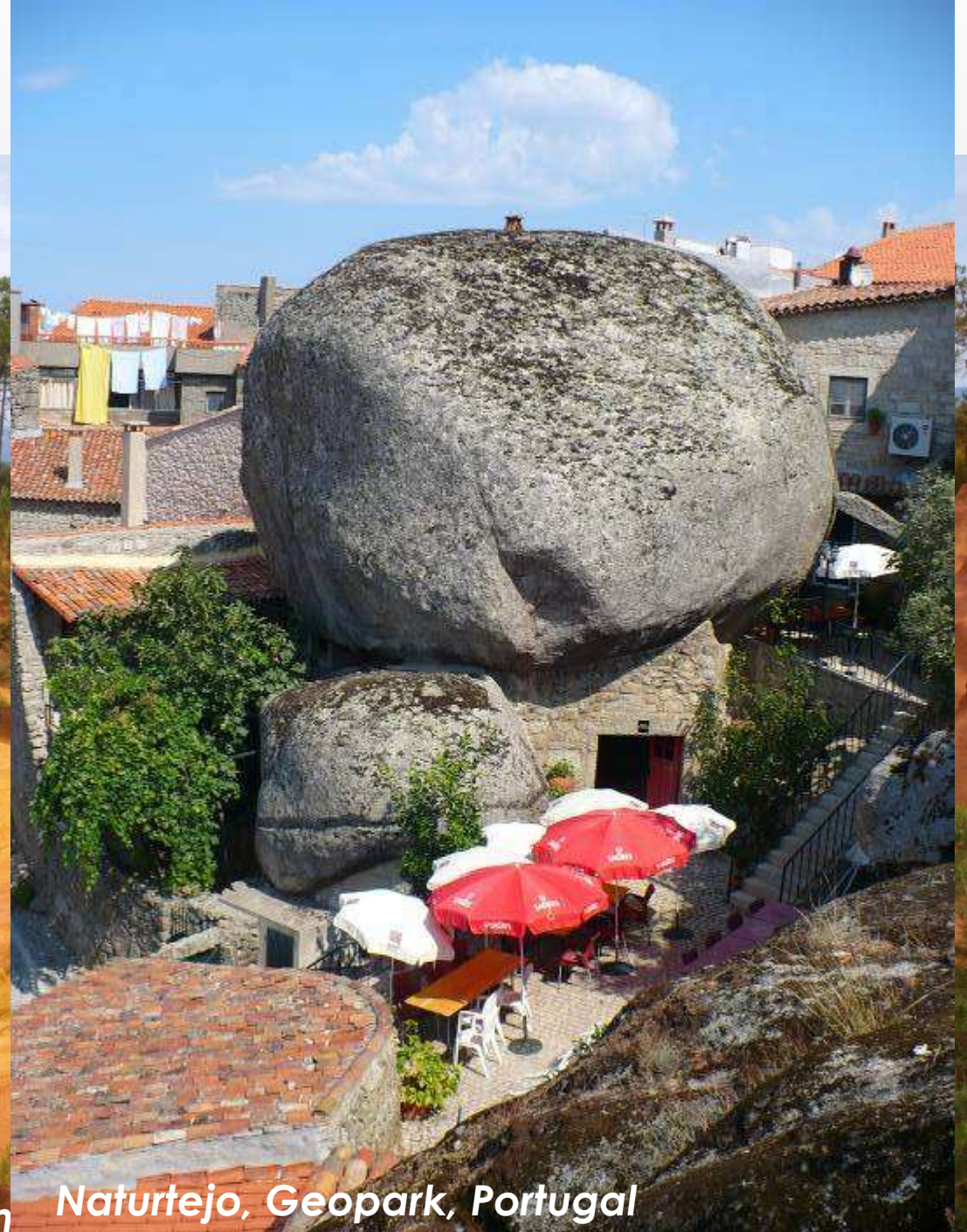
What are the Geoparks (2)

Geoparks include:

- Areas of international geological and geomorphological values
- Areas of significant ecological, archaeological and cultural value
- Areas of extraordinary natural and aesthetic beauty
- Protected areas
- People and human activities



Γεωπάρκο Luberon



Naturtejo, Geopark, Portugal

What are the Geoparks (3)

Geoparks should have:

- Sufficient area for local sustainable dev.
- A strong and effective management structure
- Financial capability and adequacy
- A holistic management plan



What are the Geoparks (4)

Geoparks have to develop actions on:

- Local promotion and information,
- Education for sustainability,
- Geoconservation,
- Geotourism and local sustainable development

Geoparks have to act as a network!

And are evaluated every 4 years!

Environmental education, Psiloritis geopark



New enterprises, Villauercas geopark Spain



Geotou

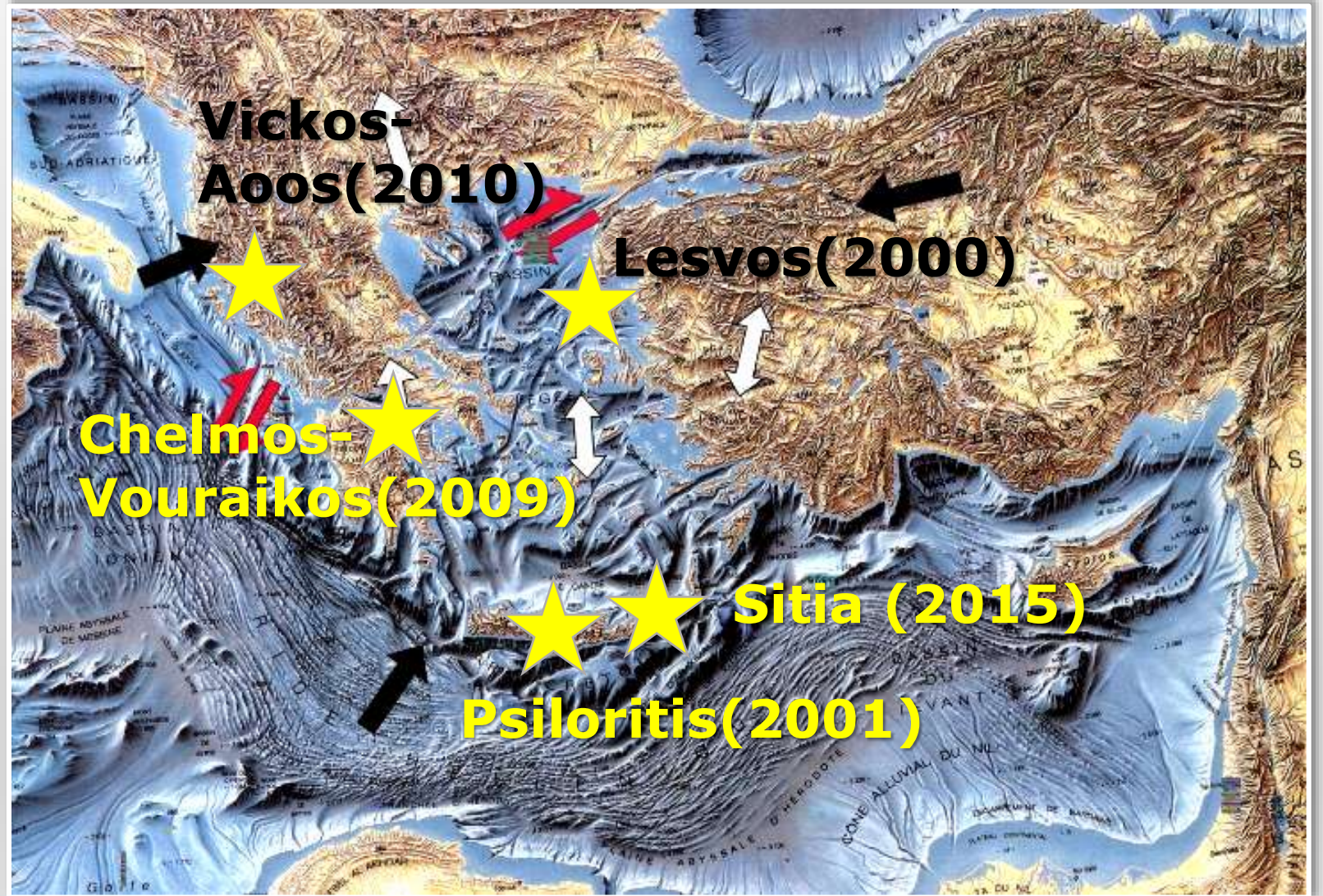
Geoparks and Geoconservation

- Many geopark's management structure has the legal authority to undertake actions to conserve and protect geosites.
- In several EU and Asian countries exist National Geoparks as protected areas.
- All UNESCO Geoparks are obliged to protect in any way important geosites.
- All geoparks undertake actions to inform (publications, campaigns...) on the value and raise awareness on the need to protect geodiversity



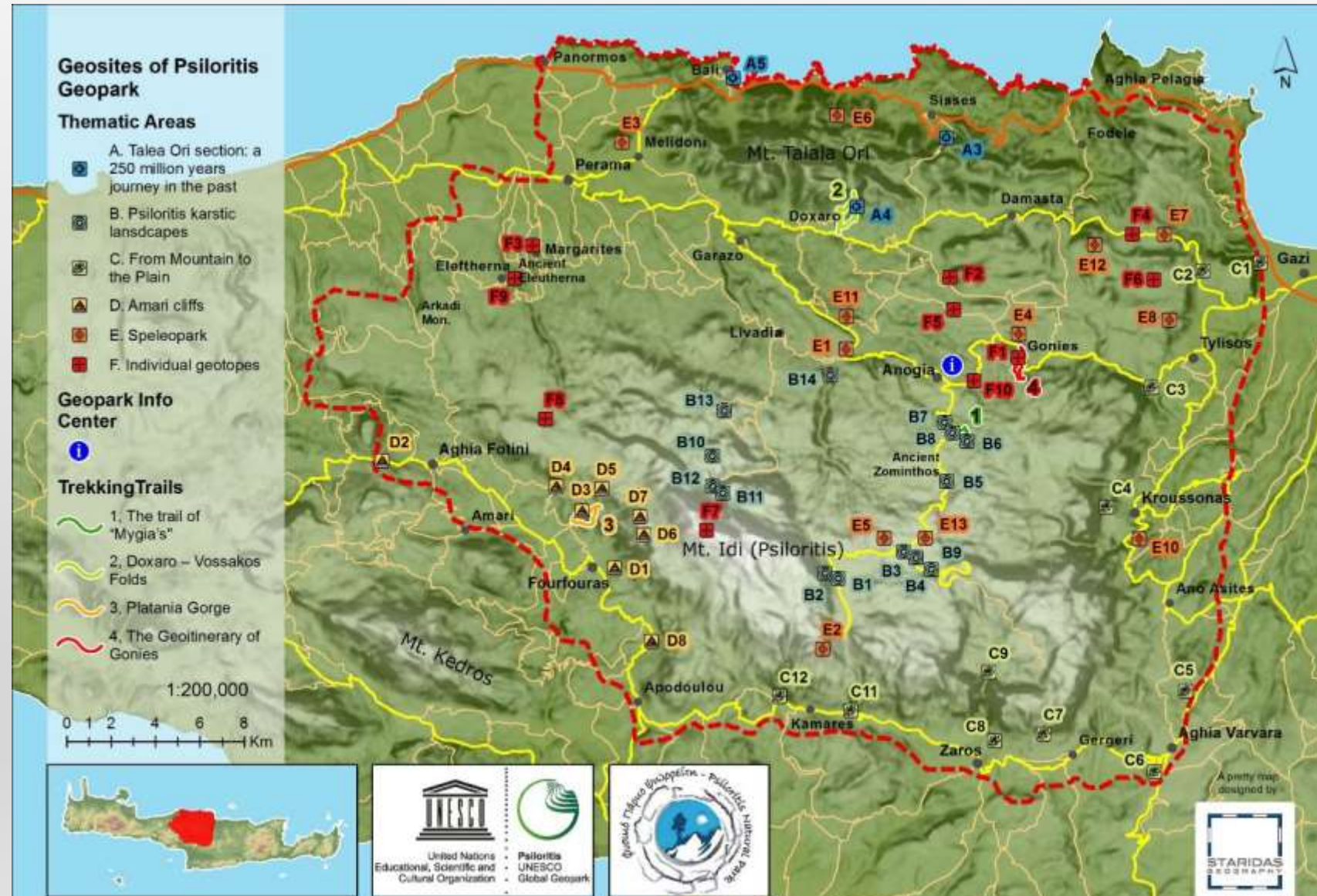
The Hellenic geoparks

In Greece exist five UNESCO Global Geoparks



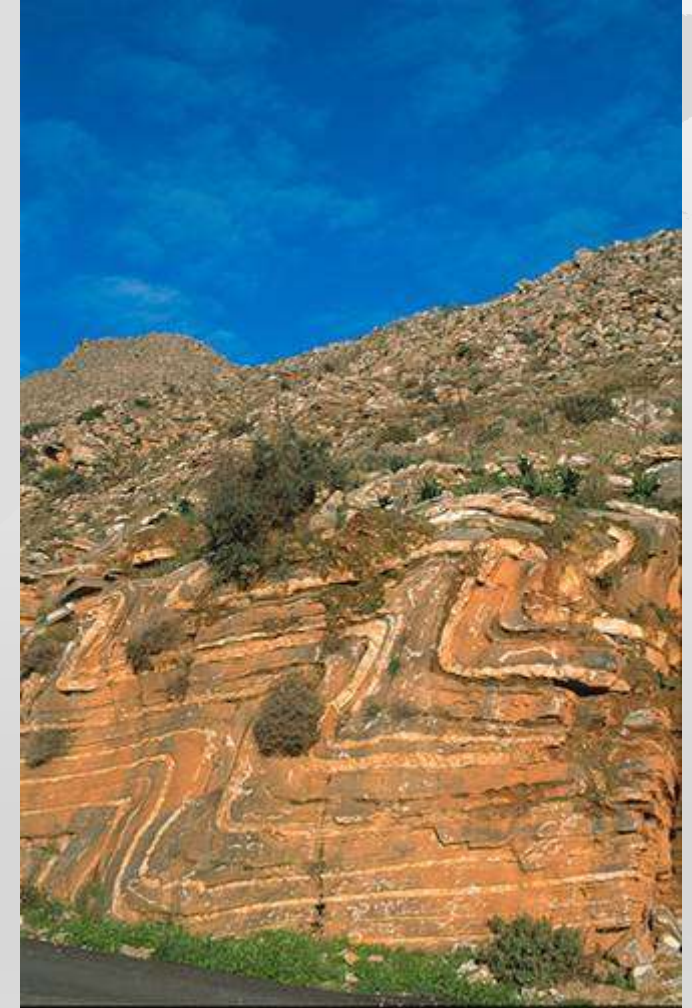
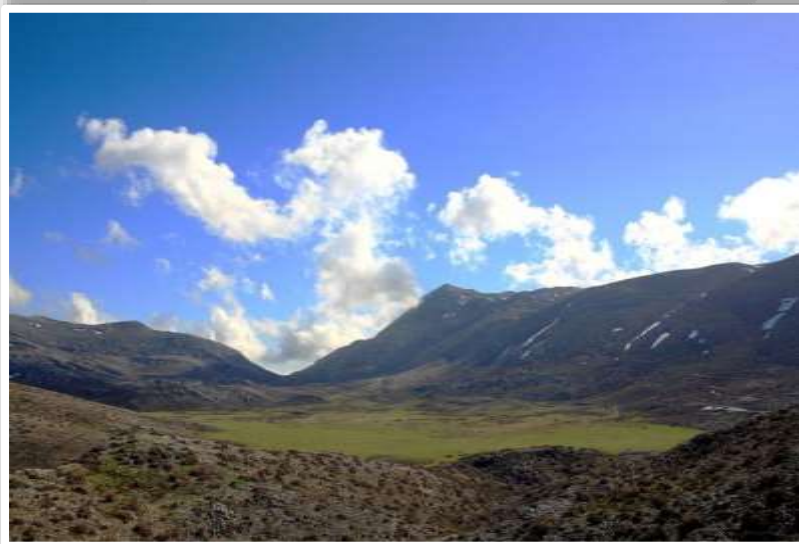
Psiloritis geopark: features

It has an area of 1200 km², extending in two former prefectures, and 8 municipalities. Includes Nature 2000 areas, Wild nature reserves, archaeological sites and 74 geosites.



Cretan geoparks: Psiloritis

Almost the complete geological evolution of Greece and Cretan culture, together



Psiloritis geopark: features



Rock forms



Sitia geopark: features

It has an area of 540 km², covering part of Sitia Municipality. Includes Nature 2000 areas, Vai Palm forest, Wild nature reserves, archaeological sites and about 100 geopoints.

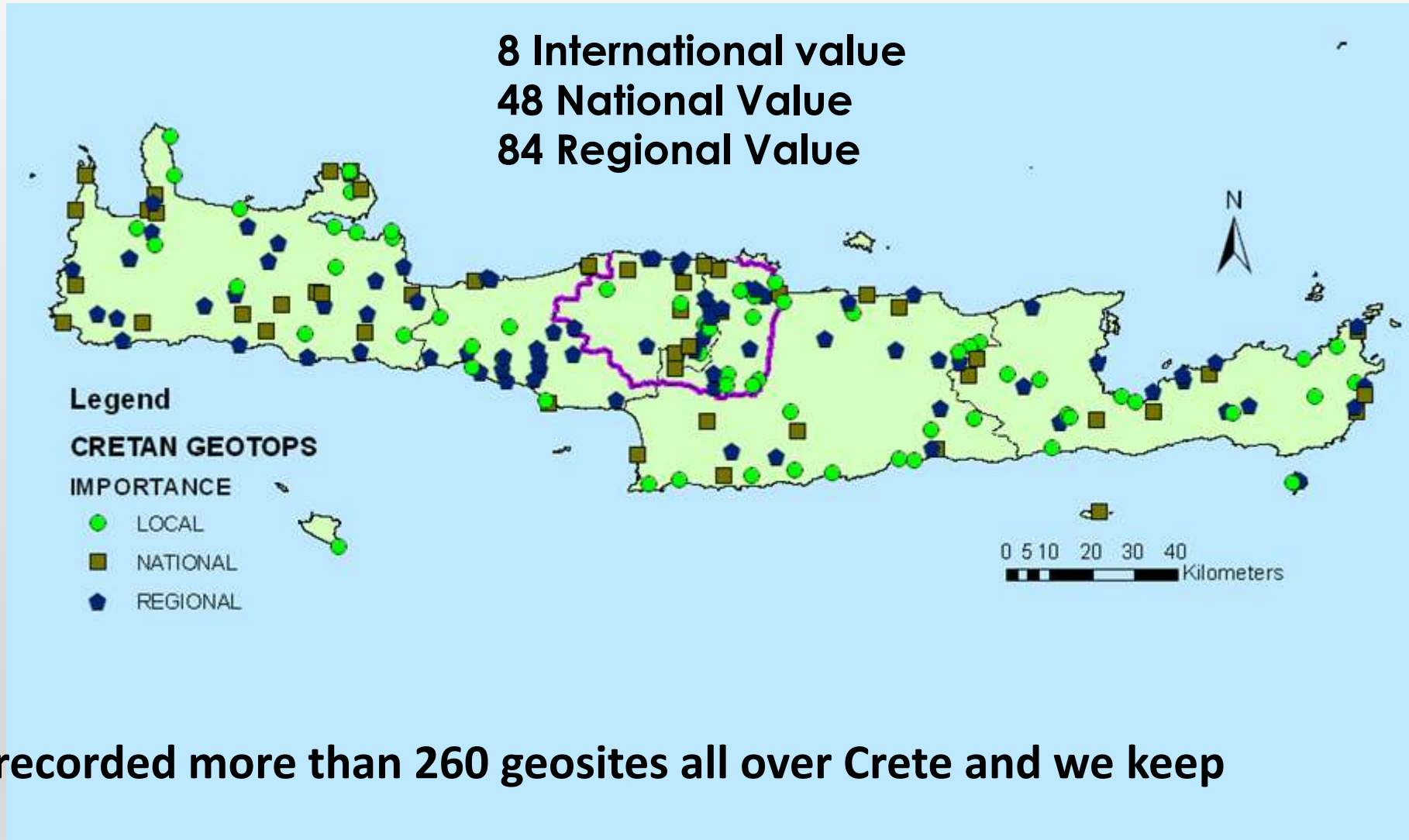


Cretan geoparks: Sitia

Active geodynamic processes, fossil sites, important ecosystems, coastal landscapes and local gastronomy



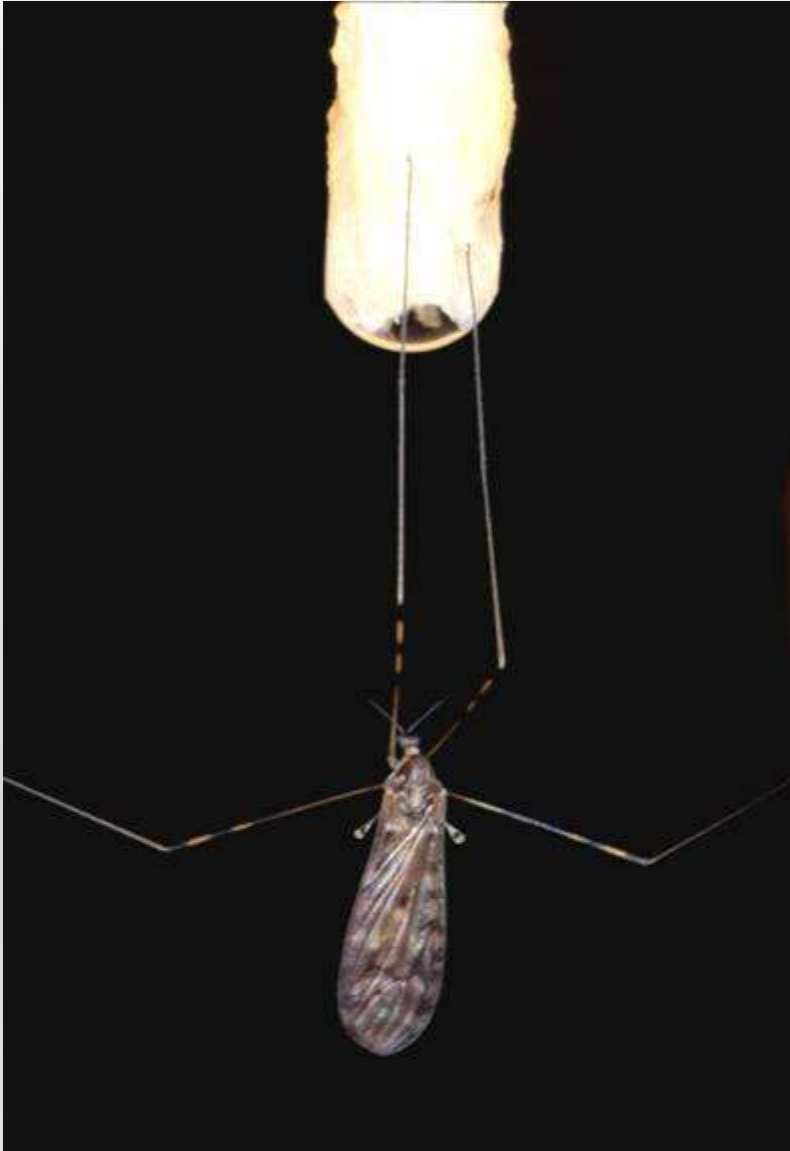
Geosite inventory in Crete



NHMC has recorded more than 260 geosites all over Crete and we keep going...

Geosite value

- 12 High aesthetic values
- 9 High scientific and educational value
- 4 Important for ecosystems
- 4 Important for human activities
- Most are suitable for tourism and educational activities

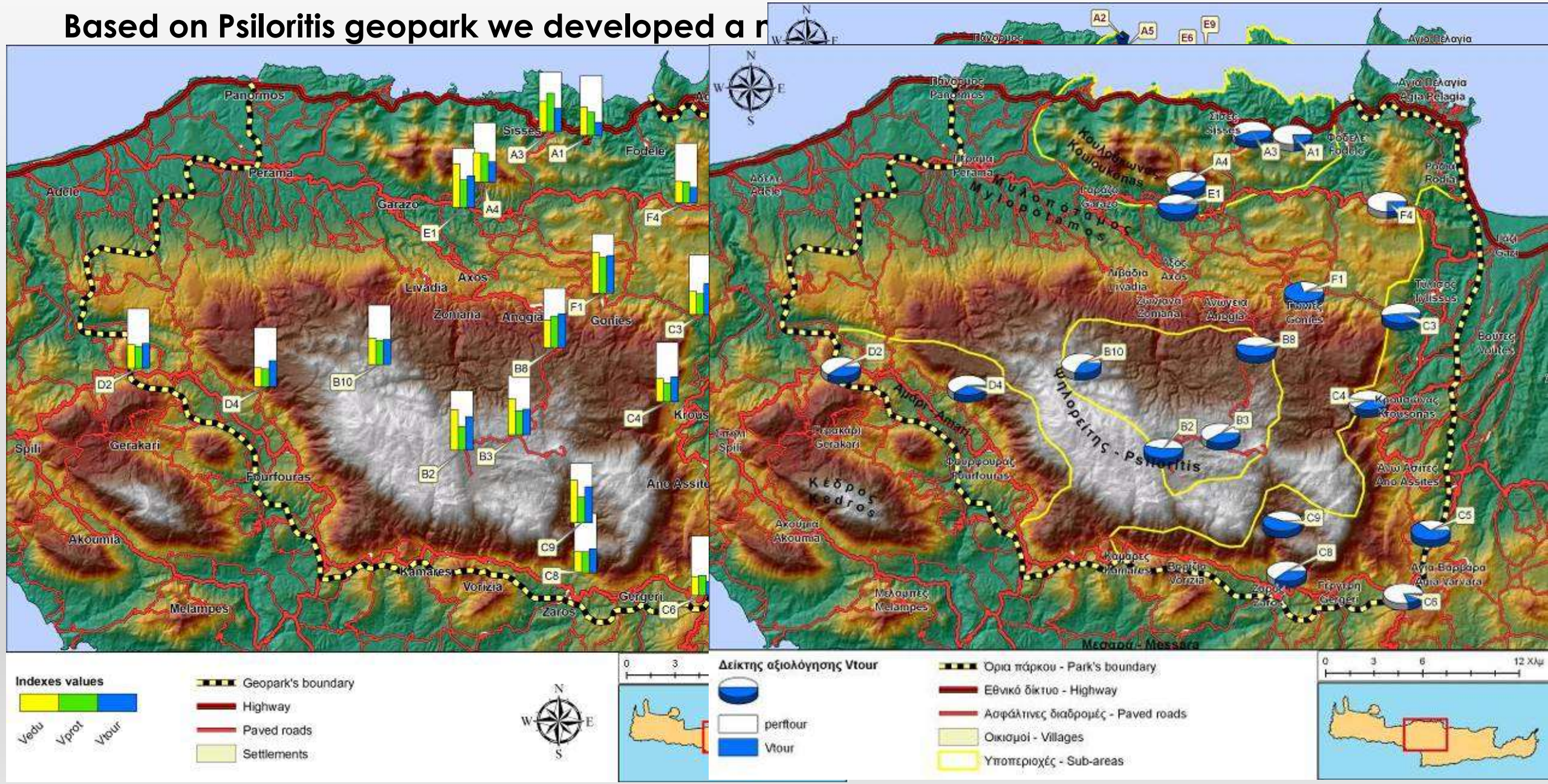


Nida plateau



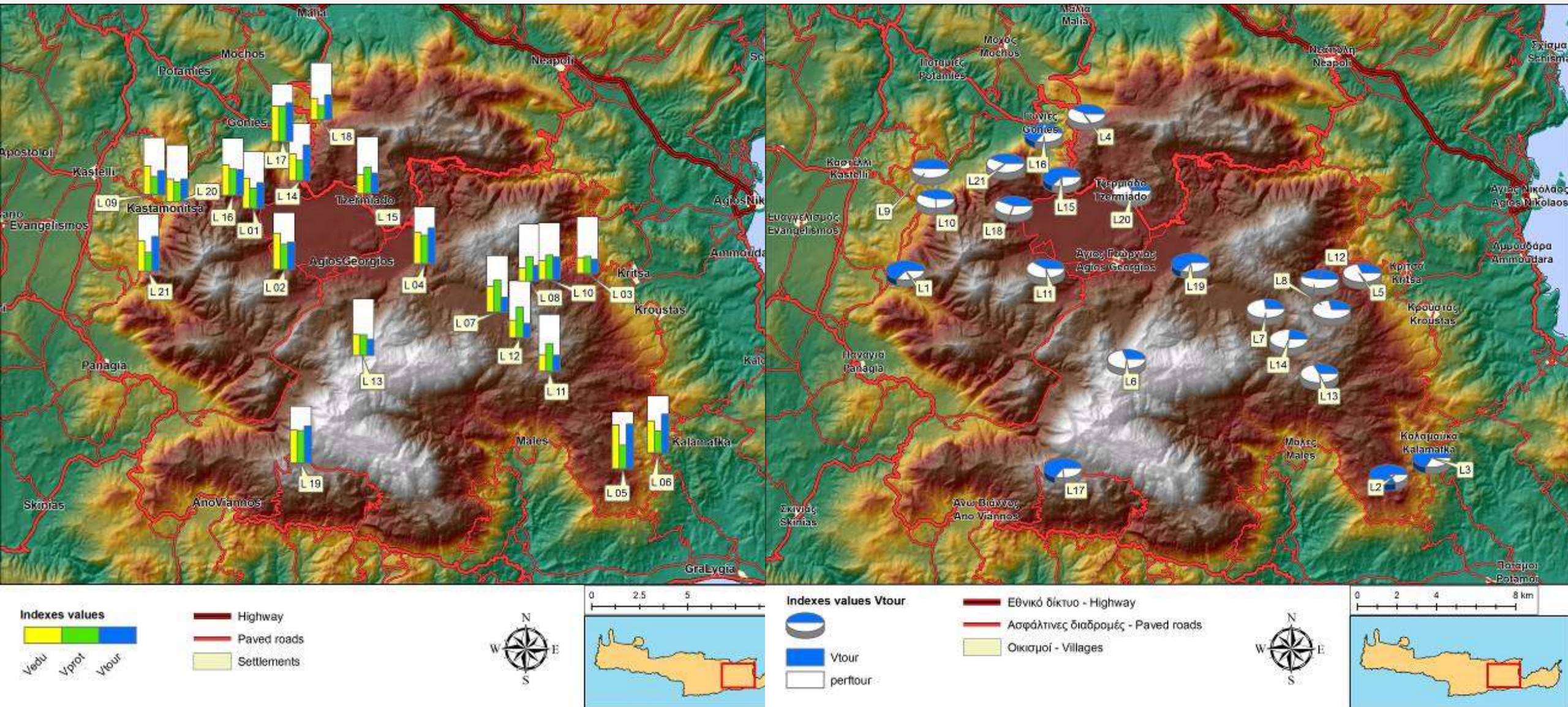
Geosite quantitative assessment

Based on Psiloritis geopark we developed a r



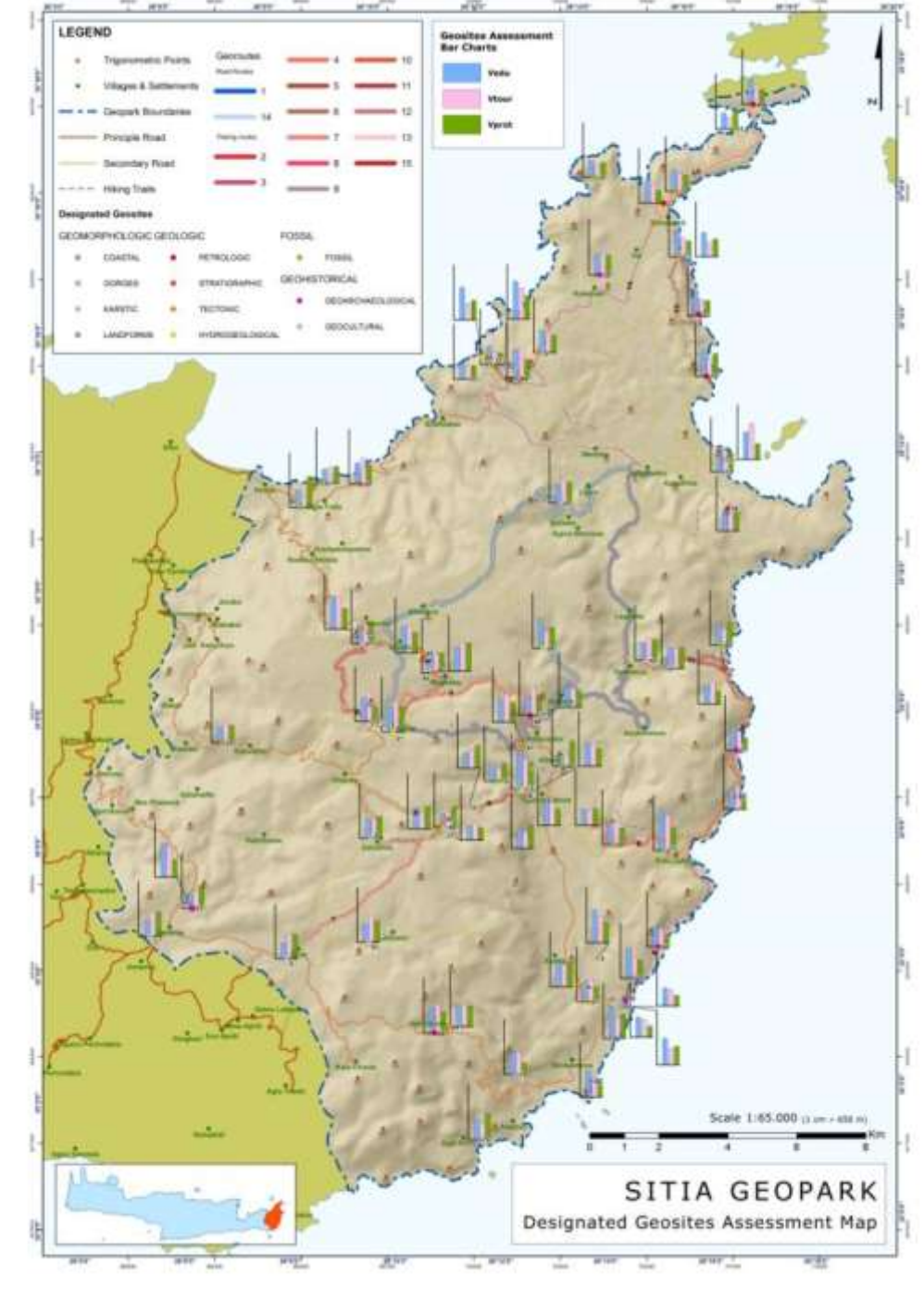
Geosite quantitative assessment

23 Geosites at Lassithi mts



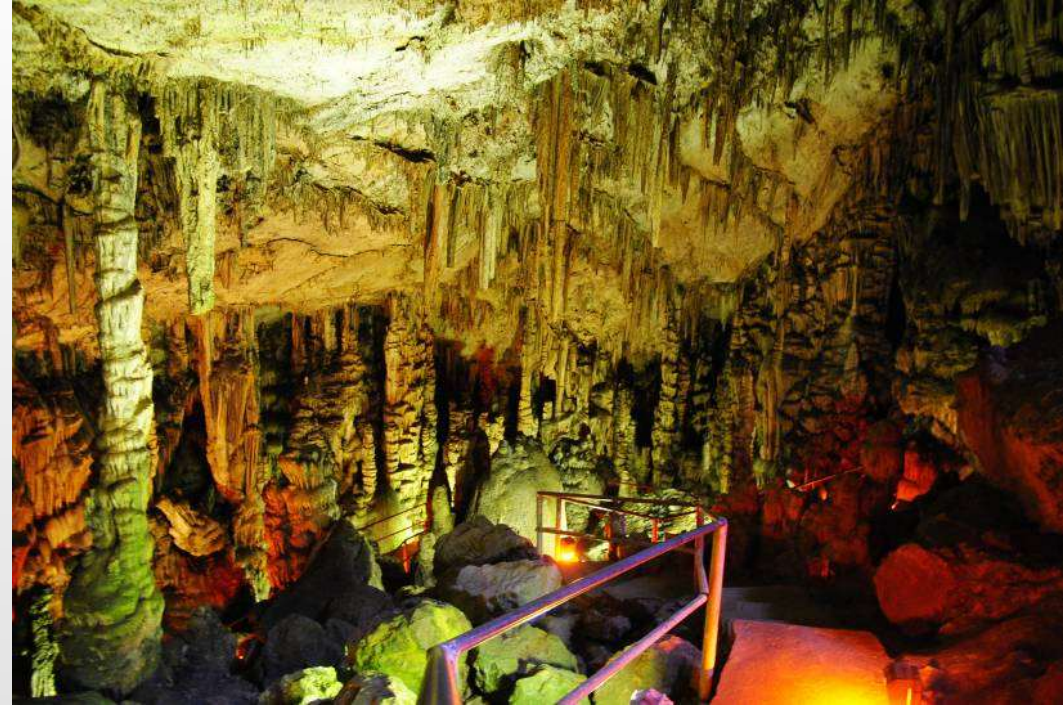
Geosite quantitative assessment

67 Geosites assessed
at Sitia geopark



Cretan geosite protection

- At present, apart from the caves and Samaria gorge, no other geosite of Crete has a legal protection.
- Most geoparks in Greece, do not have legal geosite protection statuses.
- Based on the NHMC inventory several geosites have been included in the maps of the new Town Spatial Plans, but only as dots (no protection precautions).
- The geoparks in Crete inform, suggest good practices for inhabitants/visitors, monitor and hide in cases, their geosites



Cretan geosite protection

Exhibition under
GEOIN
(INTERREG)
project of Greek
and Cypriot
Geopark
geodiversity in
Athens.
It will travel in
Crete, Lesvos
and Cyprus too.



Cretan geosite threats

Cretan geosites have faced several threats and have been affected in several cases by:

- Natural processes
- Big infrastructures-development pressure
- Lack of protection status



Cretan geosite threats

Cretan geosites have faced several threats and have been affected in several cases by:

- Illegal activities
- Vandalism



Conclusions

- Crete hosts a great and important geodiversity, expressed in two UGGps
- At present, legislation exists for geoconservation although several steps are still needed.
- Cretan geosites have faced several threats and still face risks
- Cretan geoparks do not have the authority for direct geoconservation, however have undertake several initiatives for their protection and monitoring.
- Greek geoparks are in contact with Ministry of Environment to solve existing problems and protect geodiversity.

Thank you!