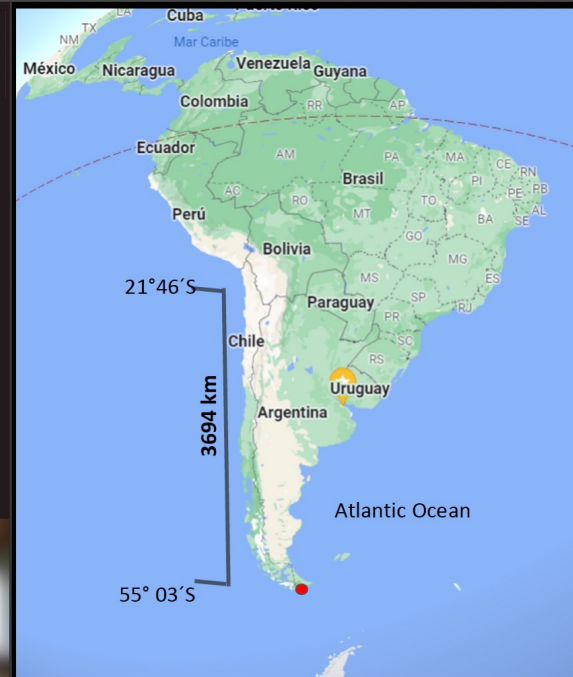


# Geodiversity in Argentina.

## Resources, state of the art and future

Dr. Andrea Coronato – Dr. Soledad Schwarz



2,791,810 km<sup>2</sup>

Atlantic coast to the east

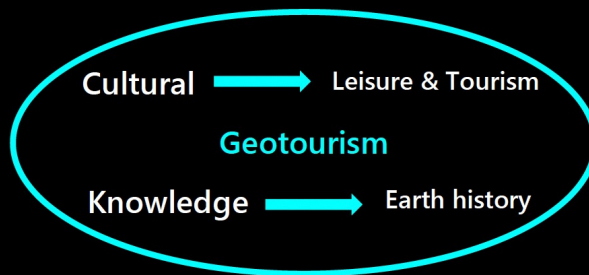
Andes Cordillera to the west

47.327.407 inhabitants  
17 inhabitants/km<sup>2</sup>



**Geodiversity** as 'the natural range (diversity) of geological (rocks, minerals, fossils), geomorphological (landforms, processes) and soil features' (Gray 2004, p. 8).

Geosystem services offered by Geodiversity: Regulating -Supporting -Provisional

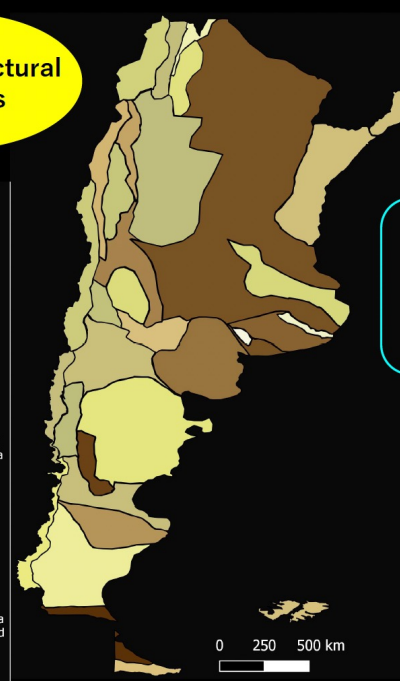


**Morphostructural richness**

### References

Geological provinces of Argentina

- Austral basin
- Barridos range
- Chaco-Pampean plain
- Claremeco basin
- Colorado basin
- Cuyo basin
- Deseado massif
- Famatina range
- Frontal Cordillera
- Fuegian Cordillera
- Las Mahuidas block
- Malvinas plateau
- Mesopotamia
- Misiones tableland
- Neuquen engulfment
- Northern Patagonian tableland
- Northern Patagonian cordillera
- Oriental Cordillera
- Pampean range
- Patagonian PreCordillera
- Payunia
- PreCordillera
- Principal Cordillera
- Puna
- Salado basin
- San Rafael block
- Santa Barbara Range
- Somun Cura MACIZO
- Southern Patagonian cordillera
- Southern Patagonian tableland
- Subandinas range
- Tandilia range
- Ventania



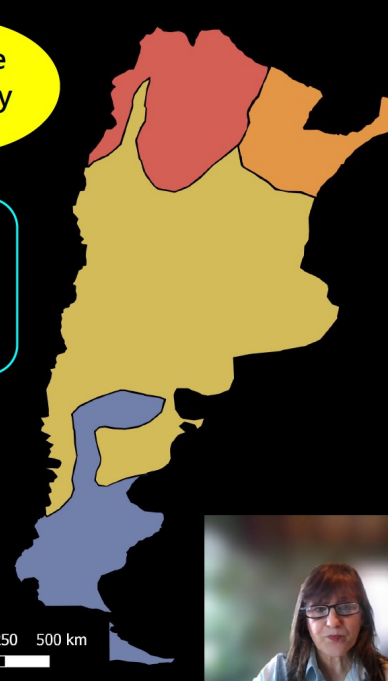
**Climate diversity**

**Multiple landscape units**

### References

Climates of Argentina

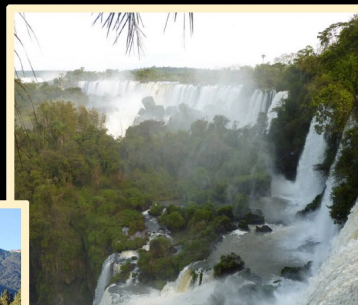
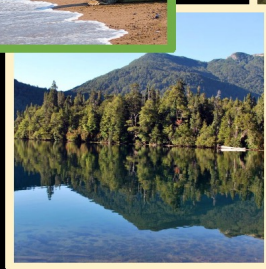
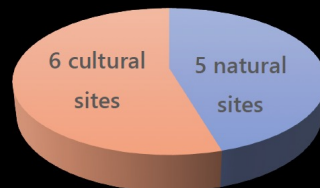
- Tropical
- Subtropical
- Temperate
- Cold temperate





However, there are  
no UNESCO  
Geoparks

... but 11 World Heritage  
Sites (WHS) were  
declared

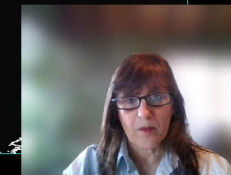


Although there are no geoparks, national  
earth scientists proposed ...

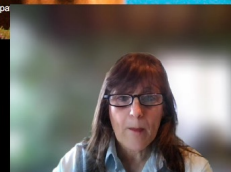
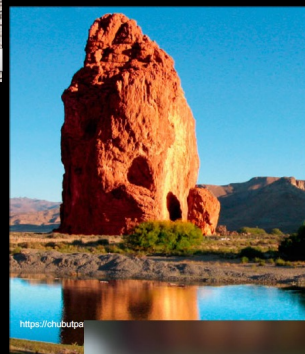


72 Geological Interest Sites (GIS) all over the country

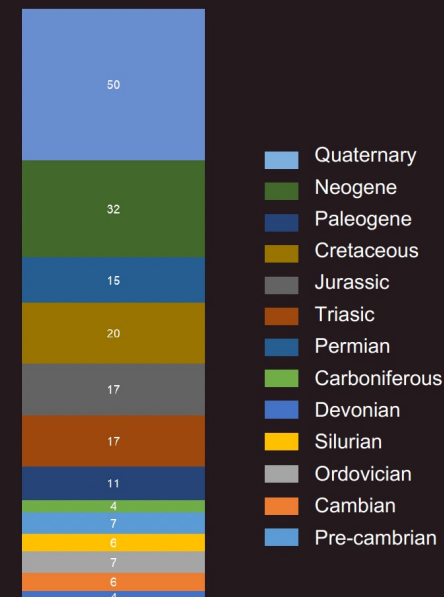
This is an **inventory** which does not imply **any**  
**specific** type of **protection**



What are  
Argentina's  
GIS like?



Geological Time

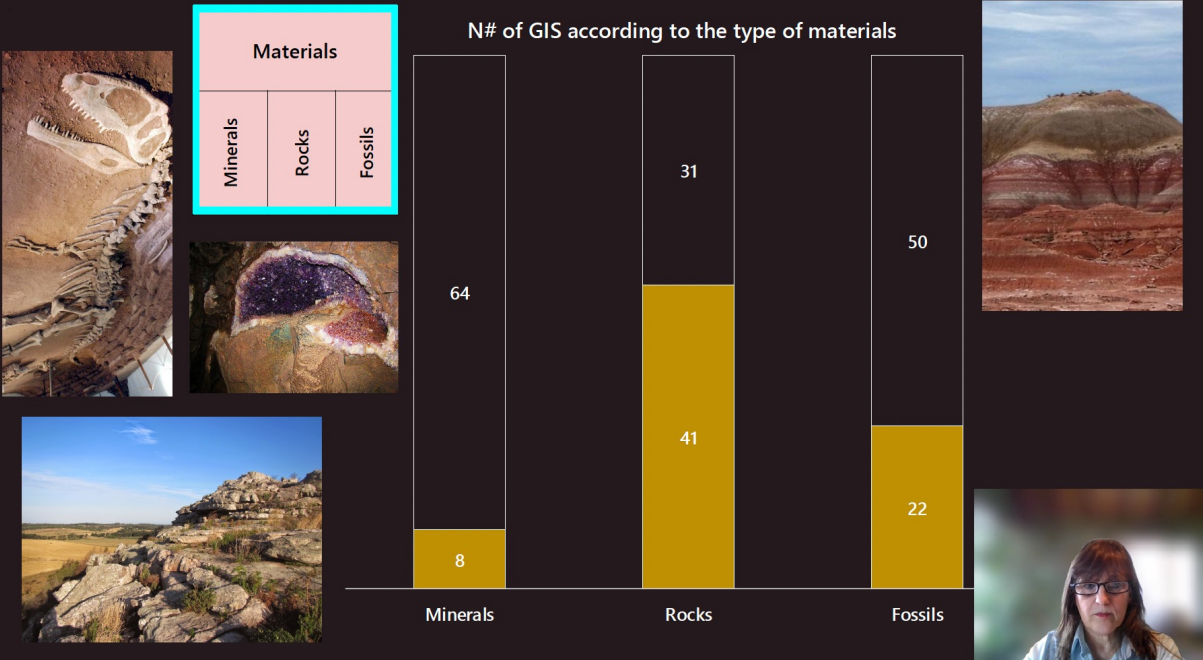
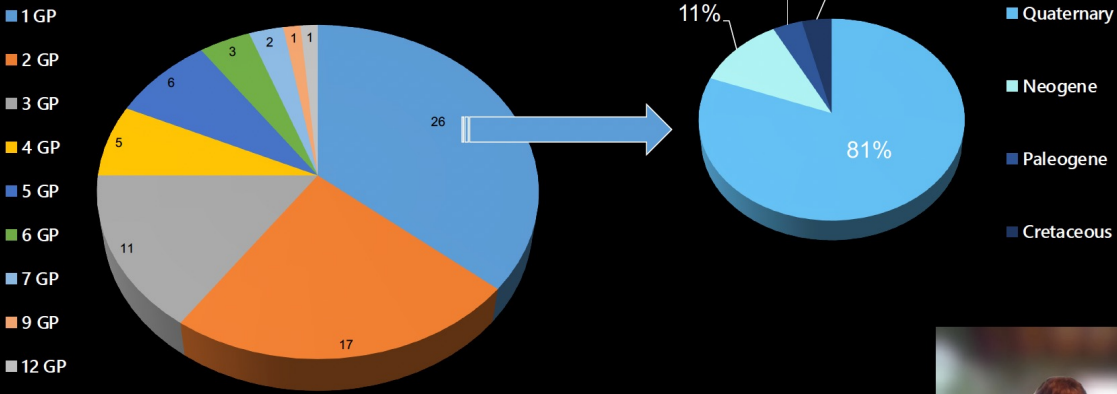


All the  
geological  
periods are  
represented  
in GIS





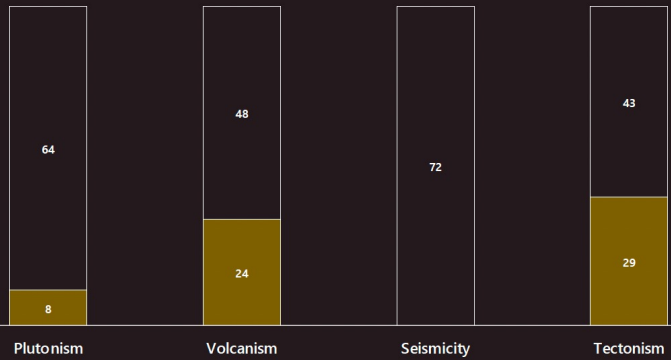
N# of GIS according to the geological periods (GP) they include



Endogenic Processes

Plutonism	Volcanism	Seismicity	Tectonism
64	48	72	43
8	24		29

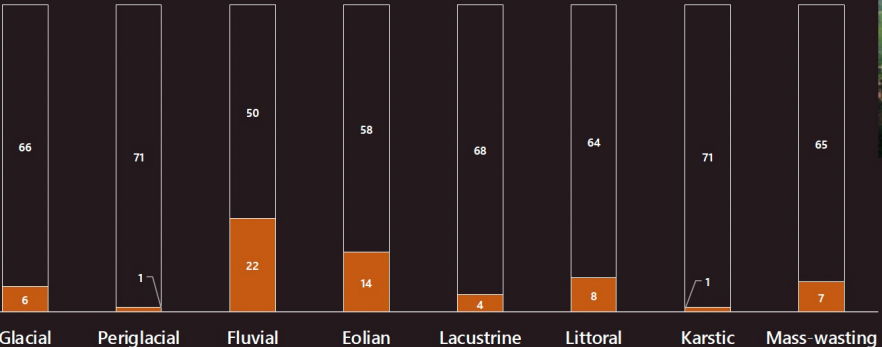
N# of GIS according to the type of endogenic process



Exogenic Processes

Glacial	Periglacial	Fluvial	Aeolian	Lacustrine	Littoral	Karst	Mass-wasting
66	71	50	58	68	64	71	65
6	1	22	14	4	8	1	7

N# of GIS according to the type of exogenic process







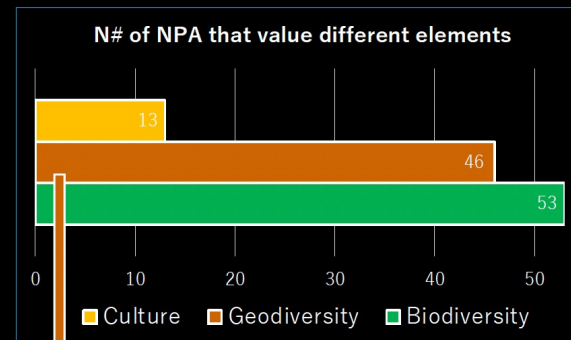
The majority of GIS are under diverse regulations in provincial and municipal jurisdictions, thus they are not specifically about geodiversity protection.

How is Geoconservation carried out?

Federal System of Protected Areas (SiFAP)

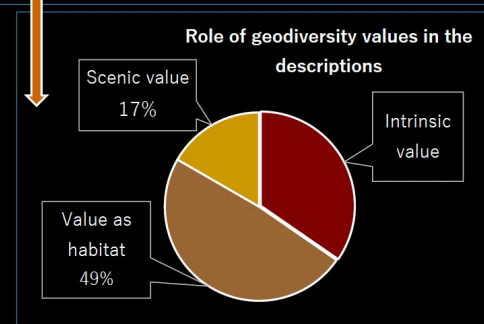
236 units distributed in 2.800.000 km<sup>2</sup> devoted mainly to flora and fauna

Most of the 72 GIS are part of national protected areas (NPA) and just a few are also recognized by UNESCO as World Heritage Sites (WHS).

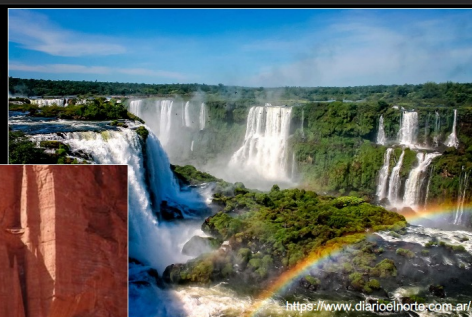


53 natural protected areas (NPA) of national jurisdiction that comprises:

- ✓ Natural Parks
- ✓ Natural Reserves
- ✓ Natural Monuments



To sum up...



## Our Final Remarks

✓ Argentina is a geodiverse country:

- rocks
- fossils
- reliefs
- volcanism and tectonism
- exogenic processes

From the

- Pre-Cambrian to the
- Quaternary

A great opportunity to enhance its geosystemic services of knowledge and culture throughout tourism and leisure





- ✓ Geodiversity is included in:

72 Geological  
Interest Sites (GIS,  
SEGEMAR)



As an intrinsic  
value

46/53 Natural  
Protected Areas  
(NPA, APN)



Value as  
habitat

4/11 World  
Heritage Sites  
(WHS, UNESCO)



Scenic  
value

**Being a GIS does not mean being protected**  
except for fossils that are protected by the  
National Law of Paleontological Heritage



- ✓ Being a GIS does not mean being protected...

*Almost half of the GIS are not under any type of regulation*

+

Apart from fossils, geological and geomorphological  
heritage is not protected by any specific national law

Argentina needs a National  
Law of Geological Heritage



## WHAT THE FUTURE HOLDS...

## CHALLENGES

- ✓ To reinforce the spread of the concept of geodiversity in all educational levels and among the society
- ✓ To create a national law devoted to the conservation of geological heritage
- ✓ To underpin and teach the different geosystems services of geodiversity in NPA through interpretation facilities
- ✓ To promote the creation of new natural WHS highlighting geodiversity
- ✓ To encourage the joint work of communities and authorities to come up with geoparks in different parts of the country



*Thanks for your attention*

*¡Muchas Gracias!*

Let's continue  
celebrating Geodiversity's day!

