

# GeoAl, an Algerian GIS database for the development of a geological heritage

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Algeria with its 2.381.741 km<sup>2</sup> is the largest country in Africa. It contains a wide variety of geological and geomorphological sites with high scientific, pedagogical or touristic relevance. Unfortunately, there is no systematic inventory of the Algerian geological heritage and most of the geological and geomorphological features of Algeria remain poorly known. The principal aims of the project "GeoAl" are to conduct an inventory of the Algerian geosites and to present the material in a GIS database and an online map service. The base will serve as a tool for national geoconservation programmes, and for identifying potential locations for science, tourism, recreation and education.

## Examples of Algerian geosites

### Dinosaur track sites

Numerous dinosaur track sites have been found in western Algeria and one (Amoura site) is the first discovery of dinosaur footprints in North Africa (1880) (Taquet, 2010).



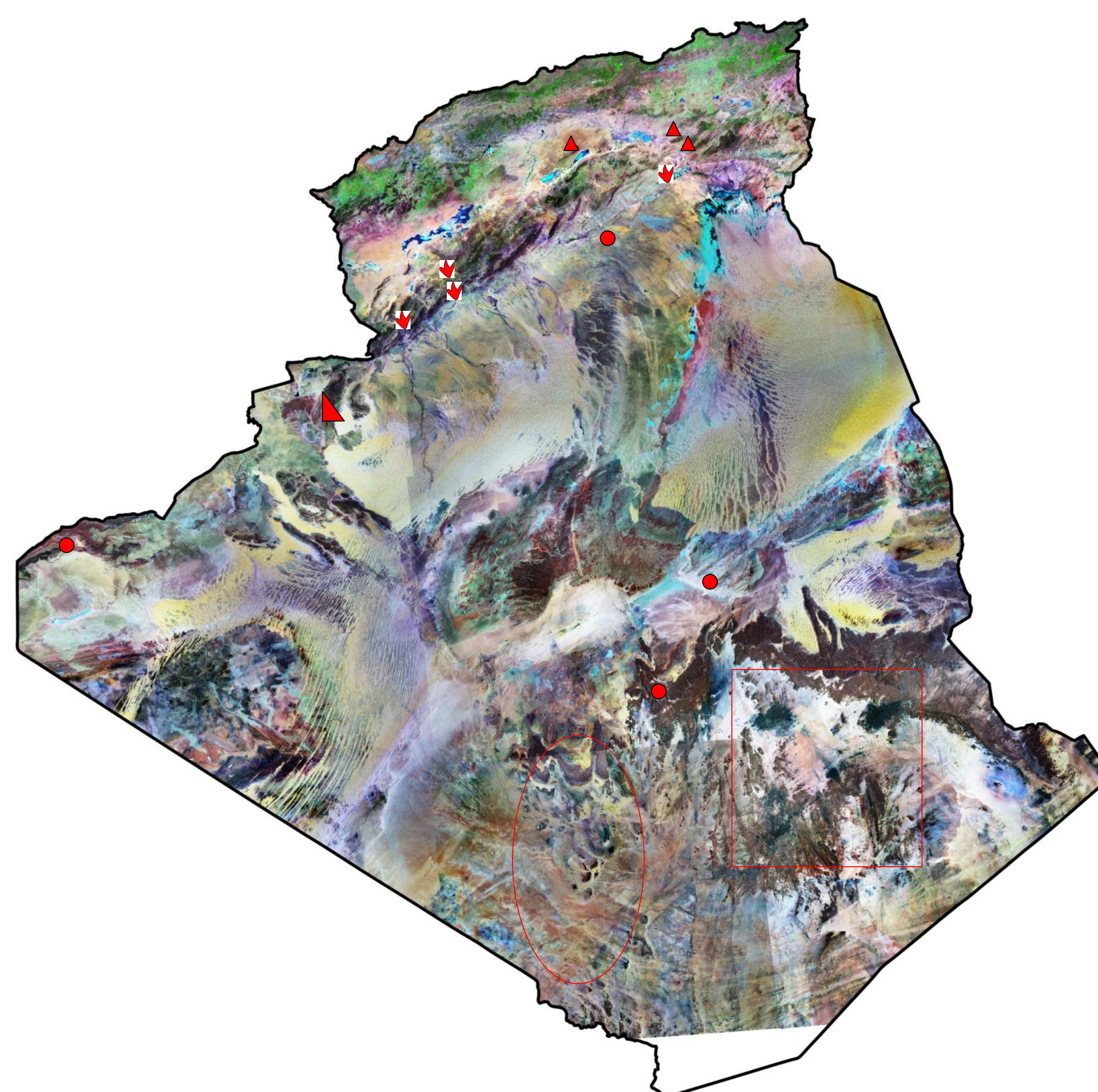
Amoura. Location  
34°21'06"N  
03°52'05"E  
140 footprints of theorpod

### China Wall (Giant Orthoceras)

30 km from Beni Abbas (Southwestern Algeria), on the left side of the road to El Ouata is the deposit of Giant Orthoceras (Carboniferous).



China Wall  
Location  
30°04'00"N  
02°06'29"W



### Salt dome

3 salt domes were preserved in northern Algeria : Djelfa, El Outaya and Metlili (Gautier, 1914).



Salt dome near Djelfa. Location :  
34° 50' 05" N  
03° 05' 34" E  
Diameter : 1.5 km

### Meteorite impact craters

There are 4 confirmed impact structures in Algeria : Amguid, Maadna, Ouarkiz and Tin Bider (Koeberl, 1994).

Maadna impact crater. Location :  
33° 18' 50" N  
04° 01' 59" E  
diameter : 1.75 km

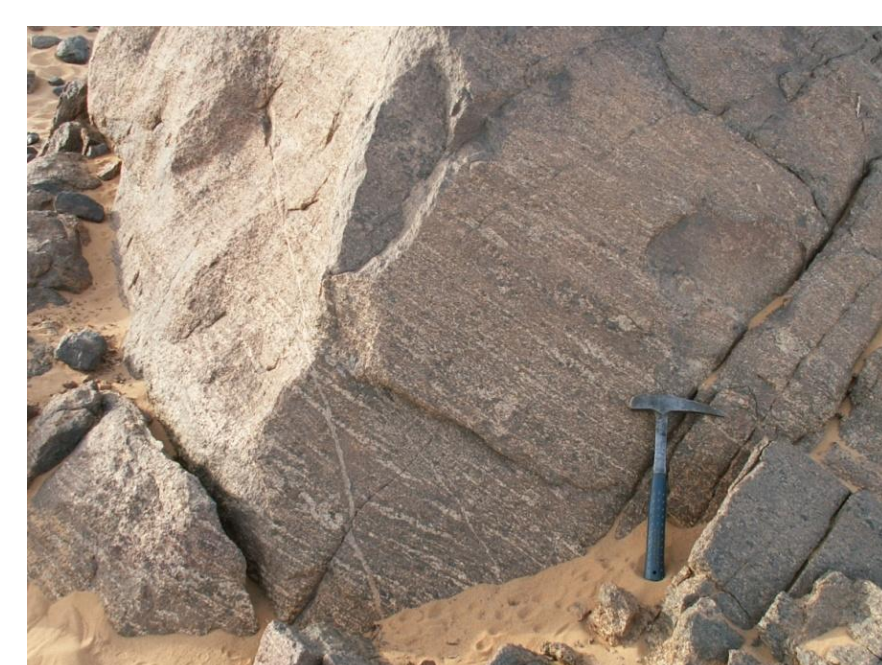


### In Ouzzal terrane (Ouzegane et al., 2003)

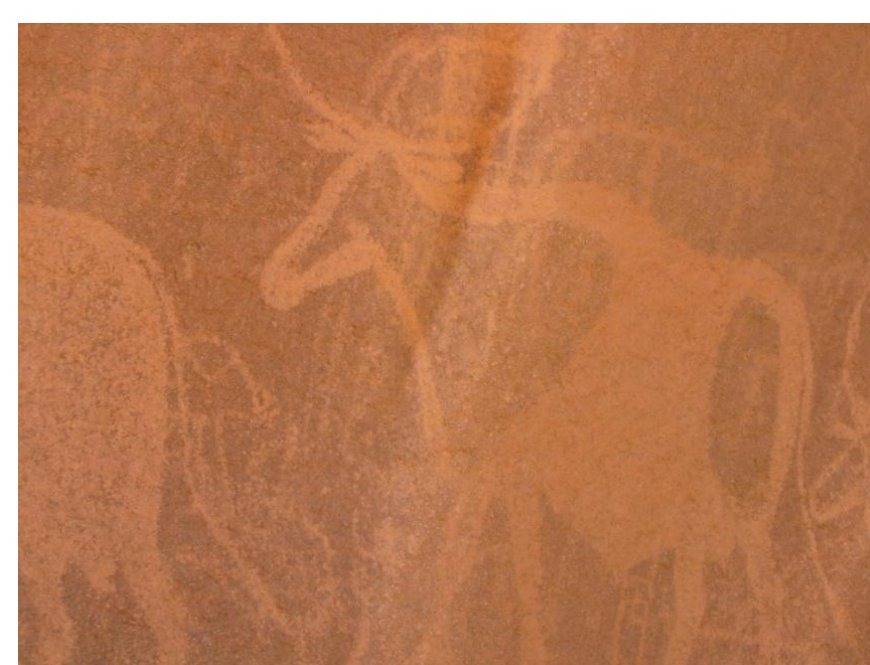
A strong metamorphism leading to extreme temperatures (up to 1100 C)  
Carbonatites which are among the oldest carbonatites known in the world (2 Ga)  
Oldest rocks in Algeria (3.25 Ga)  
Rock paintings and engravings



The Ihouhaouene carbonatite  
Location 23°35'N  
03°05'E



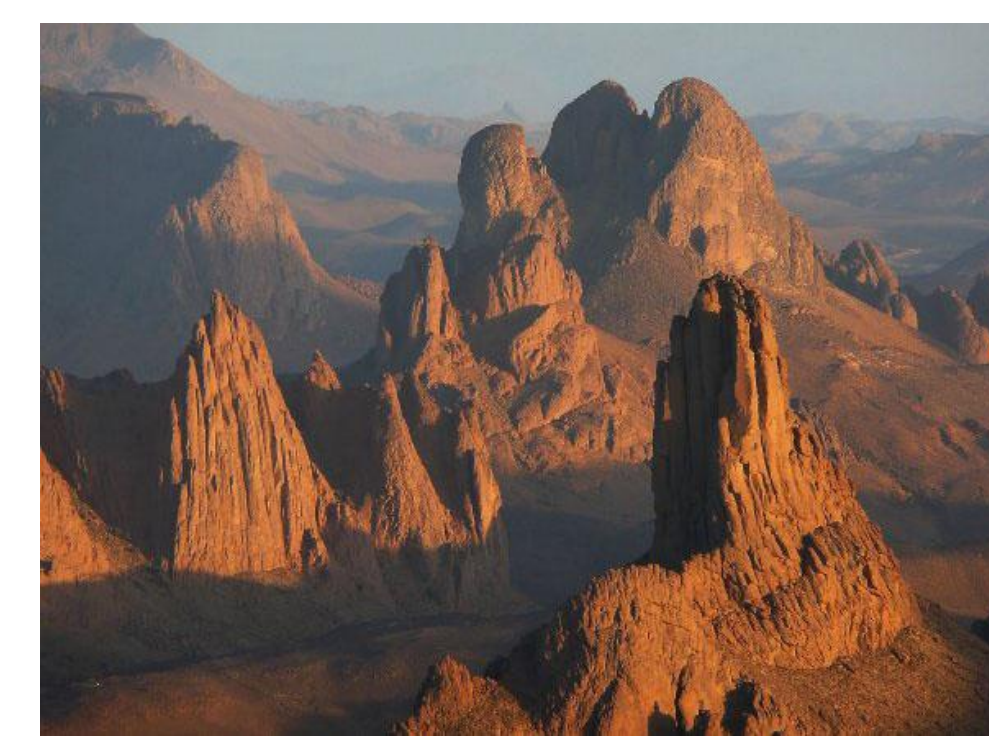
Gneiss from Tin Tchik Tchik area containing the oldest zircon in the Hoggar



Rock paintings and engravings in the In Ouzzal area

### Volcanic landscape (Hoggar)

Cenozoic volcanic activity occurred in the Hoggar with various volcanic structures (lava domes, necks, volcanic craters, maars,...).



Volcanic dome and necks from the Atakor (Hoggar).

This list, by no means exhaustive, is only a small fraction of geological treasures concealed in Algeria. Despite these natural riches, no site is listed by UNESCO and none Geopark has been set up by the Algerian authorities. The constitution of this database is part of the effort that lead the Algerian scientific community and international collaborators to publicize this heritage, and raise awareness of the importance of these sites in the protection of national natural resources and their ability to be an economic engine, with the development of geological tourism, handicrafts and small business. It is intended for optimal dissemination of the results of the work we do, that database is accessible through the web and it is accompanied by an educational content targeting an audience as wide as possible.