

# Fires' impact on olive orchards in Kabylia (north of Algeria); use of GIS and remote sensing

*KADDOUCHE, M.  
BEKDOUCHE, F.*

***MOURAD KADDOUCHE,**  
Laboratoire de recherche en écologie et environnement, FSNV, Université Abderrahmane  
Mira de Bejaia Agérie  
E-mail: [mourad.kaddouche@univ-bejaia,dz](mailto:mourad.kaddouche@univ-bejaia.dz)*



*Third International Conference on Fire Behaviour and Risk  
Alghero (Sardinia, Italy), 3-6 May 2022*



**Interreg**   
UNIONE EUROPEA  
MARITTIMO-IT FR-MARITIME  
Fondo Europeo di Sviluppo Regionale



## Introduction:

This study was brought in Kabylia (North of Algeria); It has different landscapes: plains, hills and mountains, it is characterized by a wet and cold winter and a dry and hot summer, this leads to the exposure of this area to high frequency and devastating fires, many disastrous scenarios happened in summers of 2007,2012,2014,2017 and lately in 2021.

We targeted the olive orchards because it's the dominant vegetation form and it generates an additional income for the local inhabitants (economic value) beside the social value that is shown by the help of each other between the families.

## Material and methods:

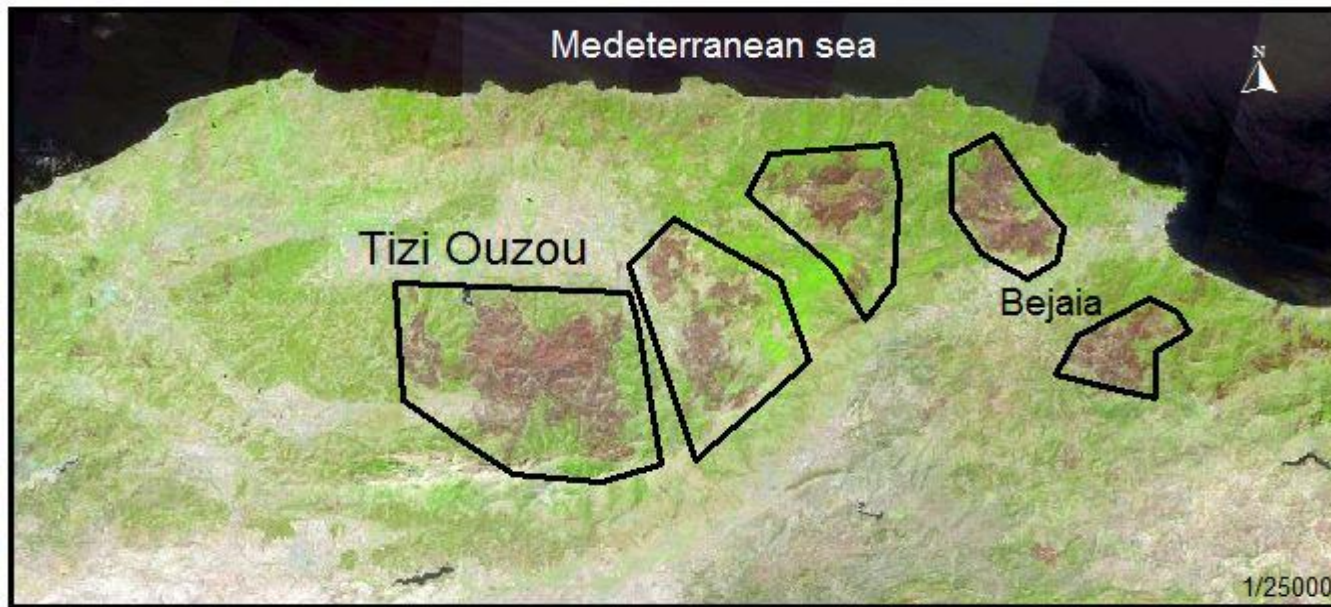
To reach our goal, we used landsat 8 images

ArcGis 10,3 Fr version

MapInfo 10,0 Eng version

## Results and discussion:

The clipped landsat image shows the burnt areas nearly 10 000 acres of olive orchards were burnt because of the 2021 fires which is a big ecological and socio-economic lose for the locals.



Clipped landsat image showing the burnt areas in august 2021

## Conclusion:

By analysing the landsat images before and after the severe wildfires that occurred in the area, We conclude that there is a need to consider and act seriously to alleviate the impact of the wildfires on the Kabyle area and try to keep sustainable the olive fields,



RSW18

A kabyle area saved from the wildfires.



A kabyle area (mostly olive orchards) affected by wildfires