

Dr. Eleonore Samira MOBAIED

Academic and researcher

- PhD Diploma in Ecology (2011)
from the MNHN.
- PhD Diploma in Géographie (2022)
from the MNHN.
- Founder and director of the
independent company
[Mobaied-Biopeace](#) (2014)

- I developed Spatio- temporal geographical methods to measure and anticipate crises related to the political situation and conflicts.
- I developed methods for research in inaccessible areas because of different reasons: armed conflicts, climatic, sanitary, political, security, and others.

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USE CASE

Spatio-temporal study of the archaeological site Ain Dārah, in Syria during armed conflict.

General context

- Ain Dārah settles 7 km south of the city of Afrin in a region characterized by a prosperous water reserve and fertile soil.
- It is a site of cultural and natural heritage of great importance for humanity

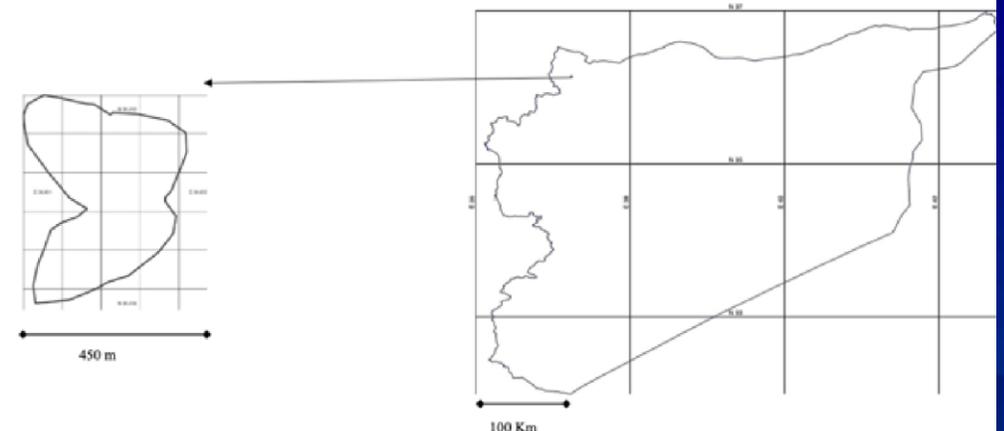
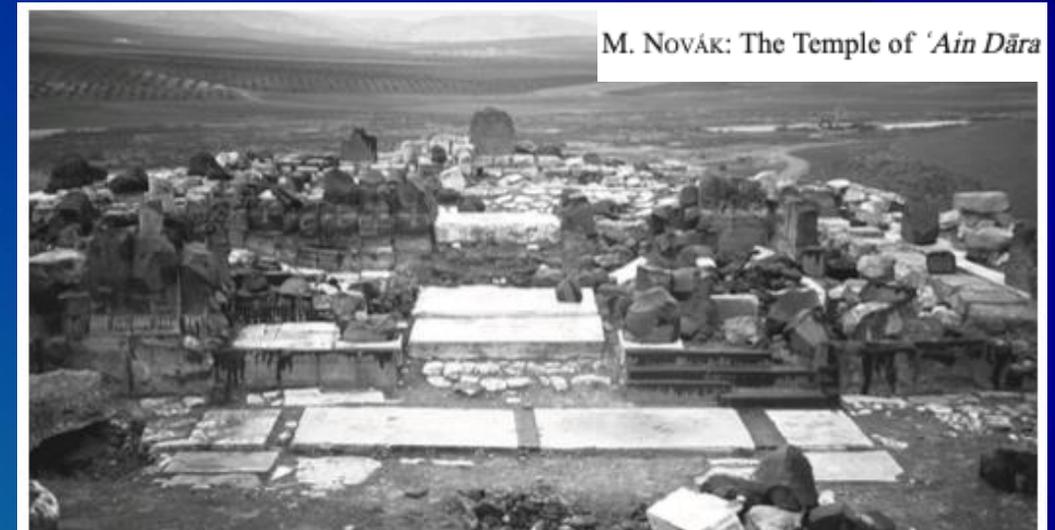
January 2018 crisis alert

- An armed conflict take place in Afrin District.
- Some reporters and media sites have mentioned damage in the region due to the conflicts on 2018.

Application: Remote monitoring- Crises Management

Location: Syria, Afrin basin

Products: Pléiades Neo Archive





Challenge

- Examine the current state of Ain Dārah using images satellites with high resolution.
- Verified the information disseminated in 2018.



Method

- Pléiades Neo Archive, 25 Octobre 2022, OneAtlas Data, ©Airbus satellite products.
- Pléiades Neo Archive, 23 November 2022, OneAtlas Data, ©Airbus satellite products.
- Maxar Technologies Google Earth, Avril 2018, historical imagery.
- Maxar Technologies Google Earth, December 2014, historical imagery.
- Maxar Technologies Google Earth, Juin 2010, historical imagery.

Objectifs

Images satellites

Methods

Results

Ain Dārah in Syria

Spatio-temporal monitoring of Ain Dārah

**Images Satellites
Images NEO PLEIADES**

A semi-automatic classification

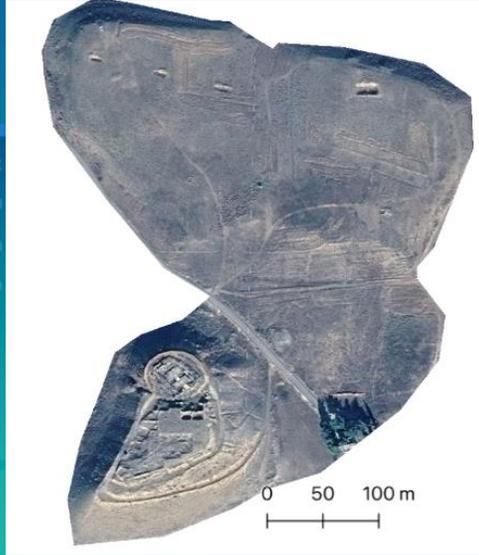
Establish a map of the dynamics and the current state of the site

Results

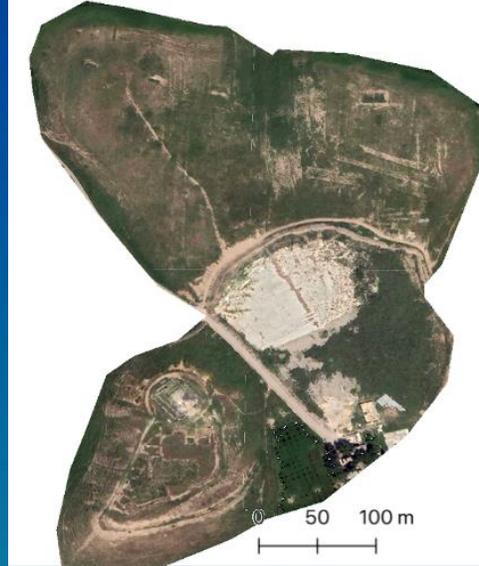
Maxar Technologies Google Earth
2010



Maxar Technologies Google Earth
2014



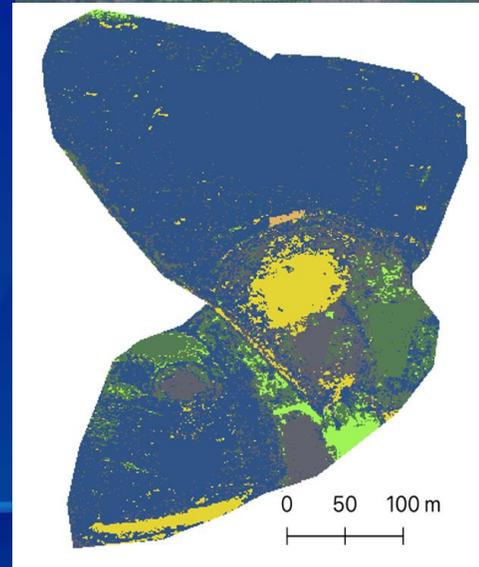
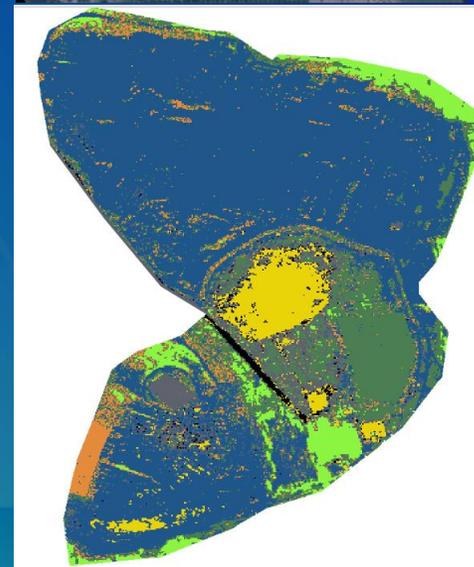
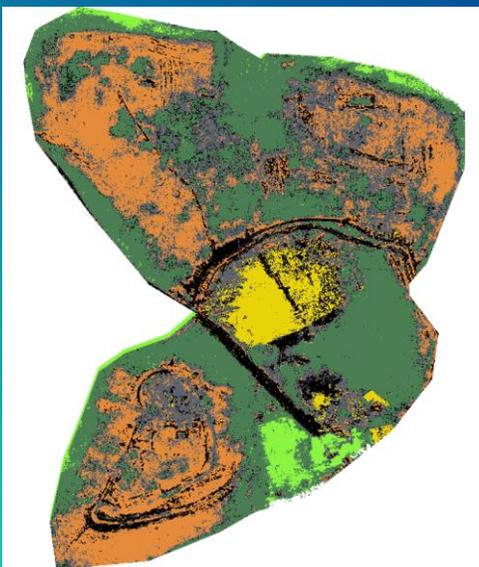
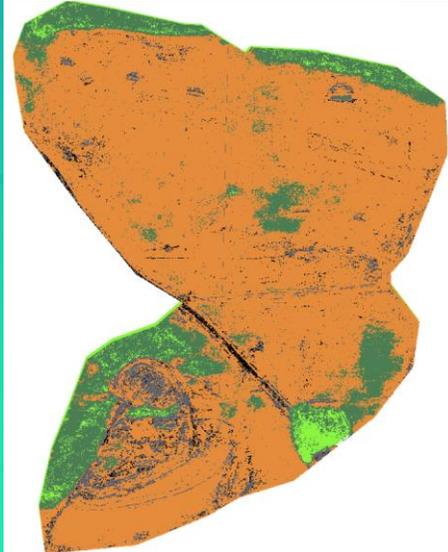
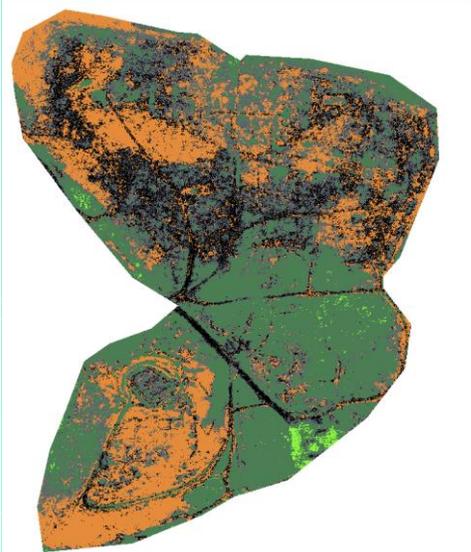
Maxar Technologies Google Earth
2018



Pléiades Neo Archive, 25/10 2022



Pléiades Neo Archive, 23/11 2022



- Areas with sparse vegetation cover
- Vegetation cover
- Trees
- Soil without vegetation cover
- Roads
- Bare soil
- Landscaping



Benefits

During the period from 2010 to 2022 **three types of activity are observed** on the site:

- Dynamics of vegetation cover
- Landscaping activities
- Archeological fieldwork

Archeological fieldwork?

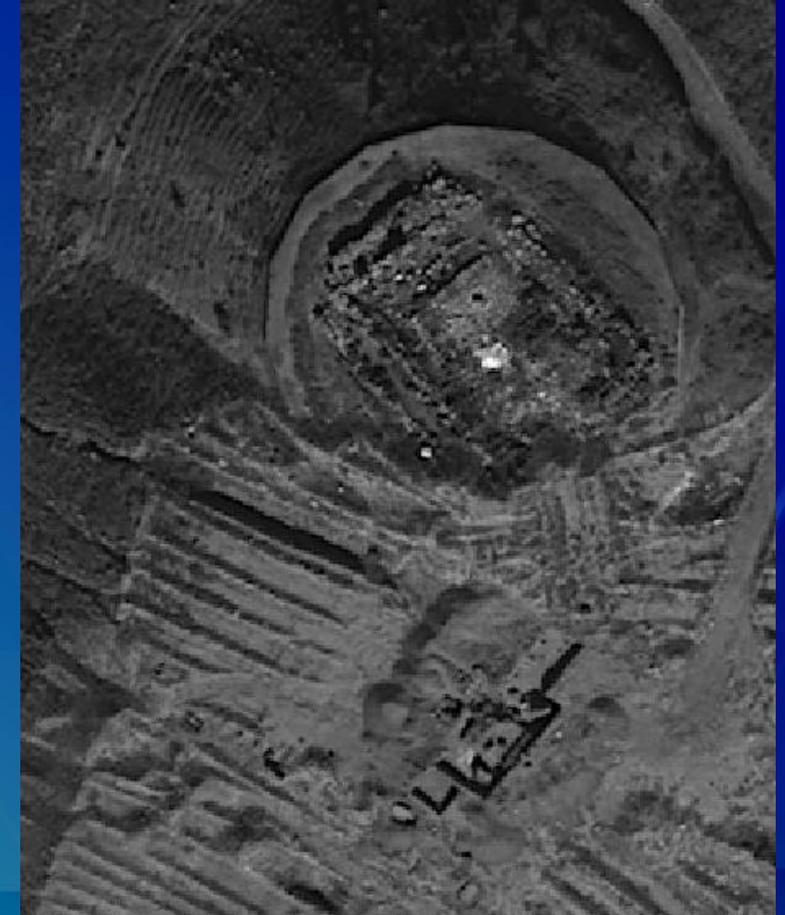
- The image in 2018 shows changes in Ain Dārah temple.
- These changes observed in 2018 cannot be due to bombardments or explosions caused by a conflicts because the impact is **precise and targeted** cannot be the result of a conflict with a destructive goal.
- These changes observed in 2018 can be interpreted as the beginning of **archaeological fieldwork**.
- The interpretations of the archaeological fieldwork activities in this area has been **confirmed by the observation of the Pléiades Neo images of 2022**.

Pléiades Neo Archive, 25 Octobre 2022,
OneAtlas Data, ©Airbus satellite products.



Pléiades Neo Imagery helped to:

- Remot monitoring the archaeological sites Ain Dārah.
- Confirmed the nature of the activities that occur at the archaeological site Ain Dārah.



Pléiades Neo Archive, 25 Octobre 2022, OneAtlas Data,
©Airbus satellite products.