

# Geomemories a Spatial-Temporal Atlas of the Italian Landscape

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## Abstract

*The AeroFototeca Nazionale of the Italian Ministry of Cultural Heritage in Rome maintains an extensive set of some million aerial photographs constituting an important memory archive of the Italian territory throughout the 20th century. Together with the Institute of Informatics and Telematics of CNR in Pisa the GeoMemories project was launched with the aim of creating a web platform covering spatial-temporal dimensions and also integrating multimedia data from other archives that displays the evolution of the Italian Landscape. We present some challenges of the project and achievements so far as well as examples of how the tool presented here has a great potential to become a valuable resource for both historians and archaeologists.*

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## 1. Introduction

The AeroFototeca Nazionale (AFN) [AFN] of the Italian Ministry of Cultural Heritage in Rome maintains an extensive set of some million aerial photographs constituting an important memory archive of the Italian territory throughout the 20th century. This huge archive provides a picture of Italy as it was 70 years ago before its transformation by the post-war reconstruction, the economic boom and also by natural disasters such as severe earthquakes and floodings.

In 2010, the AFN and the Institute of Informatics and Telematics [IIT] of CNR in Pisa signed an agreement to make this archive accessible via Internet through a Web 2.0 mashup application that displays the evolution of the Italian Landscape. Thanks to funding from the Italian Internet Domains Registry, the GeoMemories project [Geo] was launched with the aim of creating a web platform covering spatial-temporal dimensions and also integrating multimedia data from other archives.

Version 5.0 of Google Earth (GE) includes a timeline

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[Goo] to display historical imagery. However, this new feature has important limitations, in particular, most of the Google images are from satellites and are relatively recent. Italy, for example, has significant coverage only from 2003. The only samples of actual historic images (1943) concern some large cities (Rome, Florence, Naples, Turin, Trieste and Venice) and the image resolution is very low. In addition, GE manages geographic data layers without considering the time variable.

Our aim is to rebuild a virtual globe, similar to GE but oriented towards the management of the temporal variable. We present some of the achievements so far and demonstrate how the tool presented here has a great potential to become a valuable resource for both historians and archaeologists, as well as an overview of the remaining challenges.

## 2. From Photos to Historical Maps

The photos made available to the project are digitized and stored to form a virtual archive. In this way, the originals, on paper or film, can be protected and preserved. The images are then processed to create historical maps. Each digitized photo is cropped and eventually normalized to eliminate any