

# Geophysical data valorisation and dissemination in the framework of the EMODnet Ingestion project. The OGS Experience.

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## Introduction

The EMODnet Ingestion project aims at sharing data from public and private sectors that otherwise would remain inaccessible. This could be due to many reasons, such as the case when originators are not “connected” with the main international data sharing initiatives, or do not have the know-how to disseminate them, or simply because they do not have the resources to do it.

## Geophysical data

The case of Geophysical data is particularly interesting because this domain is living a complex moment due to restrictions in its activities. From a scientific point of view, funding opportunities have been reduced rather severely, and at the same time, from the commercial point of view, exploration for Oil and Gas has also been reduced due to the current difficult economic trend and the introduction in some areas of strict environmental regulation. All this resulted in a reduction of the activity of acquisition of new data and in the increase in the demand for already available data. In addition, data acquired in the '70s and '80s have great possibilities that often are not available in modern data. For instance, at that time, the lack of environmental awareness allowed the use of large seismic sources that nowadays are not permitted anymore, while often the geopolitical setting of that time allowed regional surveys that currently would not be possible. On the other hand that data have been acquired with outdated techniques and are available on media and in formats that introduce the need to invest a lot of resources to recover them.

## The Zona A

In 1964 the Italian National Agency for Hydrocarbon exploitation (AGIP) performed a large survey of the Italian offshore areas. So far, this large dataset was available only as paper prints that of course cannot be used with modern software and methodologies. OGS, through an agreement with the Italian Ministry of Economic Development (MISE) recovered and vectorialized that dataset to produce data that could be used within the current practices.

## EMODnet Ingestion

Vectorialization has been done for the actual seismic sections but of course on

## Data Processing

Further to vectorialization, since proper digital data have been made available, the dataset underwent a phase of reprocessing. A particular processing sequence has been adopted in order to obtain a final stack section from a 100% fold coverage original data. This sequence consists of geometry assignment, bias removal, shots interpolation, random noise

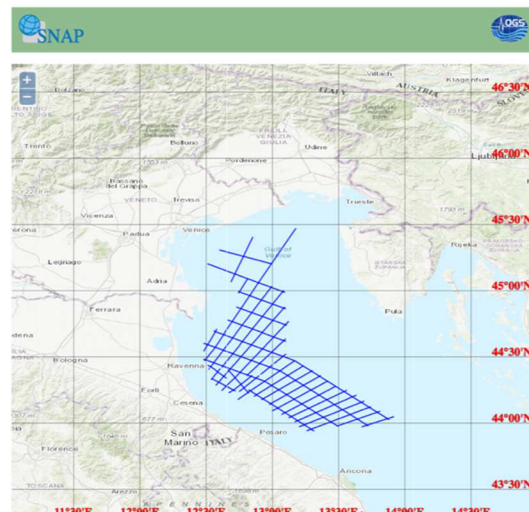


Figure 1: Map of the Zona A seismic database

attenuation, dip filtering, predictive deconvolution, stack and time variant filtering. The final reprocessed section shows the improvements in the shallow area and in the continuity of signals (FIG. 2) where the strong sea floor reverberation have been attenuated.

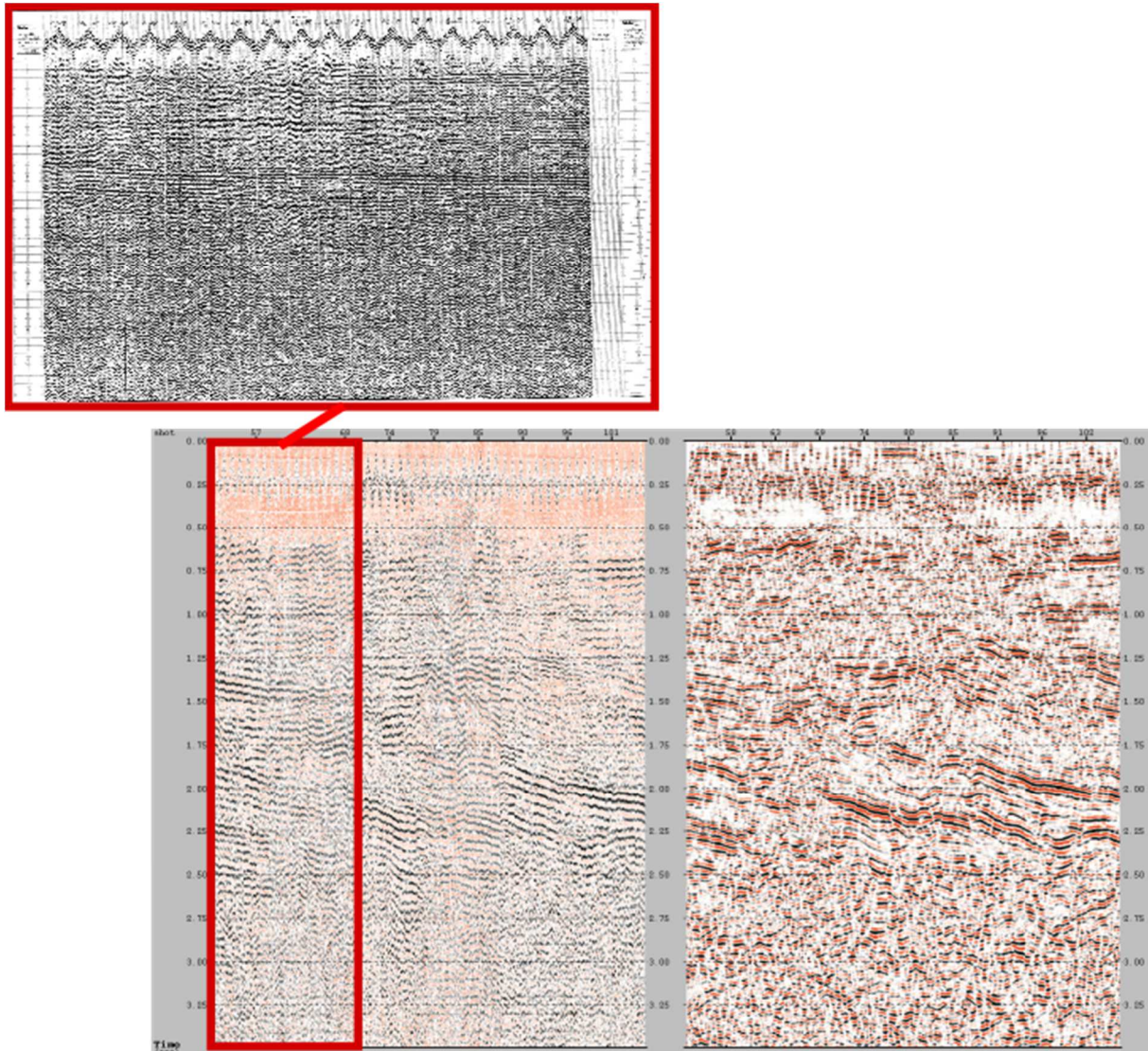


Figure 2: Original paper section (upper left), Vectorialized data that shows also that several paper sections are integrated to get a complete seismic section (lower left) Reprocessed data that shows the improvements in the shallow area and in the continuity of signals (lower right)

### EMODnet Ingestion

Not only data have been restored but navigation has been extracted from paper positioning maps and after this data have been georeferenced. Metadata extracted and conformed to the EMODnet and SeaDataNet/GeoSeas standards and made available through the SNAP portal

### Conclusions

We have demonstrated the importance of recovering, valorisation and dissemination of vintage seismic data. The work is complex, and several steps have to be done manually but yet the results that can be obtained can be very relevant both for the scientific community and for the industry.