Erasmus+

Ist. di Istr. Sec. Sup.
EPIFANIO FERDINANDO
Mesagne (BR)

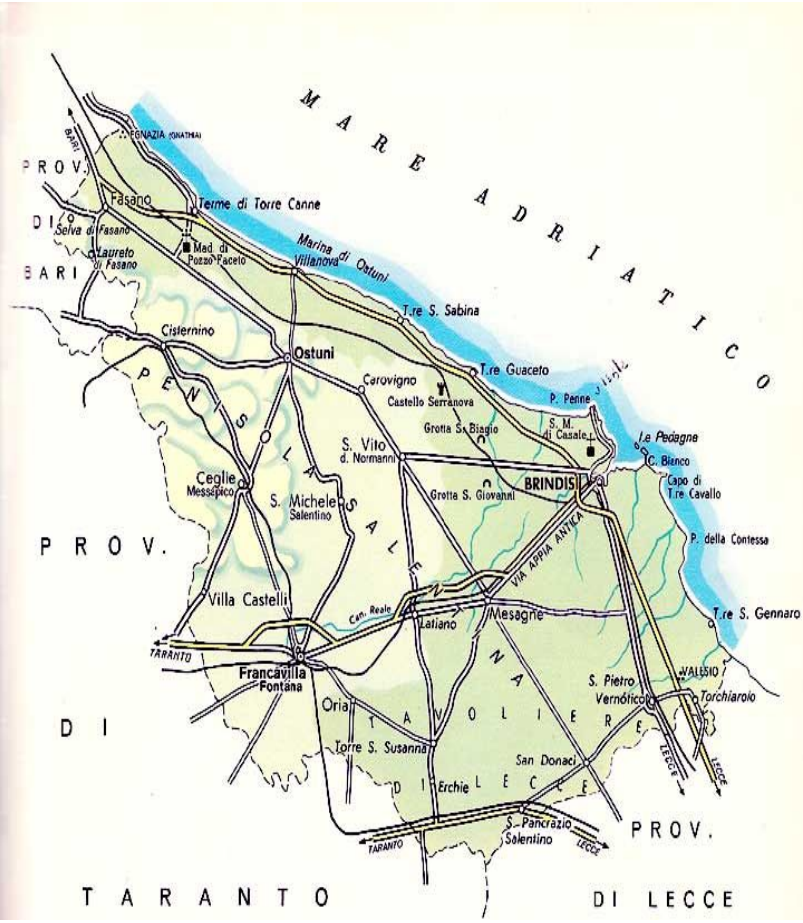
HYDRAGRAPHY OF THE BRINDISI PLAIN AND THE MAIN STREAMS OF WATER IN THE TERRITORY OF MESAGNE

The danger of deep aquifer contamination towards desertification?

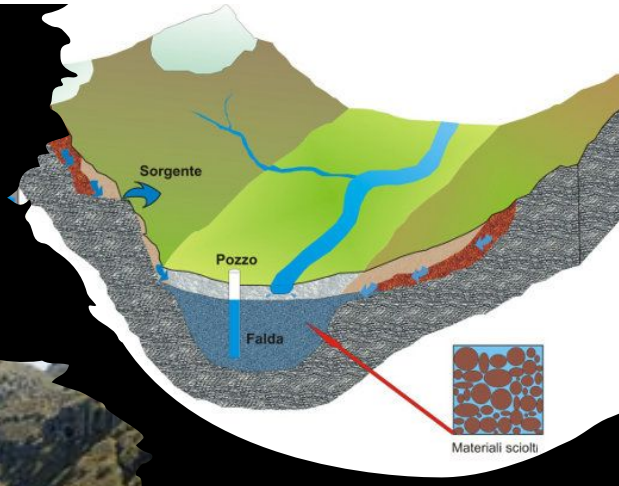
THE BRINDISI PLAIN GEOLOGICAL ORIGIN

A DEPRESSION OF THE GROUND THAT EXTENDS UP TO THE ADRIATIC SEA.

formed thanks to the progressive lowering of the carbonate base (the calcium carbonate accumulated by the action of living organisms)



THE DEEP AQUIFER



IT FEEDS FROM THE MURGE PLATEAU

PROBLEMS

- IT FLOWS AT A LOW PRESSION
- OVER EXPLOITED FOR INDUSTRIAL USE AND IN AGRICOLTURE
- QUALITATIVE AND QUANTITATIVE DETERIORATION

GEOLOGY

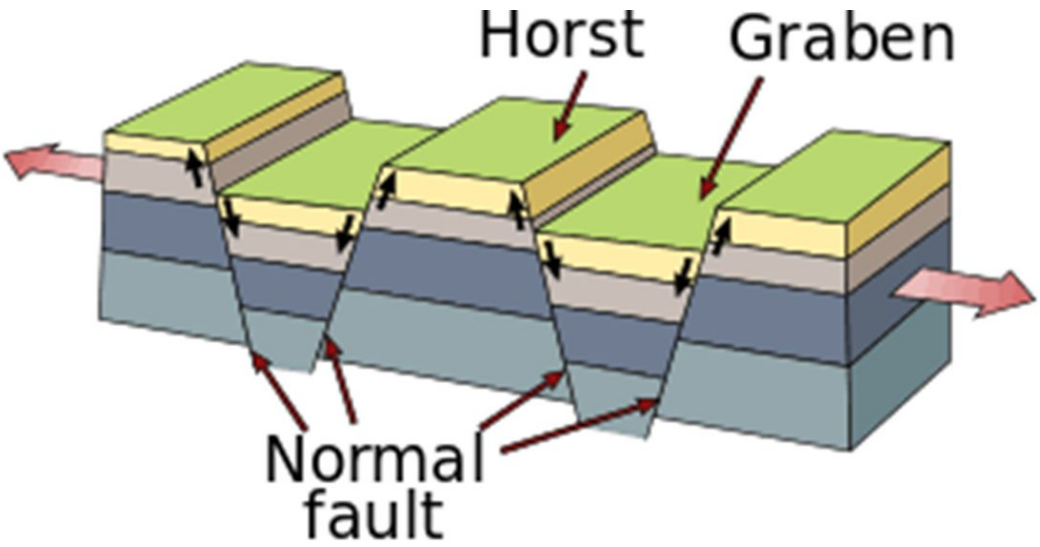
LIMESTONE (zona ovest)

ARGILLE SUBAPPENNINE (territorio centro orientale)

BIOCALCARENITES

MARINE TERRACE DEPOSITS

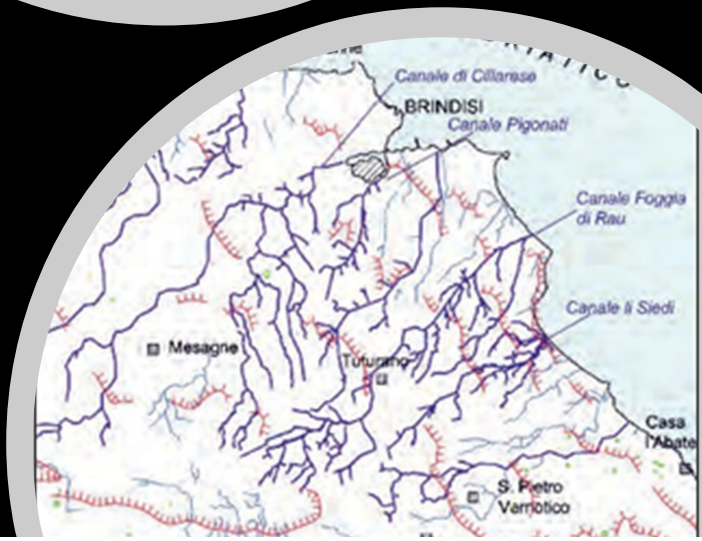
GEOSTRUCTURAL CHARACTERISTICS

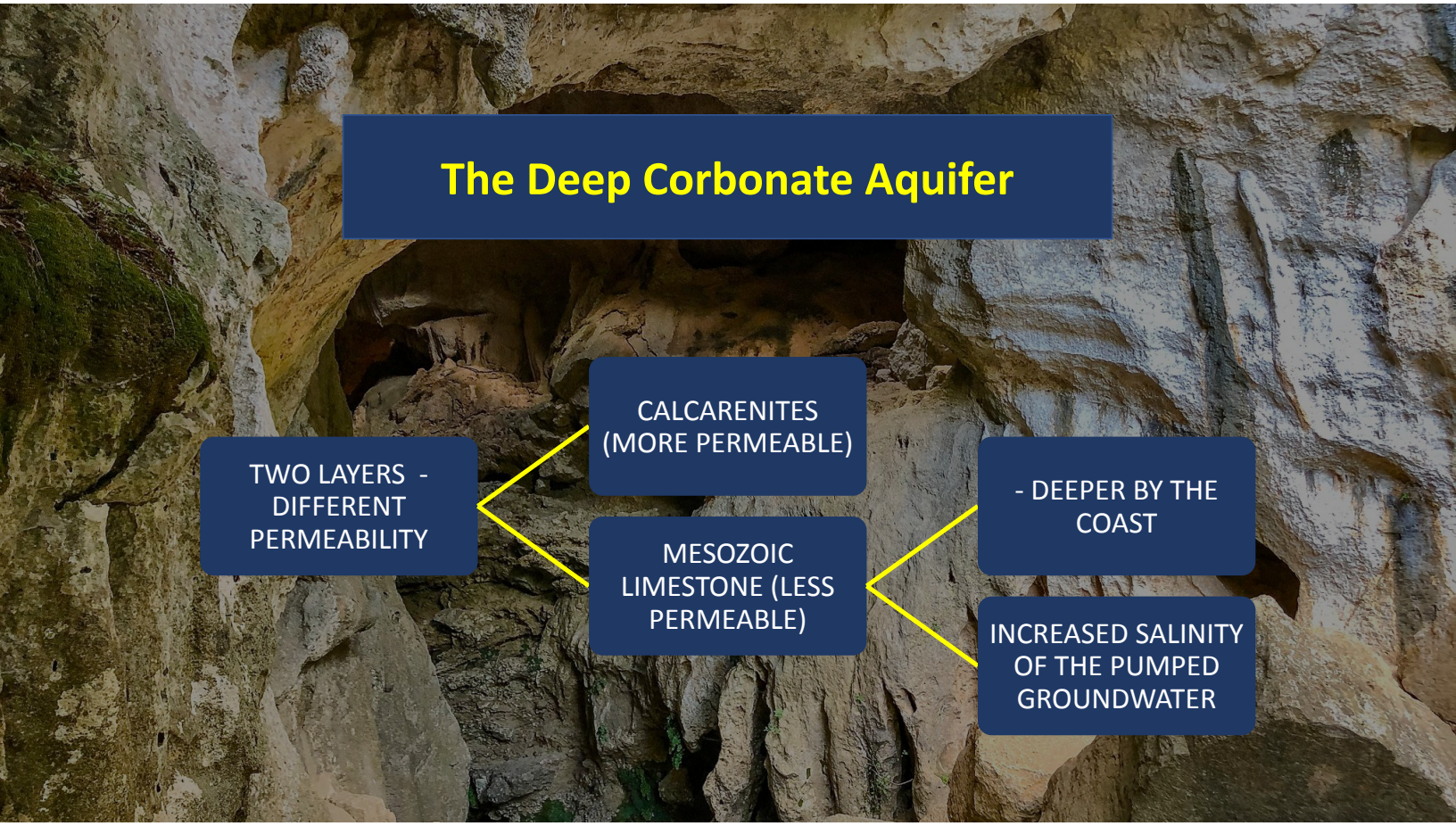


AN ACTIVE HYDOGRAPHIC NET OF NARROW STREAMS (CALLED CANALS)

Main canals

- Canale Cillarese
- Canale di Siedi





CLEAN WATER IS WHAT WE NEED!

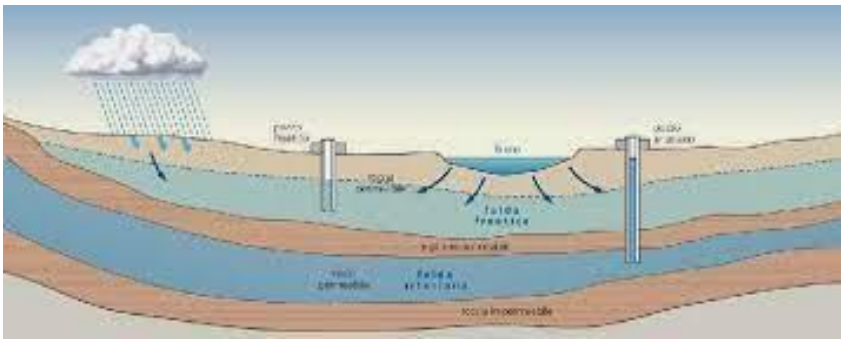
COMMUNICATION BETWEEN THE SUPERFICIAL AQUIFER AND THE DEEP AQUIFER - THE RISK OF CONTAMINATION AND POLLUTION

SUPERFICIAL AQUIFER

- FEEDS FROM RAINFALLS
  - SUBJECTED TO SEASONAL AND ANNUAL VARIATIONS ACCORDING TO THE QUANTITY OF RAINFALL
  - IT IS LIKELY TO BE CONTAMINATED BY PESTICIDES AND BY BIOLOGIC CONTAMINATION

DEEP AQUIFER

- FEEDS FROM MURGIA PLATEAU

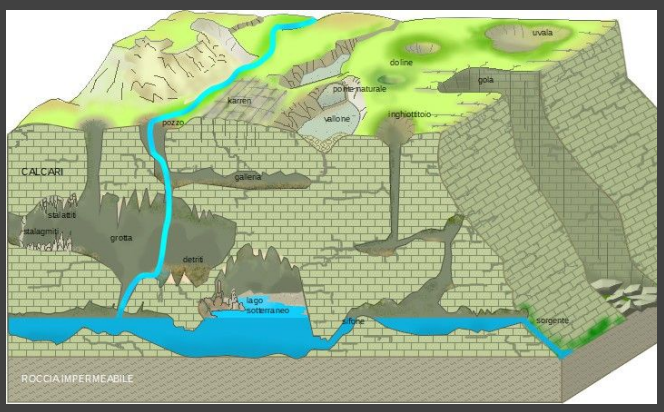


THE SUPERFICIAL AQUIFER MAY CONTAMINATE THE DEEP AQUIFER

FURTHER CAUSES OF POLLUTION

CARSIC GROUND

- THE WATER FLOWS WITHOUT ANY FILTRATION



FACTORS CAUSING A PROCESS OF DESERTIFICATION

- Strong saline concentration in deep aquifer
- **Remarkable depth of the aquifer**
- No direct water supply brings about a high saline concentration
- **High quantity of pumped groundwater**

IMPORTANCE OF THE STREAM OF WATER (CANALS)

THEY PREVENT FLOODING

- In ancient times human settlements were possible only by the streams of water.
- The stream of water have an important ecological function

Canale Reale

mentioned by Pliny the Old in his work Naturalis Historia

It stretches along 50 KM towards the Adriatic Sea

It feeds from the Murgia Plateau

IT CONNECTED THE COAST TO THE INLAND DURING THE MEDIEVAL TIME

THE PRESENCE OF CHURCHES ALONG THE COURSE OF THIS STREAM TESTIFIES HOW IMPORTANT IT WAS FOR THE SURVIVAL OF THE ANCIENT POPULATION


Chiesa rupestre di san Biagio


Cripta di San Giovanni

IT HAS A CRUCIAL IMPORTANCE EVEN TODAY AS A WAY OF RAINWATER RUNOFF

NSDS – National Sustainable Developmet Goals

THE SIXTH GOAL OF THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT (i.e., to ensure the availability and sustainable management of water and sanitation for all) is a "priority on the Italian political agenda, even in the post-pandemic world,"

THE ITALIAN PLEDGE IS TO USE ALL AVAILABLE INSTRUMENTS - INCLUDING BUDGETARY POLICIES AND STRUCTURAL REFORMS – IN ORDER TO RESTORE A SUSTAINABLE, BALANCED AND INCLUSIVE DEVELOPMENT AND FIGHT INEQUALITY.

AT THIS AIM ITALY HAS APPROVED FOUR AREAS OF NATIONAL SUSTAINABLE DEVELOPMENT STRATEGY WHICH IMPLIES, AMONG OTHER NATIONAL STRATEGIC GOALS, TO ENSURE THE SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES – I.E. INLAND AND MARINE WATERS, SOIL, AIR AND FORESTS –

ITALIAN TRANSFORMATIVE EFFORT SHOULD BE DIRECTED TOWARDS THE FOLLOWING PRIORITIES:

- maintaining the vitality of seas, preventing impacts on the marine and coastal environment,
- halting soil consumption and desertiication,
- minimize water, soil and air pollution,
- maximize water eficiency,
- reduce water stress and ensure integrated water management at all levels.
- upgrading and modernization of Italy's water infrastructure system

THANK YOU ALL FOR YOUR ATTENTION!