

## SURVEY FOR SPRING WATER CATCHMENT AND PROTECTION AREA DESIGN GEOELECTRICAL METHOD

### Project:

Geological and hydrogeological reconstruction of a mountain spring for the catchment design and the analyses of the vulnerability conditions (2011)

### Area:

Central Turkey - mountainous area (altitude > 2000 m asl)

### Scope of the survey:

- 1) Define the hydrogeological model of circulation of spring water
- 2) Locate the exact point where the spring water collection to design the work
- 3) Identify the direction of water runoff to define the area of protection

### Survey Design:

Geoelectrical multi-electrode acquisition of two lines parallel to each other with a length of 70 m and 115 m (40 electrodes spaced 3 to 5 m). Maximum depth: 25 m

### Results:

The source (crest source) is fed by rising artesian water along a water bearing fault. The bedrock with emerging water is placed at about 5 m deep, and - despite the difficult environmental conditions (which require a work almost full manual), it has been designed a gallery catchment to get the water directly from the rock (to avoid interference with rainwater infiltration or animals)

