

## Acropolis of Athens

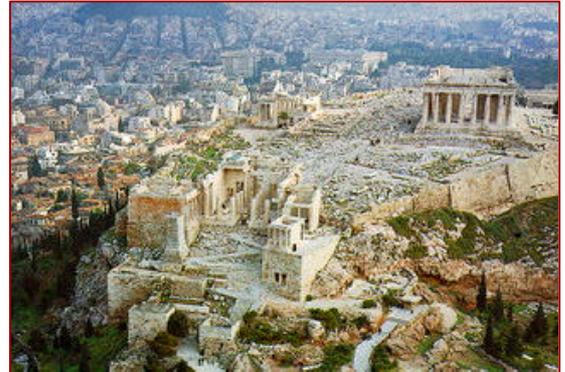
### Engineering geological conditions and problem:

The Acropolis (and Parthenon) is built on an isolated and uplifted rock consisted of massive to thickbedded limestone. Big unstable blocks are created on the steep slopes of the hill because of the karstification and the tectonic. The joint net is locally close spaced, with planes of considerable length, fairly dipping towards the slope. Except karstification the rock is subjected to the air pollution, the temperature variation and the mechanical action of the wind. The former situation causes important rock falls that generate damages to the monuments and the surrounding buildings.

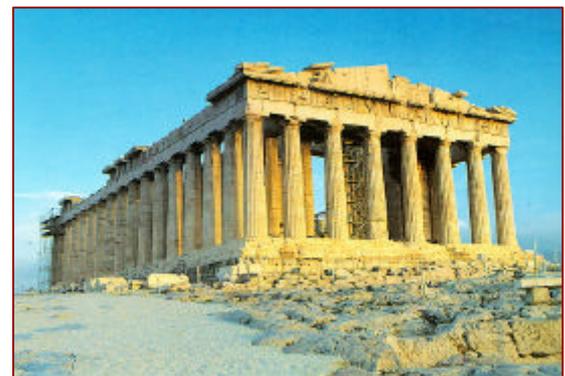
The Acropolis hill, so called the "Sacred Rock" of Athens, is the most important site of the city. During Perikles' Golden Age, ancient Greek civilization was represented in an ideal way on the hill and some of the architectural masterpieces of the period were erected on its ground. During the Classical period (450-330 B.C.) three important temples were erected on the ruins of earlier ones: the Parthenon, the Erechtheion, and the Temple of Nike. The Propylaea, the monumental entrance to the sacred area was also constructed in the same period.

### Protection measures already taken:

- Limited retaining walls (discreet) with drainage
- Systematic rock bolts
- Intensive rock bolting on hang over boulders
- Filling of the joints with concrete to reduce infiltration.
- Construction of intensive drainage system of the top platform to reduce infiltration.



The Acropolis of Athens



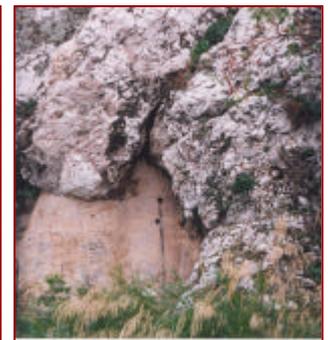
Parthenon



Rockfalls



Filled joints



Retaining wall

### References on studies already done:

B. Andronopoulos, G. Koukis, (1988). Engineering geological problems in the Acropolis of Athens, Balkema, Rotterdam, Brookfield, pp.1819-1831

G. Koukis, (1982), slope stability problems of the Acropolis hill of Athens, 4th International congress of international association of engineering geology, New Delhi, pp. III.169-III.179.