Questionnaire

1. What effect has seismic activity had on the Alhambra Palace?
2. Why is the Alhambra affected by earthquakes?
3. Why is the Christian wall of the monument less affected than the Arab barrier?
4. What can we say about structural damages to the monument at present?
5. Can we expect new damages in the next future?
6. Why do Scientists suspect that cracks on the walls are related to seismic activity?
7. What is the San Pedro Cliff?
8. Is that feature a subject of concern?
9. What can we see on the western part of this escarpment?
10. What information do we get from the fault of the escarpment? Is this the only one?
11. Why do we suspect that the Christian wall damages are related to these faults?
12. When do the cracks of the Christian wall appeared and why?
13. Apart from earthquakes, what is the next Alhambra threat according to the Guardian article?
14. What is the cause of the subsidence of the Palace?
15. Is that a major threat?
16. What solution is proposed to relieve this situation?
17. Is there anything hampering this possible solution?

Questionnaire – answer key

1. What effect has seismic activity had on the Alhambra Palace?

Scientists have found evidence that structural damage to the Alhambra is due to seismic activity.

2. Why is the Alhambra affected by earthquakes?

The Alhambra is located in the central sector of the Betic Cordillera and is one of the most seismically active zones in the Iberian Peninsula.

3. Why is the Christian wall of the monument less affected than the Arab barrier?

The last major earthquake occurred there in 1431 and was responsible for the partial collapse of the Arab barrier. The Christian wall, built in 1526, has also been partially destroyed by rockfalls related to tectonic activity.

4. What can we say about structural damages to the monument at present?

The research carried out by scientists in Granada, and published in the Journal of Quaternary Science, reports that the structural damage displayed by the Alhambra is far from significant.

5. Can we expect new damages in the next future?

Of course, because it seems that the cracks can be related to underlying faults that are possibly seismically active.

6. Why do Scientists suspect that cracks on the walls are related to seismic activity?

Some of the cracks show a geometrical continuity with fault planes in the underlying rocks, while collapsed segments of a wall surrounding the Alhambra coincide with underlying faults that cut Quaternary soil levels.

7. What is the San Pedro Cliff?

It is a dihedral eroding cliff 65.5 meters high, it is the steepest escarpment of the Alhambra hill.

8. Is that feature a subject of concern?

This eroding cliff reaches to 23.8 meters from the Alhambra palace wall, the retreat of this cliff should be a subject of concern.

9. What can we see on the western part of this escarpment?

The western part of the San Pedro escarpment corresponds to a fault line; the fault-plane outcrops in the innermost part of the escarpment, showing a normal-fault displacement of about 7 meters.

10. What information do we get from the fault of the escarpment? Is this the only one?

The activity of these faults seems to be very recent and may be related to earthquakes. Maybe some non-outcropping ones.

11. Why do we suspect that the Christian wall damages are related to these faults?

The Christian barrier has numerous cracks geometrically related to fault-planes outcropping in the Alhambra Formation, faults and cracks are continuous and have similar strike and dip.

12. When do the cracks of the Christian wall appeared and why?

These cracks are due to post-1526 small displacements along the faults, occurring during recent earthquakes in the region.

13. Apart from earthquakes, what is the next Alhambra threat according to the Guardian article?

I*t is going downhill as the land on which it is built slowly crumbles into a river gorge.*

14. What is the cause of the subsidence of the Palace?

The hill on which the Alhambra is perched has high clay content and scientists suspect that waterlogging *may be to blame.*

15. Is that a major threat?

There is no immediate threat, said Mateo Revilla, the Alhambra's director. "The spot worst affected is 25 metres away from the Alhambra itself.

16. What solution is proposed to relieve this situation?

The possible remedies include covering the hillside with a protective net or building new water channels.

17. Is there anything hampering this possible solution?

The search for a solution could be hampered by the bitter infighting surrounding the Alhambra. Municipal, regional and central authorities of various political hues regularly fight for control of the monument