

ORIENTATION OF MANAGUA'S FAULTS

by

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SUMMARY

An explanation will be presented for the orientation of Managua's faults and will be shown a seismic dualism in Managua.

REPORT

Managua has been three times (1931, 1968, 1972) a full-scale laboratory for damaging earthquakes. Last time the capital received seismologists and geologists, as well engineers, sociologists and economists.

New knowledge in earthquake engineering is becoming available at an accelerated rate. However there is a lack of data on which to base rational assessment of risk.

No doubt that the first step in earthquake resistant design is the evaluation of seismicity.

The field study of the 1972 destructive earthquake is far to be finished. Based in the international cooperation this study from the scientific and pragmatic point of view is fully justified by the value of the information. Codes and regulations can only be proved after disasters. Extreme values are the weakness of analysis of risk.

To go further in field study at the light of the theory of the drift of the continents, will be proposed an explanation of the orientation of Managua's faults. Looking forward to be able to stu-

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dy in detail the plates affecting the Central America isthmus, including the Pacific fosse, will be pointed out the necessity of sounding the two big lakes since the lake Xolotlán or Managua (displacing of the epicenter) could throw enough light to determine the causes of the earthquakes the capital of Nicaragua has been suffering. (Fig. 1)

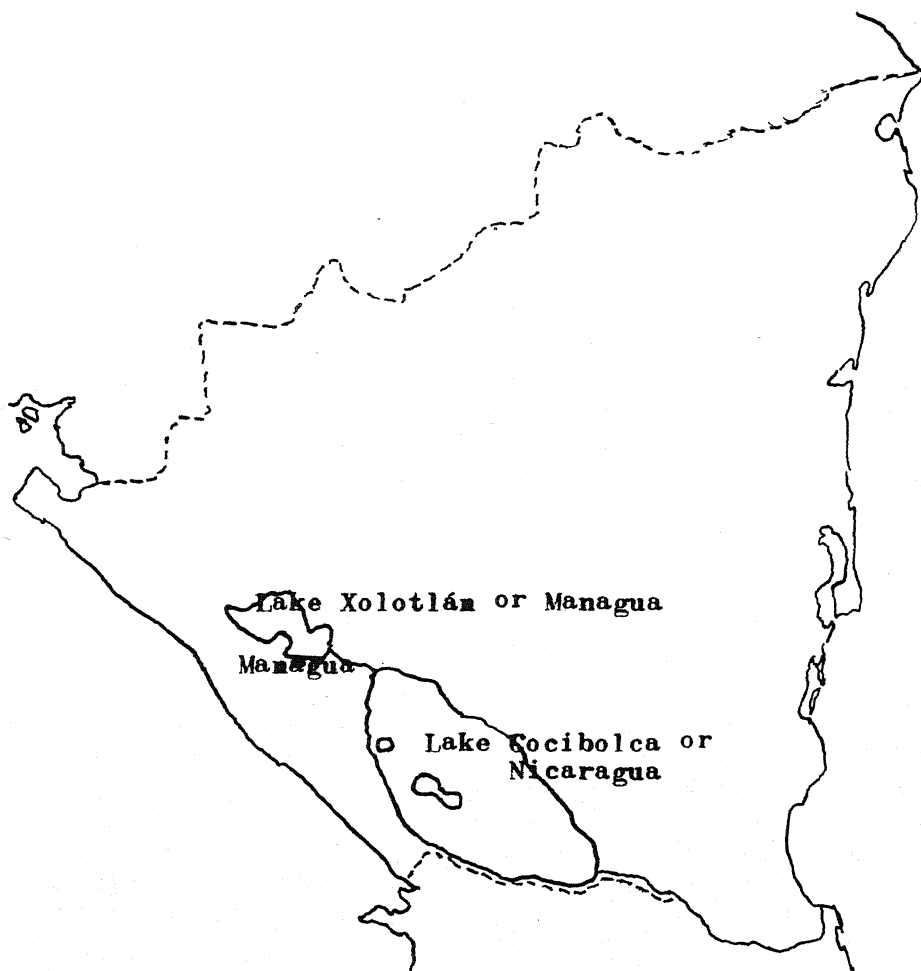
Parallelism and perpendicularity of the fault systems. At the Conference on Managua earthquake in San Francisco, Calif., U. S. A., it was remarked by the author that the famous fault of San Andreas is parallel to the Pacific Ocean and the faults of Managua are practically perpendicular to that ocean. With the map of plates, Fig. 2, elaborated in function of seisms (natural and produced by atomic explosions), it is possible to explain the orientation of San Andreas's fault as well as Managua's faults. This map was published by the authors D. H. and M. P. Tarling (1). The map of plates affords several interesting remarks in the isthmus.

Seismic dualism in Managua. Destructive earthquakes are of tectonic origin. These could be the cause of a major volcanic activity in Nicaragua. It should be observed that water of lake Cocibolca is good for irrigation purposes, instead that of lake Xolotlán is not. This could mean that this lake is contaminated by volcanic activity. Sounding could indicate tectonic and volcanic activities. The level of this lake is another variable to be taken in consideration. All this could be studied applying the resolution of the 15th General Conference of UNESCO about promoting international cooperation.

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MAP OF NICARAGUA



Map showing location of Lake Xolotlán,
place of epicenters.

Co-ordinates of Managua:

86°16' W. Long.

12°09' N. Lat.

60 m. Alt.

Figure 1.

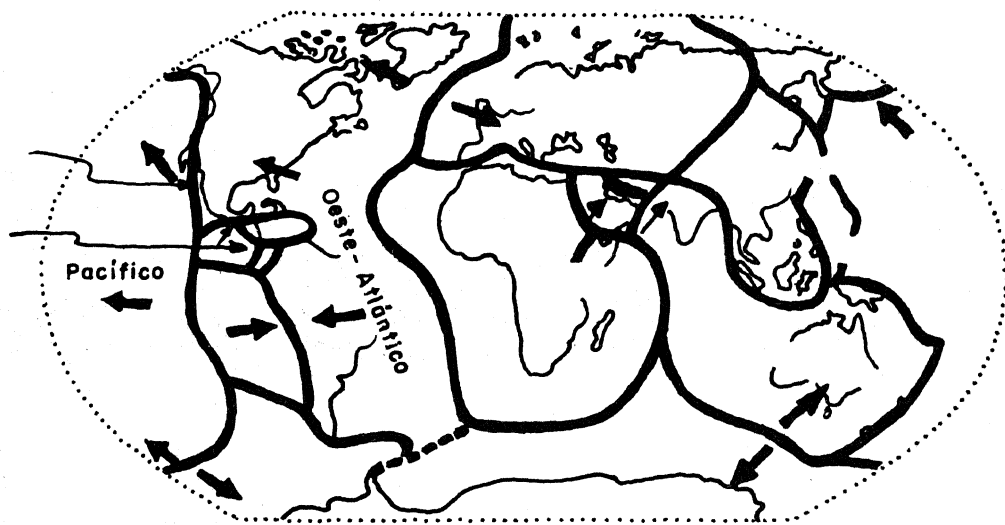


FIG. 2

