Figure 1A.-Tectonic activity of the Sonoran Desert region based on geomorphology.

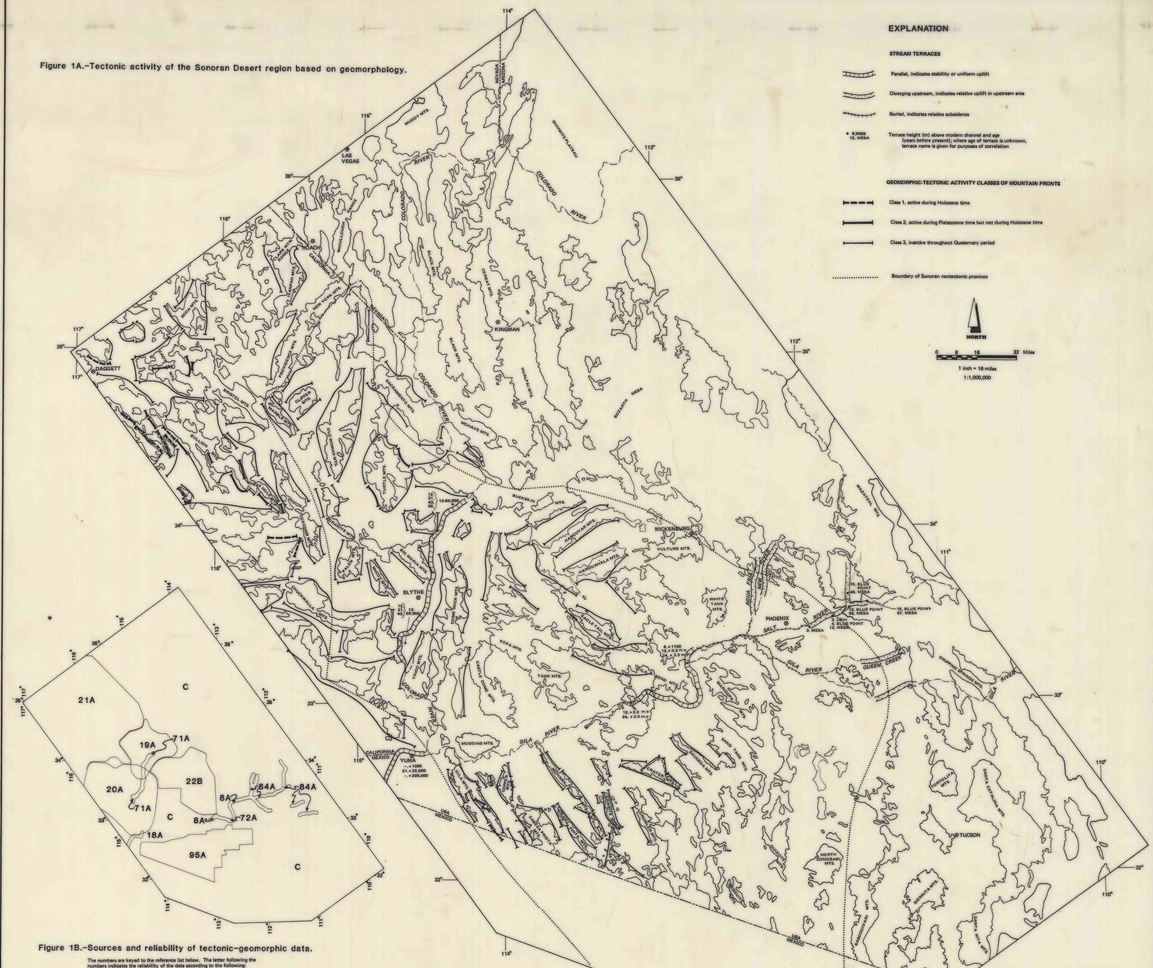

Figure 1B.-Sources and reliability of tectonic-geomorphic data.

The numbers are keyed to the reference list below. The letter following the numbers indicates the reliability of the data according to the following:

A: Detailed analysis
B: Reconnaissance analysis
C: No data

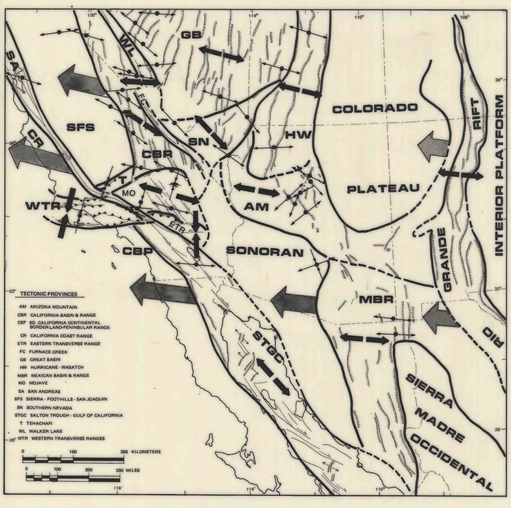

Figure 2.-Sources of fault data (Plate 1).

Numbers are keyed to references below

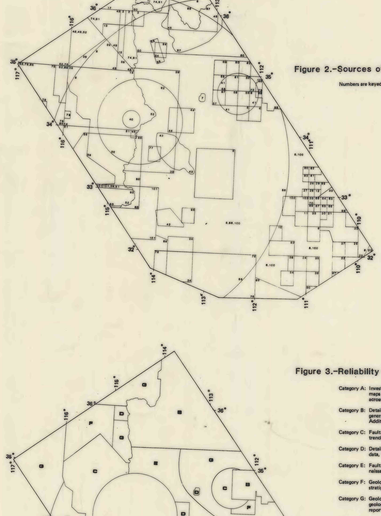

Figure 3.-Reliability index of fault data (Plate 1).

Category A: Investigations specifically directed at determining fault rates/cycles. Data consists of detailed geologic and fault maps based on detailed field mapping, boreholes with downhole geophysical data and lithologic logging, trenching across pertinent faults, abundant geochronologic data, and gravity and magnetic surveys.

Category B: Detailed geologic maps based on intensive detailed field mapping and some geochronologic data. Maps are generally at large scale (1:24,000 with additional detailed maps and texts with detailed discussion of faults. Additional aerial photograph analysis and limited reconnaissance checking of fault.

Category C: Fault investigations based on aerial photograph analysis, aerial reconnaissance, detailed field checking and trenching. Geochronologic data limited.

Category D: Detailed geologic maps and/or detailed discussion of faults based on detailed field mapping, limited geochronologic data, or detailed stratigraphic analyses.

Category E: Fault investigations utilizing detailed-scale aerial photographs with fault and geomorphic analysis and reconnaissance field checking.

Category F: Geologic maps based on detailed field mapping but no discussion of young faults or with outdated stratigraphic information.

Category G: Geologic maps based on reconnaissance field mapping, aerial photographs, or space imagery. Regional geologic maps (1:250,000 to 1:750,000). Aerial photographic analyses without field checking. Geologic reports or maps which obviously did not address Quaternary or late Tertiary geologic processes.

Category H: Reconnaissance evaluation of regional remote sensing data.

Figure 5.-Regional neotectonic stress in the southwestern United States and northern Mexico.

Emphasis has been placed on the region adjacent to the Sonoran Desert; outlying provinces are generalized with some neotectonic provinces being combined to simplify the illustration.

Major high-angle, predominantly normal, faults.

Major strike slip faults with arrows indicating relative displacement.

Major reverse faults.

Selected local stress indicator, primarily focal-mechanism solutions, in situ stress measurements, and geologic trends. Direction of arrows generally represents the average of several indicators in the region surrounding the black dot.

Regional resultant least-principal stress of tectonic provinces in which dominant stress field is tensional or strike-slip shearing. Based on combination of above stress indicators and representative geologic stress indicators such as mode of faulting and alignment of volcanic cones.

Regional maximum-principal stress of tectonic provinces in which predominant stress field is compressive.

Net tectonic transport relative to the Interior Platform which is held fixed. Shortest arrows indicate least transport and longest arrows indicate greatest transport but length of arrow is not intended to suggest absolute amounts of movement.

Figure 4.-Reliability index of volcanic data (Plate 1).

Category 1: Areas where ages are based on abundant geochronologic, geomorphic, and stratigraphic data

Category 2: Areas where ages are based on only limited geochronologic data and geomorphology, and on stratigraphy

Category 3: Areas where ages are based primarily on stratigraphic relationships

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