EXPLANATION

The map shows sand blow distribution and intensity on alluvium of the St. Francis Basin, relative difficulty of identifying sand blows and features in alluvium of the St. Francis Basin, principal sand-blowing and sand-blow areas beneath the alluvium, locations of interest faults and fault zones from Zink and others, 1990, and major geologic and geographic features in the Quaternary alluvium.

The map was made by steadily interpreting from aerial photographs (scale 1:20,000 to 1:25,000, image 1957 to 1961), the percentage of the land surface covered with sand buried to the surface by earthquake shaking (sand blows), numerous field verifications were made by using boring and test pits.

The red dotted rectangular areas show regions having sand blows, and the dot size is related to the percentage of the land surface covered with sand blows. Each rectangular area corresponds to the coverage of a single aerial photograph; some parts of the photographs may have a greater or lesser percentage or may be missing. Estimates were not made on photographs of areas that were greater than 50 percent covered.

The map also shows the relative difficulty of identifying 1851-12 earthquake-induced liquefaction effects of various terrains and soils. Aerial-photograph interpretation and field checking are the observation methods used. Difficulty levels are shown only for alluvium in the St. Francis Basin. Symbols for difficulty levels are shown at the end of this section.

Areas designated as extremely difficult to identify are flooded by the Mississippi River, with a frequency of at least about once every five years or some very rare times. The floodplain is also subject to being washed out or its flood levels have severely caused or re-worked soils. Area boundaries were determined primarily from information on U.S. Department of Agriculture Soil Conservation Service county soil maps and from consultation with county Soil Conservation Service representatives and farmers.

Areas designated as very difficult to identify have been subjected to occasional flooding or may have sandy soils and sand seeps that are very sandy and are easily washed by wind. The southern part of the map, near the Mississippi River, the areas represent locations of thick vegetation deposits.

Areas designated as generally very difficult to identify are areas where sand blows or sand seeps and generally very sandy surface soils are considered to have been less prone to flooding effects than other areas.

Areas designated as more difficult than average to identify generally have surface soils that are either sandy soils or sandy soils and are somewhat subject to being washed out by wind or have some minor evidence. Soil boundaries were determined primarily from aerial photographs and field checking of sand blows and features can be made only for a very small range of soil-vegetation conditions.

Percentage of sand blows. Dot size indicates percentage of coverage. Each rectangular area on the map corresponds to the coverage of one aerial photograph.

Level of relative difficulty for identifying 1851-12 earthquake-induced liquefaction effects from Zink and others, 1990.)

- Extremely difficult
- Very difficult
- Difficult
- More difficult than average
- Impossible to extremely difficult

- Major geologc and geographic features in the late Quaternary alluvium.

- Mississippi deltaic fan and delta fronts since 1851-12
- Holocene point bar deposits
- Holocene channel deposits
- Holocene river terrace deposits
- Pleistocene-Holocene-based stream deposits
- Beachrock deposits
- Loess soils
- Today's point bar deposits
- Today's deltaic fan and delta fronts
- Terrestrial fault scarps in areas of late Quaternary alluvium
- Boundaries of areas with many small faults
- Distinct faults
- wells