

TECTONIC MAP OF TEXAS

COMPILATION BY T. E. EWING

Individual contribution by:

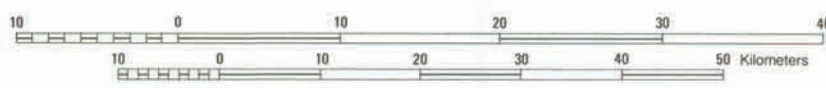
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TRANSVERSE MERCATOR PROJECTION

Scale 1:750,000



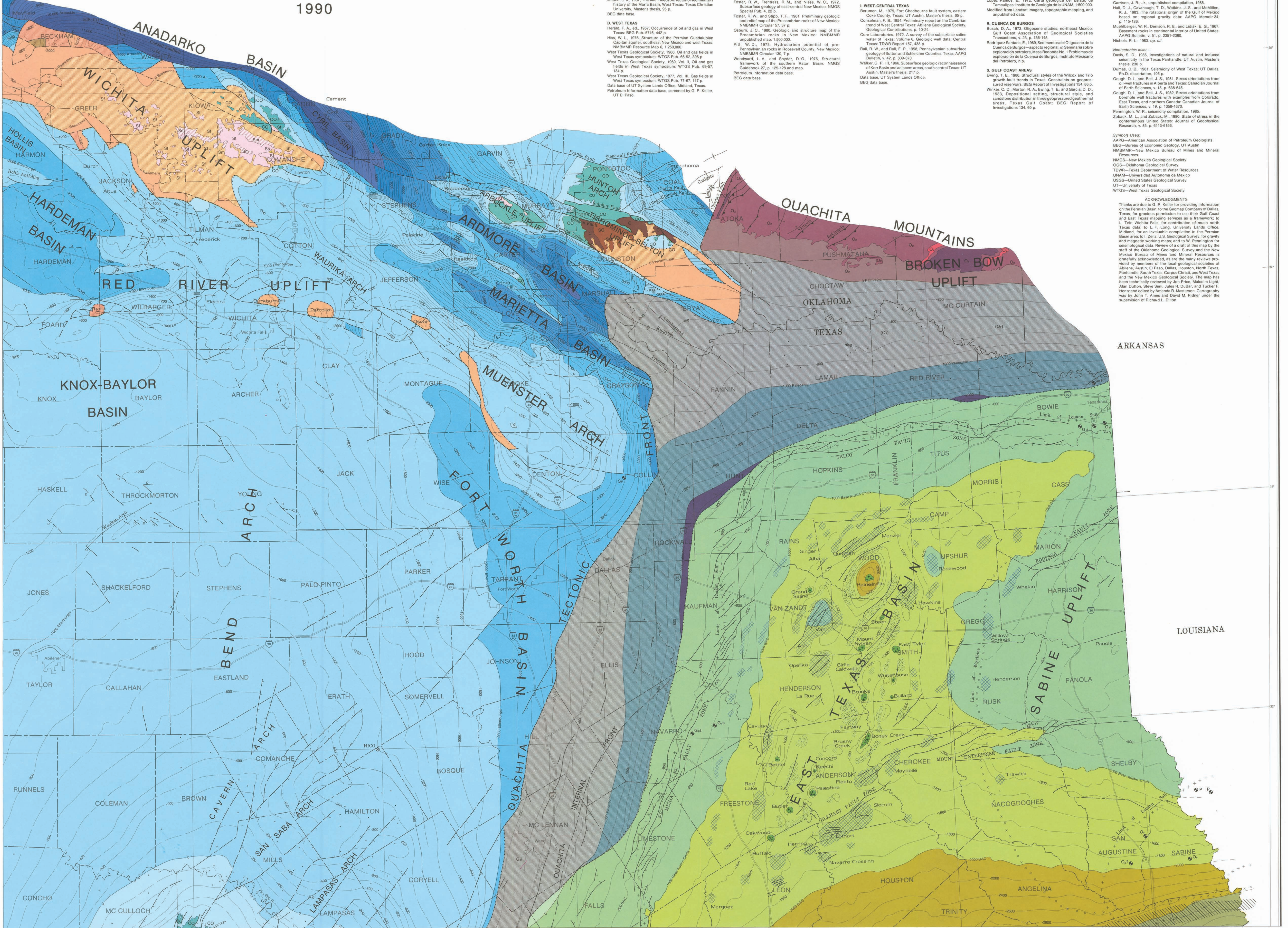
Datum is mean sea level

Contour interval 200 meters with supplemental 100-meter contours

Cartography by John T. Ames and David M. Ridner under the supervision of Richard L. Dillon

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1990



INTRODUCTION

A tectonic map depicts the architecture of the earth's crust and indicates the main stages of its formation and deformation. This tectonic map summarizes knowledge as of 1984 of surface and subsurface regional structural geology of the state of Texas. Adjacent areas of Mexico, New Mexico, and Oklahoma are included to portray major tectonic elements in their entirety.

In Trans-Pecos Texas, the Llano Uplift, and other smaller areas of Texas, tectonic information is derived mostly from study of the exposed basement and overlying strata. The exposed rocks can be divided into lithotectonic (or tectonostratigraphic) units with tectonic significance. Mapped lithotectonic units are identified in the explanation. In most of the state, however, the deformed basement rocks are buried by sedimentary strata that exhibit gentler deformation, much of which is not expressed at the surface. In these areas, structure contours are drawn on several significant horizons, favoring the deepest structure for which we have regional information. Faults and folds are shown where they intersect the contour intersection; most do not appear at the surface. The contour horizon is indicated by color and depth by intensity of color, as shown in the explanation.

Geophysical data such as gravity and magnetic surveys aid in understanding crustal composition and structure. Summaries of these surveys are shown on five inset maps. Interpretations of the Precambrian radiometric provinces and the Paleozoic and younger basement terranes appear on another inset. Current tectonic activity (seismicity, states of crustal stress, and active faulting) and density of structural control used to construct the main map are also shown.

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Symbols Used:
AAPG—American Association of Petroleum Geologists
BEG—Bureau of Economic Geology, UT Austin
MBBMR—New Mexico Bureau of Mines and Mineral Resources
NMGS—New Mexico Geological Society
OGS—Oklahoma Geological Survey
TDWR—Texas Department of Water Resources
UNAM—Universidad Autónoma de Mexico
USGS—United States Geological Survey
UT—University of Texas
WTGS—West Texas Geological Society

ACKNOWLEDGMENTS
Thanks are due to G. R. Keller for providing information on the Permian Basin, to the Geomaps Company of Dallas, Texas, for gracious permission to use their Gulf Coast and East Texas mapping services as a framework, to L. Tarr, Wichita Falls, for contribution of much north Texas data, to L. F. Long, University of Texas, Midland, for an invaluable compilation in the Permian Basin area, to J. D. Zettl, U.S. Geological Survey, for gravity and magnetic working maps, and to W. Pennington for seismicological data. Review of a draft of this map by the staff of the Oklahoma Geological Survey and the New Mexico Bureau of Mines and Mineral Resources is gratefully acknowledged, as are the many reviews provided by members of the local geological societies of Abilene, Austin, El Paso, Dallas, Houston, North Texas, Panhandle, South Texas, Corpus Christi, and West Texas and the New Mexico Geological Society. The map has been technically reviewed by Jon Price, Malcolm Light, Alan Dutton, Steve Seri, Julie R. Dullar, and Tucker F. Henry and edited by Amanda R. Masterson. Cartography was by John T. Ames and David M. Ridner under the supervision of Richard L. Dillon.

ARKANSAS

LOUISIANA