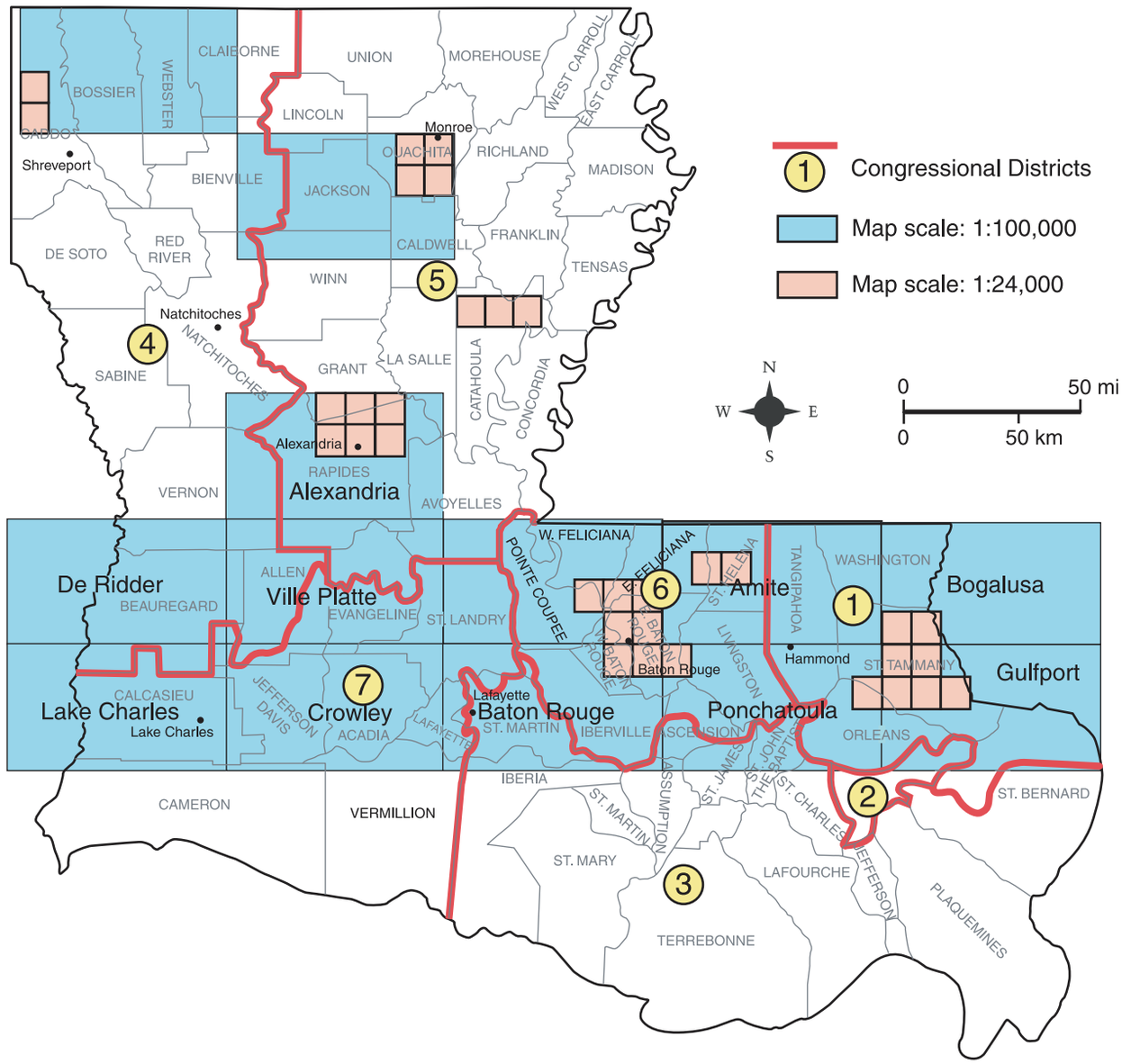
Associaton of American State Geologists

United States Geological Survey

National Cooperative Geologic Mapping Program

STATEMAP Component: States compete for federal matching funds for geologic mapping

LOUISIANA



STATEMAP Quadrangles 1993 - Present

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National Cooperative Geologic Mapping Program

LOUISIANA

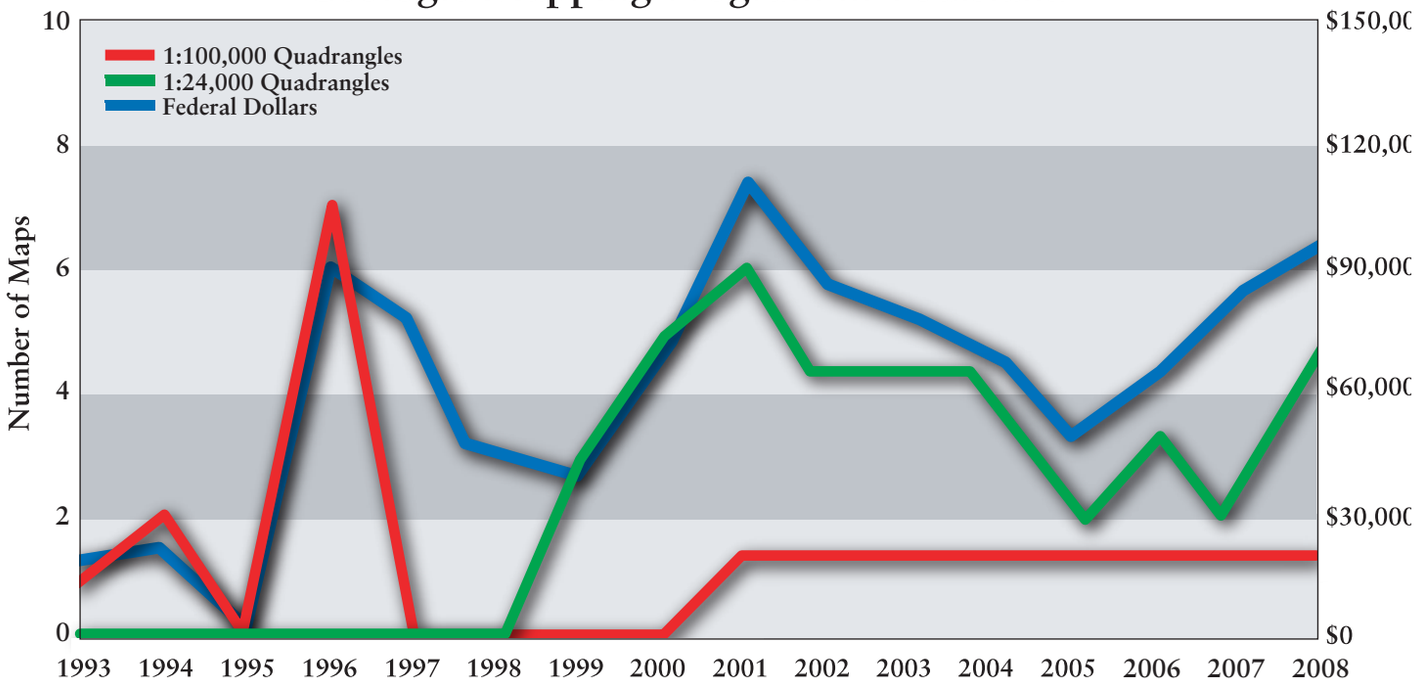
Cooperative agreements between the USGS and LGS under the STATEMAP program have driven the bulk of the geologic mapping conducted in the state since the program's inception. STATEMAP projects have permitted LGS to complete initial compilation of new intermediate-scale coverage of the state's upland landscapes and alluvial bottoms above the coastal zone, and to follow this with a program of finalized compilations of 30 x 60 minute quadrangles and of large-scale new mapping of selected 7.5-minute quadrangles. The NCGMP-supported geologic mapping in Louisiana has a multitude of uses of importance to many timely issues. The mapping generates basic geologic data that in urbanized and rapidly urbanizing areas are essential to planners, and in more rural settings are essential to ongoing maintenance and preservation efforts in wildlife-management areas and national forests.

The availability of up-to-date geologic maps has myriad economic implications in Louisiana as in other areas. Geologic maps are invaluable in the effort to rationally plan the permitting of activities in the coastal zone in ways that minimize the threat of land loss. They are also essential to the proper siting of waste-treatment facilities relative to the recharge zones of aquifers that are important sources of drinking water (such as for the surface unit corresponding to the outcrop of the uppermost portion of the Chicot aquifer, the principal source of ground water for 13 parishes in southwestern Louisiana, which historically has been a setting favored for the location of solid-waste repositories). New and increasingly detailed map renderings of active, but apparently non-earthquake-producing, surface faults of the south Louisiana coastal plain provide a framework for assessment of fault-related damage potential and damage-reduction strategies.

Preparation of geologic maps with STATEMAP support in Louisiana may lead to favorable economic outcomes in ways that otherwise would not have been possible. For example, Coastal Environments, Inc., an environmental consulting firm in Baton Rouge, Louisiana, was working a project for the U.S. Army Corps of Engineers, New Orleans District, in the Henderson Lake area, which is included within the extent of the Baton Rouge 30 x 60 minute quadrangle. The problem addressed by the project involved assessing the potential for buried prehistoric archaeological sites in areas for which previous sampling was inadequate to serve as a baseline for the assessment. The limited-to-unavailable surface and shallow subsurface data within the survey area prompted a search by the CEI archaeological team for publicly available information that could serve to guide its efforts and permit more effective focus on areas that might hold promise for the occurrence of buried cultural resources. The LGS *Baton Rouge 30 x 60 Minute Geologic Quadrangle* sheet proved essential for distinguishing the backswamp (**Hb**), crevasse (**Hac, Hmc3u**), and meander-belt (**Hmm3l**) sediments deposited along former meander-belt and distributary courses of the Atchafalaya and Mississippi rivers from their associated natural-levee deposits (**Hal, Hml3l, and Hmd3u**), which were expected to have had the optimum value for prehistoric settlement. The interpretation and rendering of the local surface geology made it possible for CEI to plausibly infer in a timely and cost-effective manner the potential distribution of significant buried prehistoric cultural resources within the project area. The information presented on this geologic quadrangle sheet was, therefore, critical to the work being performed.

There can be little doubt that basic geologic information of the kind presented on geologic maps will figure prominently in the addressing of a host of environmental issues of increasing importance in the state in years to come.

Summary of STATEMAP Geologic Mapping Program in Louisiana



Louisiana quadrangles geologically mapped with support of STATEMAP component of National Cooperative Geological Mapping Program (NCGMP).

The graph of LGS geologic mapping activities conducted as part of the NCGM shows the importance of the program to geologic mapping efforts in the state. To date, LGS has published eleven 30 x 60 minute geologic quadrangles at 1:100,000 scale as cartographic products for sale to the public, of which eight originally were compiled with STATEMAP support.

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