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Depicting Coastal Louisiana Land Loss

Coastal Louisiana Land Loss Map

The Coastal Louisiana Land Loss map depicts historical (1932-2000) changes of land to water and water to land, as well as projected changes (2000-2050). Projections are based on the assumption of no future restoration.

Source of Data

The U.S. Army Corps of Engineers provided the 1932 land and water data derived from U.S. Geological Survey (USGS) 15-minute topographic maps. The 2000 land and water conditions are based on classified Landsat Thematic Mapper satellite imagery provided by the USGS.

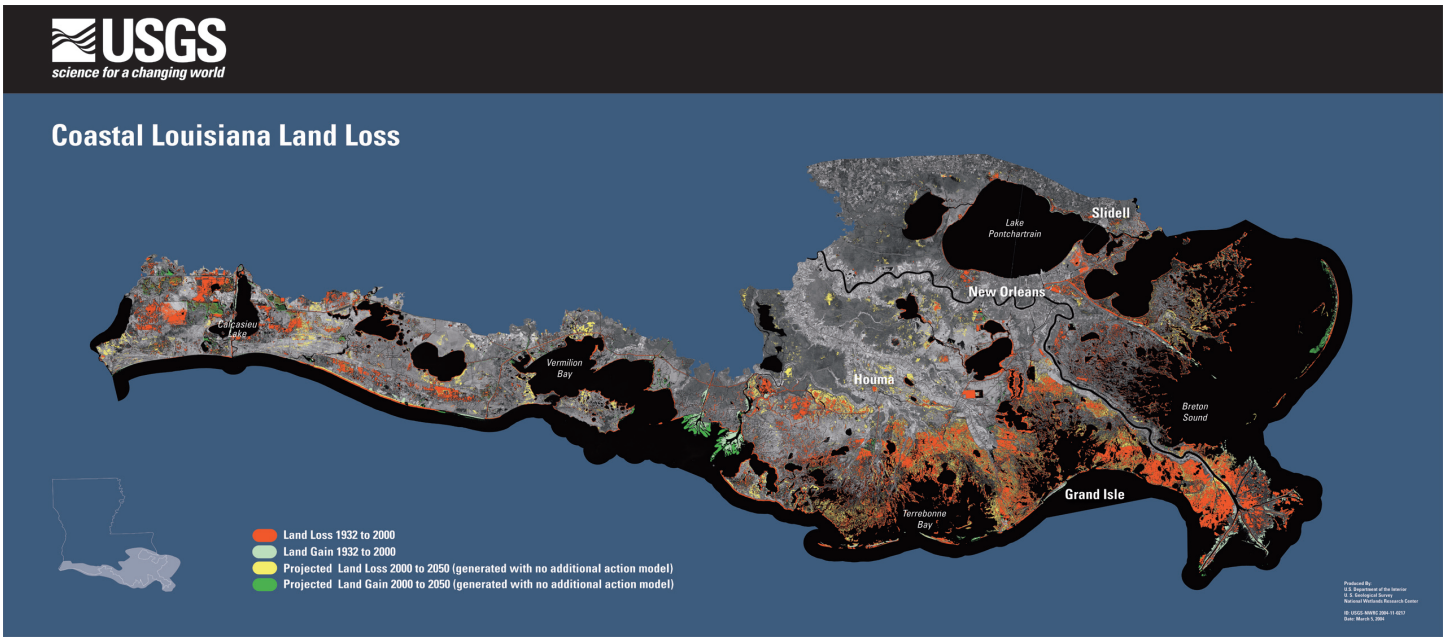
Methodology for Calculating Historical Land Change

The USGS compared the 1932 land and water data to the 2000 land and water data by using geographic information system software to identify land areas from 1932 that had converted to water ("land loss") or water areas from 1932 that had converted to land ("land gain") by the year 2000. In the map depiction, the vast areas of historical land loss appear in red, while the much smaller areas of historical land gain are in light green.

The small areas of land gain are present both in the Atchafalaya Delta and as scattered dredged materials that have been put to beneficial use in various projects.

Methodology for Calculating Projected Land Change

Land losses projected for the years 2000 to 2050 are depicted as yellow areas, while projected 2000 to 2050 land gains appear as deep green areas. The land loss and gain predictions are based on projecting historical 1978 to 2000 land-water changes 50 years into the future for similar loss areas that were identified by a trend analysis workgroup consisting of multiagency Federal technical personnel and university researchers. The 1978 to 2000 period is believed to more accurately portray current coastal Louisiana trends in land change than does the 1932-2000 period. Adjustments were made to the 2000-2050 land and water projections to account for benefits from constructed wetland restoration projects prior to 2000. Developed and agricultural areas were excluded from the loss-gain projections. This methodology was developed and reviewed in conjunction with partners from the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, Natural Resources Conservation Service, Environmental Protection Agency, Louisiana Department of Natural Resources, and many Louisiana universities.



Documentation

The USGS Open-File Report 03-334 "Historical and Projected Coastal Louisiana Land Changes: 1978-2050" explains in detail the above methodology. The report can be found at http://www.lca.gov/appb.aspx, and digital copies of land change maps can be downloaded from http://www.nwrc.usgs.gov/special/landloss.htm.

Southeastern Louisiana Land Loss Map

In addition to the map described above, a map has been produced of only the southeastern part of coastal Louisiana, where land loss is most pronounced. In this second map, red is used to show both historical and projected loss.

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