Ecoregions of the Mississippi Alluvial Plain

Legend
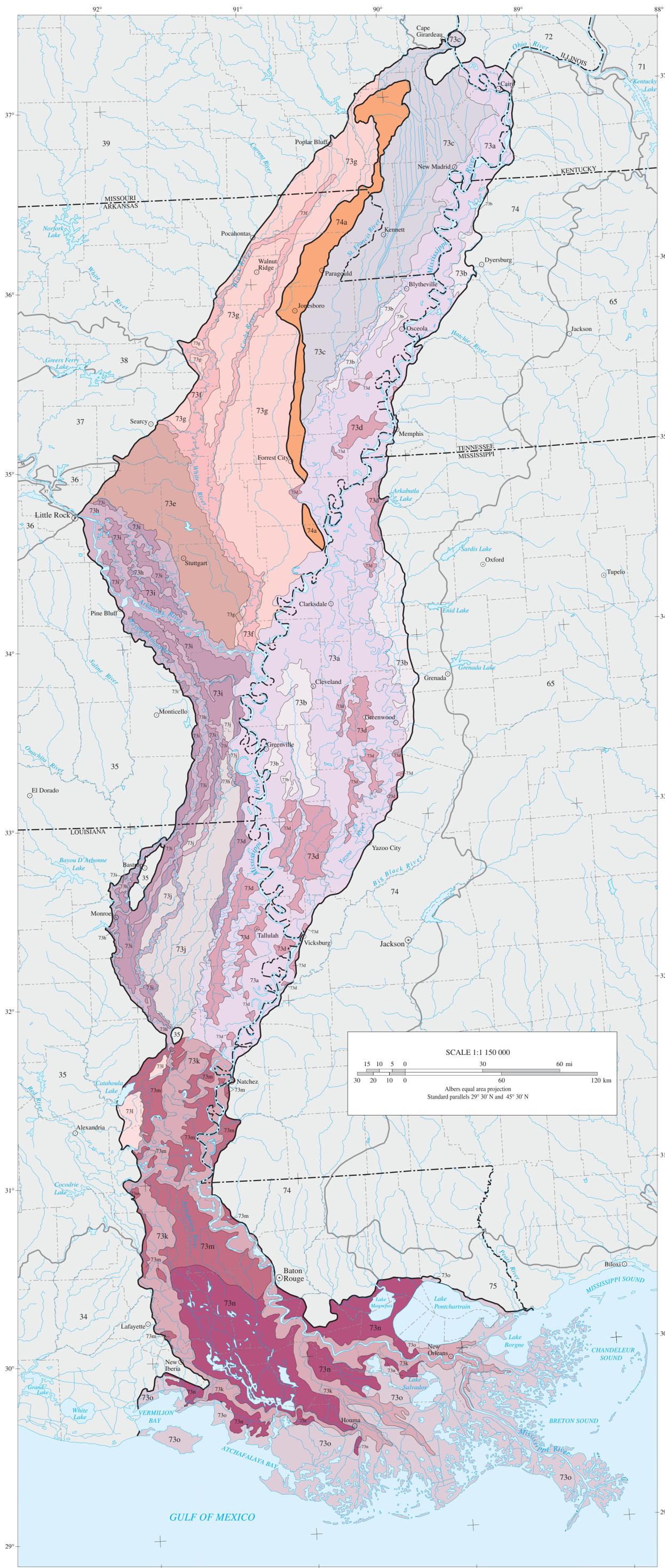
73   **Mississippi Alluvial Plain**

- 73a   Northern Holocene Meander Belts
- 73b   Northern Pleistocene Valley Trains
- 73c   St. Francis Lowlands
- 73d   Northern Backswamps
- 73e   Grand Prairie
- 73f   Western Lowlands Holocene Meander Belts
- 73g   Western Lowlands Pleistocene Valley Trains
- 73h   Arkansas/Ouachita River Holocene Meander Belts
- 73i   Arkansas/Ouachita River Backswamps
- 73j   Macon Ridge
- 73k   Southern Holocene Meander Belts
- 73l   Southern Pleistocene Valley Trains
- 73m   Southern Backswamps
- 73n   Inland Swamps
- 73o   Coastal Marshes

74   **Mississippi Valley Loess Plains**

- 74a   Bluff Hills

———————— Level III ecoregion
———————— Level IV ecoregion
—·—·—·— State Boundary
– – – – – County Boundary

Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources; they are designed to serve as a spatial framework for the research, assessment, management, and monitoring of ecosystems and ecosystem components. By recognizing the spatial differences in the capacities and potentials of ecosystems, ecoregions stratify the environment by its probable response to disturbance (Bryce and others, 1999). These general purpose regions are critical for structuring and implementing ecosystem management strategies across federal agencies, state agencies, and non-government organizations that are responsible for different types of resources within the same geographical areas (Omernik and others, 2000).

The approach used to compile this map is based on the premise that ecological regions can be identified through the analysis of the spatial patterns and the composition of biotic and abiotic phenomena that affect or reflect differences in ecosystem quality and integrity (Wiken, 1986; Omernik, 1987, 1995). These phenomena include geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology. The relative importance of each characteristic varies from one ecological region to another regardless of the hierarchical level. A Roman numeral hierarchical scheme has been adopted for different levels of ecological regions. Level I is the coarsest level, dividing North America into 15 ecological regions. Level II divides the continent into 52 regions (Commission for Environmental Cooperation Working Group, 1997). At level III, the continental United States contains 104 ecoregions and the conterminous United States has 84 ecoregions (United States Environmental Protection Agency [USEPA], 2003). Level IV is a further subdivision of level III ecoregions. Explanations of the methods used to define the USEPA's ecoregions are given in Omernik (1995), Omernik and others (2000), Griffith and others (1994), and Gallant and others (1989).

This level III and IV ecoregion map was compiled at a scale of 1:250,000 and depicts revisions and subdivisions of earlier level III ecoregions that were originally compiled at a smaller scale (USEPA 2003, Omernik, 1987). This poster is part of a collaborative effort primarily between USEPA Region VII, USEPA National Health and Environmental Effects Research Laboratory (Corvallis, Oregon), Mississippi Department of Environmental Quality, Arkansas Department of Environmental Quality, Arkansas Multi-Agency Wetland Planning Team (MAWPT), U.S. Army Corps of Engineers (USACE), U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS), U.S. Department of Interior - Fish and Wildlife Service (USFWS), and U.S. Department of Interior - U.S. Geological Survey (USGS) - Earth Resources Observation Systems (EROS) Data Center.

This project is associated with an interagency effort to develop a common framework of ecological regions. Reaching that objective requires recognition of the differences in the conceptual approaches and mapping methodologies that have been used to develop the most common ecoregion-type frameworks, including those developed by the U.S. Department of Agriculture - Forest Service (USFS) (Bailey and others, 1994), the US EPA (Omernik, 1987, 1995), and the NRCS (United States Department of Agriculture - Soil Conservation Service, 1981). As each of these frameworks is further refined, their differences are becoming less discernible. Regional collaborative projects such as this one in the Mississippi Alluvial Plain, where agreement can be reached among multiple resource management agencies, are a step toward attaining consensus and consistency in ecoregion frameworks for the entire nation.

SCALE 1:1 150 000

15 10 5 0   30   60 mi
30 20 10 0   60   120 km

Albers equal area projection
Standard parallels 29° 30' N and 45° 30' N
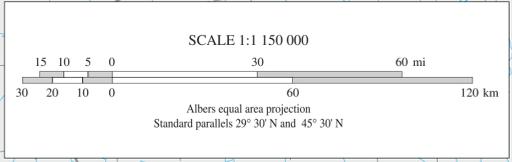
Literature Cited:

Bailey, R.G., Avers, P.E., King, T., and McNab, W.H., eds., 1994, Ecoregions and subregions of the United States (map) (supplementary table of map unit descriptions compiled and edited by McNab, W.H., and Bailey, R.G.): Washington, D.C., U.S. Department of Agriculture - Forest Service, scale 1:7,500,000.

Bryce, S.A., Omernik, J.M., and Larsen, D.P., 1999, Ecoregions - a geographic framework to guide risk characterization and ecosystem management: Environmental Practice v. 1, no. 3, p. 141-155.

Bryce, S.A., Omernik, J.M., Pater, D.E., Ulmer, M., Schaar, J., Freeouf, J.A., Johnson, R., Kuck, P., and Azevedo, S.H., 1998, Ecoregions of North Dakota and South Dakota (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).

Commission for Environmental Cooperation Working Group, 1997, Ecological regions of North America - toward a common perspective: Montreal, Quebec, Commission for Environmental Cooperation, 71 p.

Gallant, A.L., Whittier, T.R., Larsen, D.P., Omernik, J.M., and Hughes, R.M., 1989, Regionalization as a tool for managing environmental resources: Corvallis, Oregon, U.S. Environmental Protection Agency, EPA/600/3-89/060, 152 p.

Griffith, G.E., Omernik, J.M., Wilton, T.F., and Pierson, S.M., 1994, Ecoregions and subregions of Iowa - a framework for water quality assessment and management: The Journal of the Iowa Academy of Science, v. 101, no. 1, p. 5-13.

McMahon, G., Gregonis, S.M., Waltman, S.W., Omernik, J.M., Thorson, T.D., Freeouf, J.A., Rorick, A.H., and J.E., Keys, 2001, Developing a spatial framework of common ecological regions for the conterminous United States, Environmental Management, v. 28, no. 3, p. 293-346.

Omernik, J.M., 1987, Ecoregions of the conterminous United States (map supplement): Annals of the Association of American Geographers, v. 77, no. 1, p. 118-125, scale 1:7,500,000.

Omernik, J.M., 1995, Ecoregions - a framework for environmental management, in Davis, W.S., and Simon, T.P., eds., Biological assessment and criteria - tools for water resource planning and decision making: Boca Raton, Florida, Lewis Publishers, p. 49-62.

Omernik, J.M., Chapman, S.S., Lillie, R.A., and Dumke, R.T., 2000, Ecoregions of Wisconsin: Transactions of the Wisconsin Academy of Sciences, Arts, and Letters, v. 88, p. 77-103.

U.S. Department of Agriculture - Soil Conservation Service, 1981, Land resource regions and major land resource areas of the United States: Agriculture Handbook 296, 156 p.

U.S. Environmental Protection Agency, 2003, Level III ecoregions of the continental United States (revision of Omernik, 1987): Corvallis, Oregon, U.S. Environmental Protection Agency - National Health and Environmental Effects Research Laboratory, Map M-1, various scales.

Wiken, E., 1986, Terrestrial ecozones of Canada: Ottawa, Environment Canada, Ecological Land Classification Series no. 19, 26 p.

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