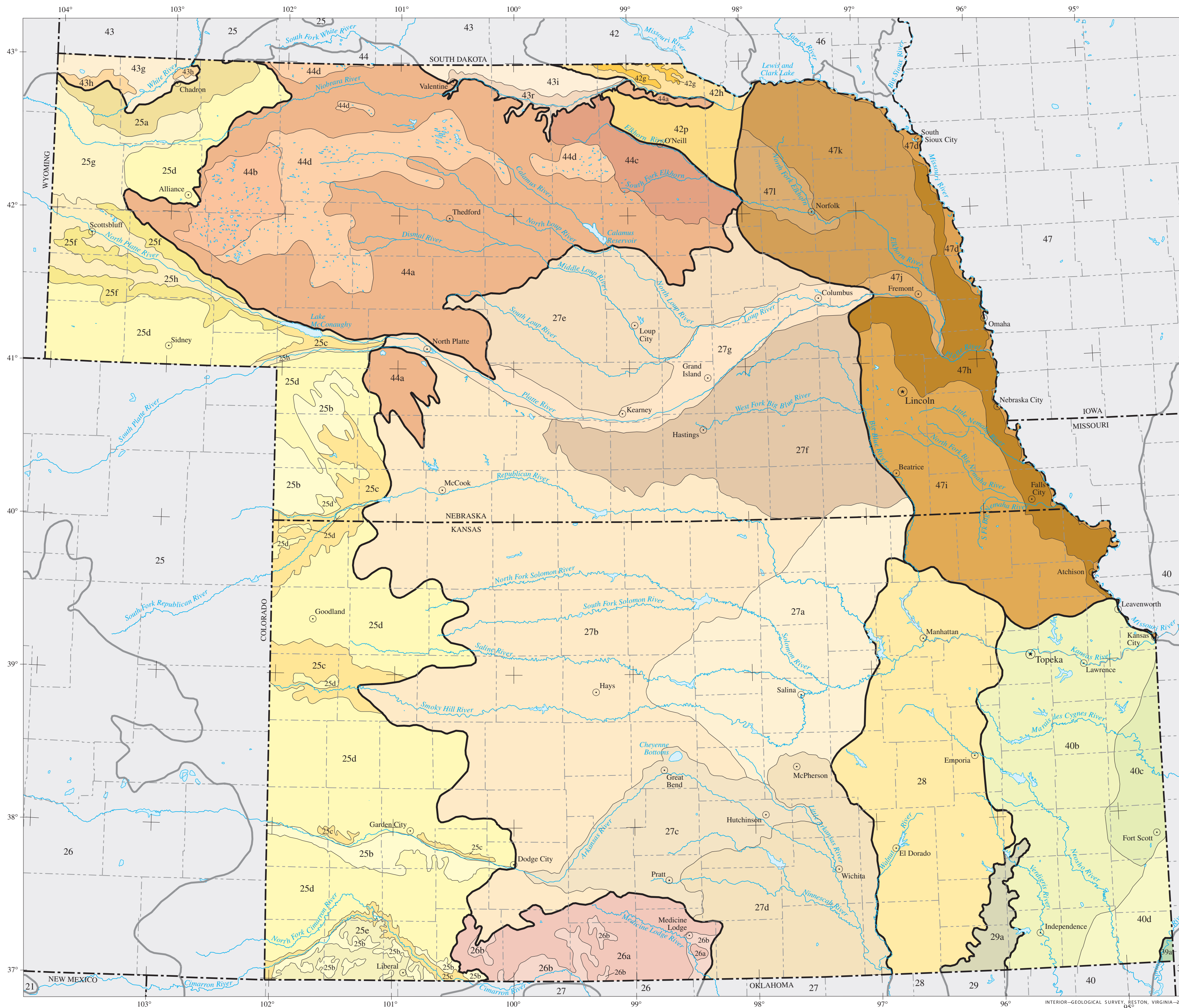


# Ecoregions of Nebraska and Kansas



- 25 Western High Plains**
- 25a Pine Ridge Escarpment
- 25b Rolling Sand Plains
- 25c Moderate Relief Rangeland
- 25d Flat to Rolling Cropland
- 25e Rolling Cropland and Range
- 25f Scotts Bluff and Wildcat Hills
- 25g Sandy and Silty Tablelands
- 25h North and South Platte Valley and Terraces

- 26 Southwestern Tablelands**
- 26a Cimarron Breaks
- 26b Flat Tablelands and Valleys

- 27 Central Great Plains**
- 27a Smoky Hills
- 27b Rolling Plains and Breaks
- 27c Great Bend Sand Prairie
- 27d Wellington-McPherson Lowland
- 27e Central Nebraska Loess Plains
- 27f Rainwater Basin Plains
- 27g Platte River Valley

- 28 Flint Hills**
- 28 Flint Hills
- 29 Central Oklahoma/Texas Plains**
- 29a Cross Timbers

- 39 Ozark Highlands**
- 39a Springfield Plateau

- 40 Central Irregular Plains**
- 40b Osage Cuestas
- 40c Wooded Osage Plains
- 40d Cherokee Plains

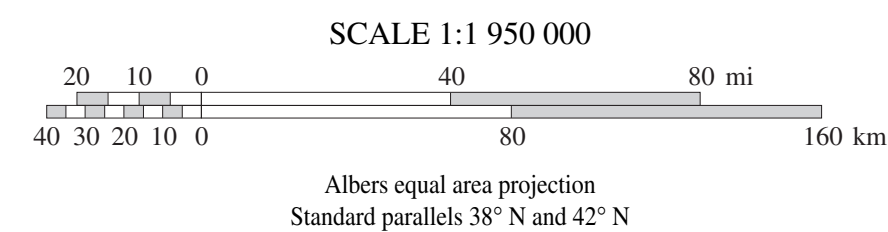
- 42 Northwestern Glaciated Plains**
- 42g Ponca Plains
- 42h Southern River Breaks
- 42p Holt Tablelands

- 43 Northwestern Great Plains**
- 43g Semi-arid Pierre Shale Plains
- 43h White River Badlands
- 43i Keya Paha Tablelands
- 43r Niobrara River Breaks

- 44 Nebraska Sand Hills**
- 44a Sand Hills
- 44b Alkaline Lakes Area
- 44c Wet Meadow and Marsh Plain
- 44d Lakes Area

- 47 Western Corn Belt Plains**
- 47d Missouri Alluvial Plain
- 47h Nebraska/Kansas Loess Hills
- 47i Loess and Glacial Drift Hills
- 47j Lower Platte Alluvial Plain
- 47k Northeastern Nebraska Loess Hills
- 47l Transitional Sandy Plain

Level III ecoregion  
 County boundary  
 Level IV ecoregion  
 State 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. Ecoregions are directly applicable to the immediate needs of state agencies, including the development of biological criteria and water quality standards, and the establishment of management goals for nonpoint-source pollution. They are also relevant to integrated ecosystem management, an ultimate goal of most federal and state resource management agencies.

The approach used to compile this map is based on the premise that ecological regions can be identified through the analysis of the patterns of biotic and abiotic phenomena that 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 and level II divide the North American continent into 15 and 52 regions, respectively (Commission for Environmental Cooperation Working Group 1997). At level III, the continental United States contains 104 regions (United States Environmental Protection Agency [US EPA], 2000). However, depending on the objectives of a particular project, ecoregions may be aggregated within levels of the hierarchy for data analysis and interpretation. Explanations of the methods used to define the US EPA's ecoregions are given in Omernik (1995), Griffith and others (1994), and Gallant and others (1989).

This level III and IV ecoregion map was compiled at a 1:250,000-scale; it depicts revisions and subdivisions of earlier level III ecoregions that were originally compiled at a smaller scale (US EPA, 2000; Omernik, 1987). This poster is the product of a collaborative effort primarily between the US EPA Region VII, the US EPA National Health and Environmental Effects Research Laboratory (Corvallis, Oregon), the Nebraska Department of Environmental Quality (NDEQ), the Nebraska Game and Parks Commission (NGPC), the Kansas Biological Survey (KBS), the Kansas Geological Survey (KGS), the Kansas Department of Health and Environment, Division of Environment (KDHE), Kansas Department of Wildlife and Parks (KDWP), the United States Department of Agriculture - Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service), and the United States Department of the 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 commonly used existing ecoregion-type frameworks, including those developed by the USFS (United States Forest Service) (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 developed, the differences between them lessen. Regional collaborative projects such as this one in Nebraska and Kansas, where agreement can be reached among multiple resource management agencies, is a step in the direction of attaining commonality and consistency in ecoregion frameworks for the entire nation.

#### 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.
- 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.
- 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.
- 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, 2000, 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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