Ecoregions of Nebraska and Kansas

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 assessments, 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 (Omernik, 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. Consistent for first-time 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, investigators 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 project 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. Regions that share objective mapping conventions and the differences in the conceptual approaches and mapping methodologies that have been used to develop the most commonly used 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 SRCS (United States Department of Agriculture) – Soil Conservation Service, 1981). As each of these frameworks is further developed, the differences between them become more apparent, collaborative projects such as this one in Nebraska and Kansas, where agreement can be reached among ecologic resource management agencies, is a step in the direction of attaining commonality and consistency in ecoregion frameworks for the entire nation.

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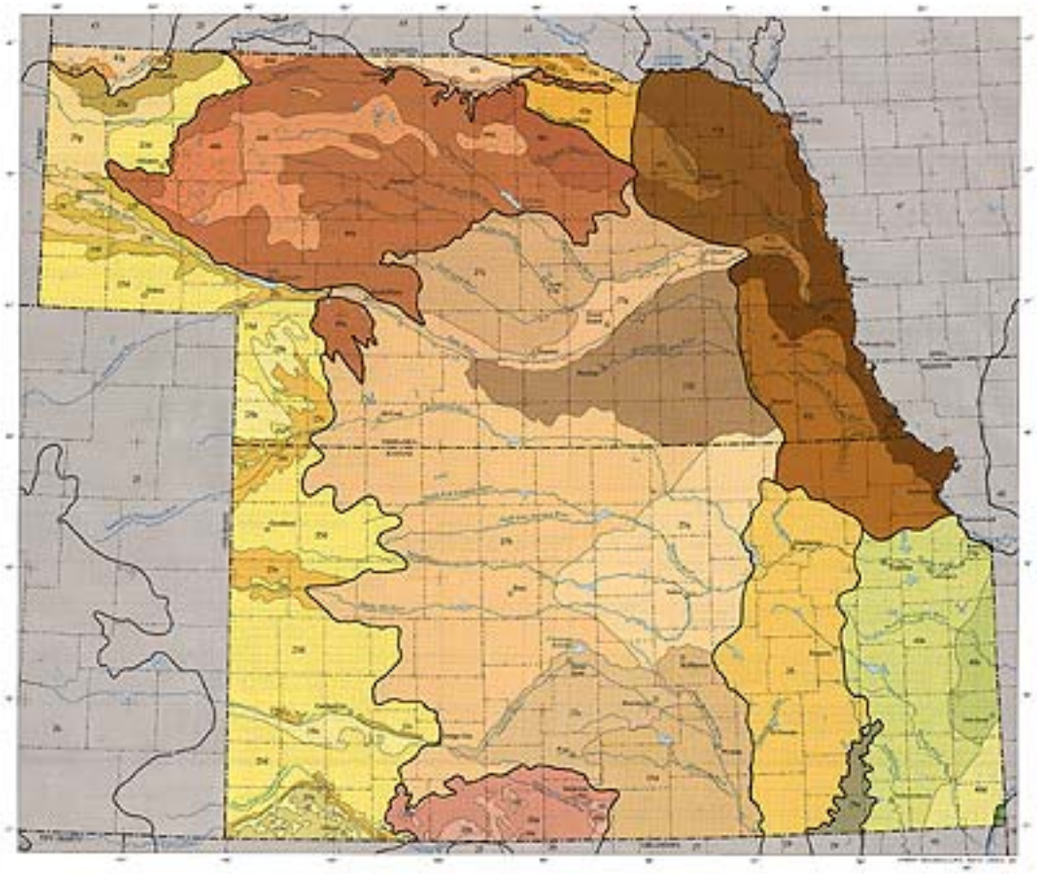

27 Western High Plains
25a Pine Ridge Escarpment
25b Rolling Sand Plains
25c Moderate Relief Rangeland
25d Flat to Rolling Cropland
25e Rolling Cropland and Ranges
25f Scenic Bluff and Wildcat Hills
25g Sandy and Silty Tablelands
25h Scenic and Steep Platte Valley and Terraces

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

27 Central Great Plains
27a Smoky Hills
27b Rolling Plains and Breaks
27c Gene Stone 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

30 Ozark Highlands
30a Springfield Plateau

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

42 Northwestern Glaciated Plains
42g Pierce Plains
42h Southern Nemaha Brushy
42p Salt Tablelands

43 Northwestern Great Plains
43g Semiarid Pierre Shale Plains
43h White River Badlands
43n Keya Paha Tablelands
43o Niobrara River Breaks

44 Nebraska Sand Hills
44a Sand Hills
44b Wildfire Lakes Area
44c Red 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 Loess Plains Alluvial Plain
47k Northeastern Nebraska Loess Hills
47l Transitional Sandy Plain

Level III ecoregion
Level IV ecoregion
County boundary
State boundary

SCALE 1:950,000

PRINCIPAL AUTHORS: Shannon S. Chapman (Dynamac Corporation); James M. Omernik (US EPA); Jerry A. Freeouf (USFS); Donald G. Higgins (KBS); James R. McCauley (USDA-Ret.); Frederick J. Veenhuis (NGPC); Richard E. Schneider (NGPC); Robert T. Angelo (KDHE); and Richard L. Kellogg (USDA-NRCS).

COLLABORATORS AND CONTRIBUTORS: Steven P. Walker (NPEC); Kenneth B. Reems (NPEC); Martin R. VanSickle (NRD, NRCS-NPEC); Brian Ramaley (USDA, NRCS); Lee J. Hoffman (USDA, NRCS-NPEC); Roger Rasmussen (USDA, NRCS); Steven F. Schlosser (NGPC); Greg Hoagland (UNO, NRCS); James R. Merchant (Center for Advanced Land Management Information Technologies [CALMIT], University of Nebraska–Lincoln [UNL]); Virginia L. McGuire (USGS, Ohio Mississippi [KBWP]); James L. Swinehardt (UNL); Dan A. Worrall (UNL); Thomas Wardle (Nebraska Game Services); David E. Lewis (UNL); Robert F. Diffendal Jr. (Nebraska Conservation and Survey Division Nebraska Geological Survey); and Jeffrey A. Comstock (GeoComputations).

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