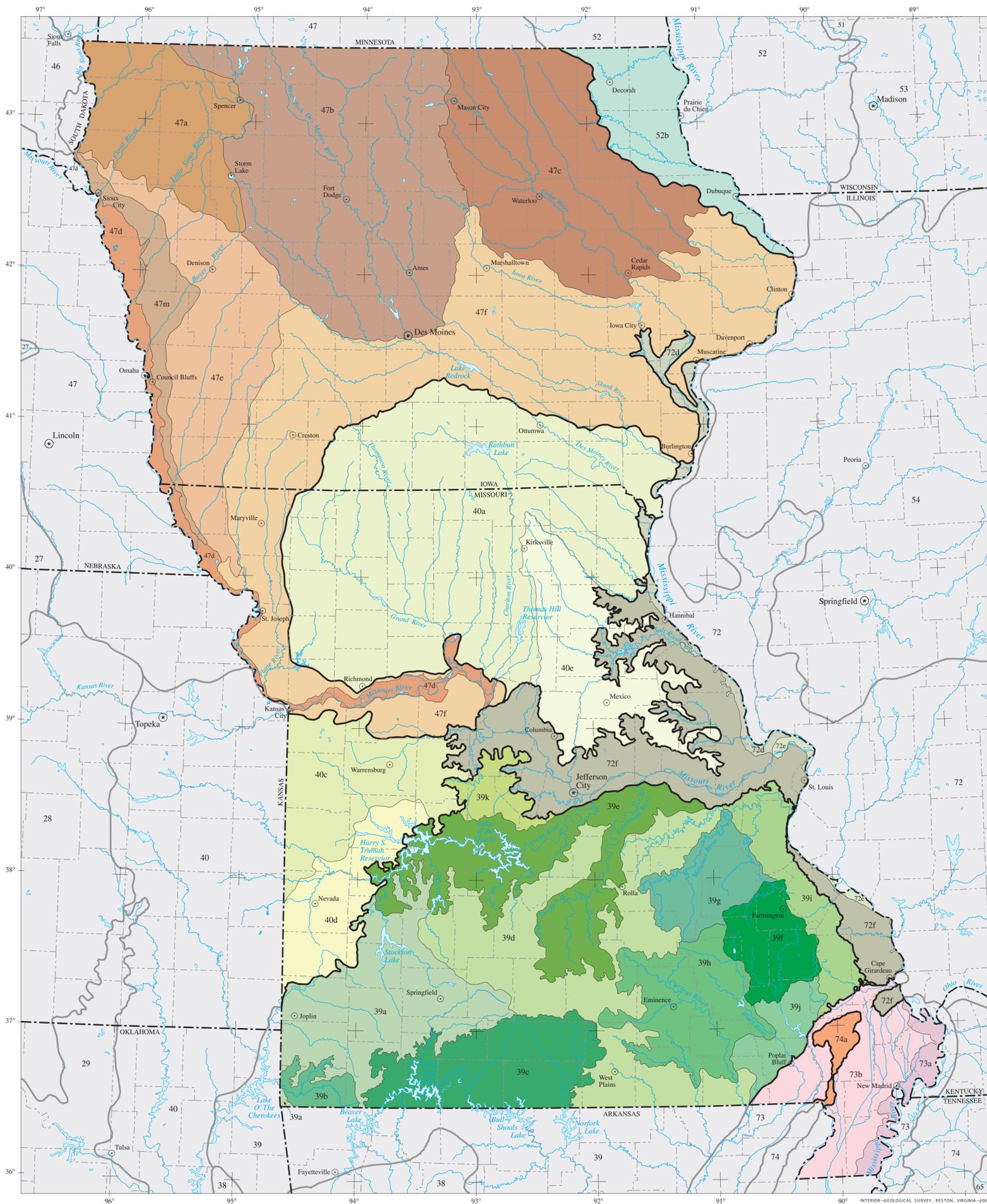


Ecoregions of Iowa and Missouri



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 et al., 1999). These general purpose regions are critical for structuring and implementing ecosystem management strategies across federal agencies, state agencies, and nongovernment organizations that are responsible for different types of resources within the same geographical areas (Omernik et al., 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], 2000). 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 2000, Omernik 1987). This poster is part of a collaborative effort primarily between the USEPA Region VII, the USEPA National Health and Environmental Effects Laboratory (Corvallis, Oregon), the Iowa Department of Natural Resources - Environmental Protection Division and the Geological Survey, the Missouri Department of Natural Resources - Environmental Services Program, University of Missouri Columbia - Geography Department, Missouri Department of Conservation, the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS), and the U.S. Department of Interior - U.S. Geological Survey (USGS) - Earth Resources Observation Systems (EROS) Data Center. The portion of the work covering Iowa was adapted from Griffith and others (1994) and the part covering Missouri was adapted in part from Schroeder and others (1999).

This project is associated with an interagency effort to develop a common framework of ecological regions (McMahon and others, 2001). Reaching that objective requires recognition of the differences in the conceptual approaches and mapping methodologies applied to develop the most common ecoregion-type frameworks, as well as the different purposes of these frameworks, including those developed by the USFS (Bailey and others, 1994), the USEPA (Omernik 1987, 1995), and the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) (USDA-Soil Conservation Service, 1981). Regional collaborative projects such as in Missouri and Iowa can be a step toward reaching consensus across the entire nation. However, unlike most of the collaborative state and regional projects to refine and subdivide ecoregions where consensus has been achieved among the major resource management agencies [e.g. Nebraska and Kansas (Chapman and others, 2001) and North and South Dakota (Bryce and others, 1998)], complete agreement on the hierarchical structure of ecoregions in Missouri was not reached among participants from the EPA, NRCS, and USFS. To attain consensus among all participants in these state-level projects while at the same time maintaining consistency in mapping approaches and objectives from one state to another is often difficult and sometimes impossible. This is to be expected given that regional, state, and local experts have different backgrounds and perceptions of the relative importance of particular characteristics for mapping ecological regions, and because of the understandably strong loyalties to existing frameworks that often were developed to serve slightly different objectives. Nonetheless, as each of the federal agency frameworks are refined and subdivided their differences are becoming less discernible.

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| <p>39 Ozark Highlands</p> <ul style="list-style-type: none"> 39a Springfield Plateau 39b Elk River Hills 39c White River Hills 39d Central Plateau 39e Osage/Gasconade Hills 39f St. Francois Knobs and Basins 39g Meramec River Hills 39h Current River Hills 39i Eastern Ozark Border 39j Black River Hills Border 39k Prairie Ozark Border | <p>40 Central Irregular Plains</p> <ul style="list-style-type: none"> 40a Loess Flats and Till Plains 40c Wooded Osage Plains 40d Cherokee Plains 40e Claypan Prairie <p>47 Western Corn Belt Plains</p> <ul style="list-style-type: none"> 47a Northwest Iowa Loess Prairies 47b Des Moines Lobe 47c Iowan Surface 47d Missouri Alluvial Plain 47e Steeply Rolling Loess Prairies 47f Rolling Loess Prairies 47m Western Loess Hills | <p>52 Driftless Area</p> <ul style="list-style-type: none"> 52b Paleozoic Plateau/Coulee Section <p>72 Interior River Valleys and Hills</p> <ul style="list-style-type: none"> 72d Upper Mississippi Alluvial Plain 72e Middle Mississippi Alluvial Plain 72f River Hills <p>73 Mississippi Alluvial Plain</p> <ul style="list-style-type: none"> 73a Holocene Meander Belts 73b Pleistocene Valley Trains <p>74 Mississippi Valley Loess Plains</p> <ul style="list-style-type: none"> 74a Bluff Hills |
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Level III boundary
Level IV boundary
State boundary
County boundary

