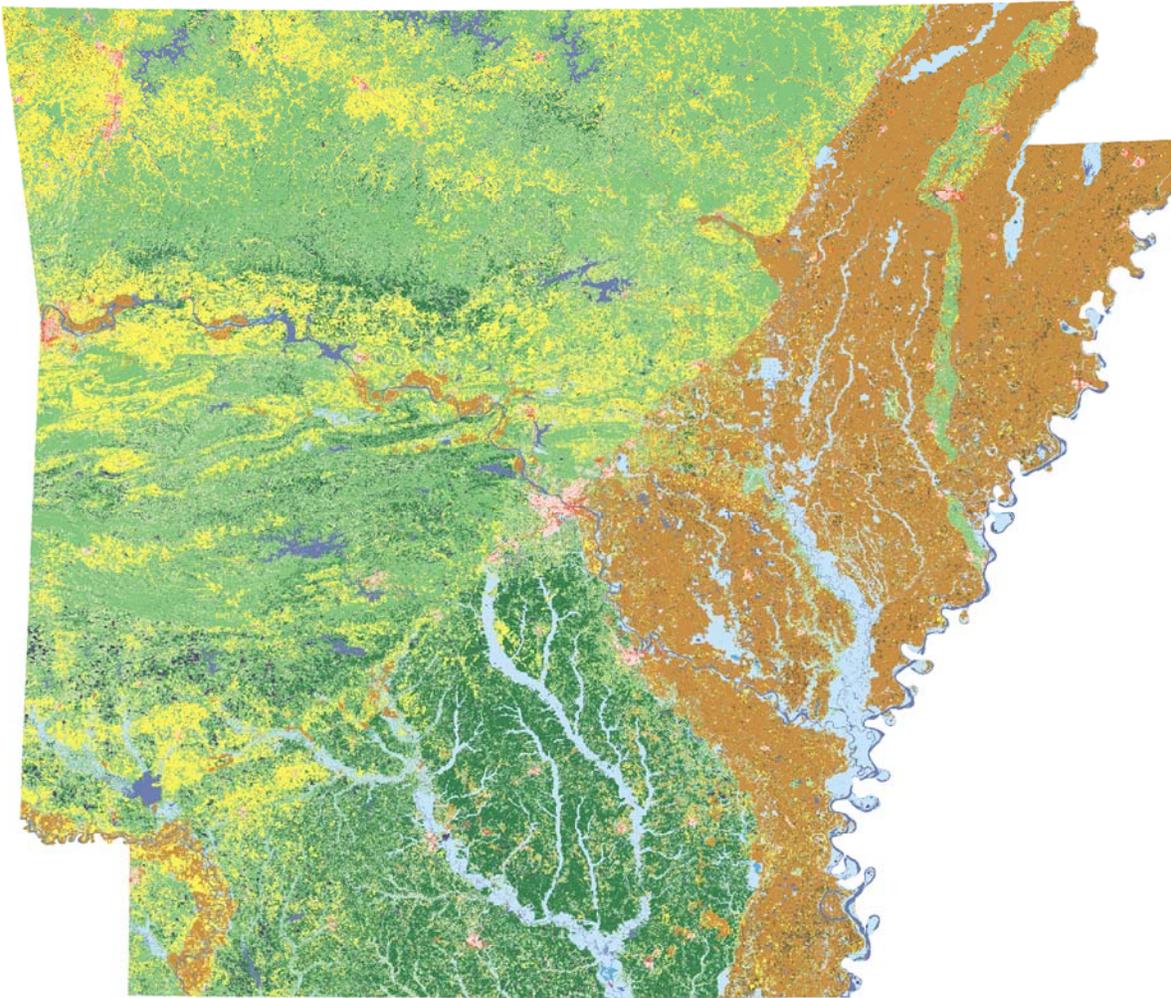


# **Annotated Sources of Social and Environmental Data Sets for Arkansas**

**Todd W. Hodgson  
and  
Frank L Farmer**



**Rural Sociology at the University of Arkansas, Fayetteville  
December 14, 2006**

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**Cover Map: NLCD 30 meter land cover data (USGS, MRLC)**

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## **Introduction**

The purpose of this list is to provide an overview of some of the sources of social and environmental data for the state of Arkansas. These data sets have been developed for a wide array of purposes by a wide array of government, private and university entities. Thus the use of any data should be approached from a buyer beware perspective. While most of the data sets have been accessed and to some extent perused, each and every one has its own particular nuances and thus caution and “data set homework” is required. The list is not exhaustive and there no doubt exists fugitive data that we have not included. However the list does include some of the most well documented and commonly used data sets.

All of the data sets listed here can be accessed on the Internet. Most of the data sets are map files for use in geographic information system (GIS) software. Some of the listed data sets consist of multiple parts or files. A few of the listed data sets are actually online tools used for extracting data and information about the topic area.

Each chapter represents a topical category (see below) and includes a brief discussion of the topic followed by a list of data sets pertaining to the topic. The following information is provided for each listed data set:

- General Description – A general description of the data set(s)
- Source – The agency (or agencies) that created the data set(s)
- Format – The digital format of the data set(s) and/or computer file(s)
- Dates – The date(s) the data set(s) represent, or were created on
- Intended Use – The purpose for creating the data set(s)
- Collection Methods – The methods used for creating the data set(s)
- Internet Location – The URL where the data set(s) can be accessed
- Date Last Accessed – The date the data set(s) were accessed for this list

## **Topical Categories**

The listed data sets are organized into the following 12 topical categories:

- I. Water Quality
- II. Air Quality
- III. General Environmental Quality
- IV. Environmental Hazards
- V. Watersheds, Soils, Geology, and Landforms
- VI. Ecoregions, Wetlands, Forests, Plants, and Wildlife
- VII. Social-Environmental Features
- VIII. Land Use, Land Cover, and Land Ownership
- IX. Political and Administrative Boundaries
- X. Transportation Networks
- XI. Agriculture
- XII. Weather and Climate

## I. Water Quality

Information and data used for water quality studies come from many sources. Certain water contaminants must be measured and monitored to comply with health and environmental regulations. Some of the water quality data sets for Arkansas are created from the measurement of such contaminants in the state's lakes, rivers, streams, and groundwater. As well, water quality information comes from the monitoring of water quality improvement programs. These data sets often include information about nutrient concentrations, water clarity, fish counts, and noticeable human disturbances to water bodies and their surrounding environment.

All water quality studies must rely on essentially the same general geographic information. This includes the location, size, flow rate, and other factors of watercourses, both above and below the earth's surface. The geography of a watercourse can be standardized in a digital format for display and use in geographic information system (GIS) or other computer mapping and map analysis programs. That way water sample locations can be plotted on a geographic base map, making it possible to compare different studies and monitor water quality over time. A number of data sets useful for studying water quality in Arkansas are listed below.

### A) National Water Information System

**General Description:** Provides information about water flow in streams, lakes, and springs; water levels in wells; and the chemical contents and physical status of streams, lakes, springs, and wells.

**Source:** U.S. Geological Survey (USGS)

**Format:** Tabular data for watersheds, states, and counties.

**Dates:** MM/DD/YY; and Real Time

**Intended Use:** The U.S. Geological Survey's (USGS) National Water Information System (NWIS) is a comprehensive and distributed application that supports the acquisition, processing, and long-term storage of water data. NWISWeb serves as the publicly available portal to a geographically seamless set of much of the water data maintained within NWIS. These data are derived from thousands of water sample locations across the nation, of which there are approximately 240 surface water sites in Arkansas.

**Collection Methods:** The USGS collects and analyzes chemical, physical, and biological properties of water, sediment and tissue samples from across the Nation. The NWISWeb discrete sample data base is a compilation of over 4.4 million historical water quality analyses in the USGS district data bases through September 2005. The discrete sample data is a large and complex set of data that has been collected by a variety of projects ranging from national programs to studies in small watersheds. Users should review the help notes and particularly the data retrieval precautions before beginning any retrieval or analysis of data from this data set.

**Internet Location:** <http://waterdata.usgs.gov/nwis>

**Date Last Accessed:** 9/21/2006

## **B) National Hydrography Data set (NHD) – Arkansas**

**General Description:** Consists of USGS and EPA NHD basins, networked features and isolated lakes, including flow direction, names, stream levels, and centerline representations for areal water bodies in Arkansas.

**Source:** U.S. Geological Survey (USGS)

**Format:** Eight Vector Base Maps (ESRI shape files). Note: The NHD features consist of Basins, Drainages, Nodes, Reaches, and Waterbodies. Go to <http://nhd.usgs.gov/> for information about GIS tools used for building NHD models.

**Dates:** 1999

**Intended Use:** The NHD provides a national framework for assigning reach addresses to water-related entities, such as industrial dischargers, drinking water supplies, fish habitat areas, or wild and scenic rivers. Reach addresses establish the locations of these entities relative to one another within the NHD surface water drainage network in a manner similar to street addresses. Once linked to the NHD by their reach addresses, the upstream/downstream relationships of these water-related entities and any associated information about them can be analyzed using software tools ranging from spreadsheets to geographic information systems (GIS). GIS can also be used to combine NHD-based network analysis with other data layers, such as soils, land use, and population, to help better understand and display their respective effects upon one another. Because it provides a national framework, water information and other analyses can be shared among many organizations.

**Collection Methods:** The National Hydrography Data set (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that comprise the nation's surface water drainage system. It is based initially on the content of the U.S. Geological Survey 1:100,000-scale Digital Line Graph (DLG) hydrography data, integrated with reach-related information from the U.S. Environmental Protection Agency Reach File Version 3.0 (RF3). More specifically, it contains reach codes for networked features and isolated lakes, as well as flow direction, names, stream level, and centerline representations for areal water bodies. Reaches are also defined to represent water bodies and the approximate shorelines of the Great Lakes, the Atlantic and Pacific Oceans, and the Gulf of Mexico. The NHD also incorporates the National Spatial Data Infrastructure framework criteria set out by the Federal Geographic Data Committee. Data for Arkansas, specifically, can be found at the Internet location listed below.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

### **C) Total Maximum Daily Loads (TMDL) for "polluted" stream segments in Arkansas**

**General Description:** These data are the Total Maximum Daily Loads (TMDL's) for chloride, sulfate, TDS, ammonia, and mercury in polluted Arkansas stream segments as required by Section 303d of the Clean Water Act. It is possible to match the stream segments from this data set to those in the NHD (described above).

**Source:** Arkansas Department of Environmental Quality (ADEQ).

**Format:** Tabular Data and Reports.

**Dates:** Current

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** The data are collected from gauging stations at regular intervals and provided in the form of a tabular data set. For GIS implementation, the identified stream segments must be manually matched to digital stream segments in the National Hydrology Data set (NHD) described above.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 8/28/2006

### **D) Arkansas Lakes and Ponds (USGS DLG)**

**General Description:** Area locations of lakes and ponds in Arkansas.

**Source:** U.S. Geological Survey (USGS)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** Project Begin Date: 1975 Project Completion Date: 1986

**Intended Use:** Digital Line Graphs (DLG's) depict information about geographic features on or near the surface of the Earth, including terrain, and political and administrative units. These data were collected as part of the National Mapping Program. It is the intention of the Arkansas State Land Information Board to facilitate the dissemination of these 1:100,000-scale Digital Line Graphs.

**Collection Methods:** This subject file represents the Arkansas portion of lake and pond locations derived from 1:100,000-scale (intermediate-scale) DLG data created by the USGS. The DLG's of map features are converted to digital form from paper maps and related sources. Intermediate-scale DLG data are derived from USGS 1:100,000-scale 30-by 60-minute quadrangle maps. If these maps are not available, Bureau of Land Management planimetric maps at a scale of 1:100,000 are used. Intermediate-scale DLG's are broken down into five categories: 1) Public Land survey, 2) boundaries, 3) transportation, 4) hydrography, and 5) hypsography.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

**E) Arkansas Streams (USGS DLG)**

**General Description:** Stream segment locations in Arkansas.

**Source:** U.S. Geological Survey (USGS)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** Project Begin Date: 1975 Project Completion Date: 1986

**Intended Use:** See “D) Arkansas Lakes and Ponds (USGS DLG)” above.

**Collection Methods:** See “D) Arkansas Lakes and Ponds (USGS DLG)” above.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2000

**F) Arkansas Reservoirs (USGS DLG)**

**General Description:** Area locations of reservoirs in Arkansas.

**Source:** U.S. Geological Survey (USGS)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** Project Begin Date: 1978 Project Completion Date: 1986

**Intended Use:** See “D) Arkansas Lakes and Ponds (USGS DLG)” above.

**Collection Methods:** See “D) Arkansas Lakes and Ponds (USGS DLG)” above.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

**G) Wastewater Operator Licensing Data Files; Pretreatment Regulated Industries/Facilities; and National Pollutant Discharge Elimination System (NPDES) Permitting and Facility Address List Searchable Database**

**General Description:** Provides information about permitted waste water facilities; storm water permit tracking; construction storm water permit tracking; permit tracking events; and more. SIC and NAICS codes are included for most records.

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Tabular Data and Reports.

**Dates:** Current

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** ADEQ collects these data through various means, including permits and event inquiries. Certain data may be summarized geographically.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 9/20/2006

## II. Air Quality

There are fewer sources for air quality data in Arkansas than there are for water quality data. It is much easier to gather information for land-based studies than air-based studies because land and water are more easily contained than air. Most data and information available for air quality consists of the location of potential sources of air contaminants, such as factories. The most comprehensive database containing information useful for studying air quality in Arkansas is listed below.

### A) ISTEPS Database; Permitted Facility Emissions and Stack Data; Air Compliance and Monitoring Certification (ADEQ)

**General Description:** Information on air pollutant permits, air pollutant discharge composition, stack sources, non-stack sources, and more. SIC, SCC, and NAICS codes are included as well.

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Tabular Data and Reports.

**Dates:** Current

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** ADEQ collects these data through various means, including permits and event inquiries. Certain data may be summarized geographically by county, city, zip code, or address location.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 9/20/2006

## III. General Environmental Quality

This topical category lists data sets that are relevant to general environmental quality. Some of the information in these data sets may overlap with other data sets listed under different topic areas, such as Water Quality and Air Quality. The information and methods of collection for these data sets vary greatly, as seen in the following list.

### A) Regulated Storage Tanks (RST) Data Files

**General Description:** Information for storage tank facilities, including location, active/inactive, above/below ground, corrosion protection, contents, and more.

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Tabular Data and Reports.

**Dates:** Current

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** ADEQ collects these data through various means, including permits and event inquiries. Certain data may be summarized geographically by county, city, zip code, or address location.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 9/20/2006

## **B) ADEQ Environmental Facilities**

**General Description:** Location data for facilities, incident sites and monitoring points at the facility level. These facilities are regulated or tracked by environmental programs under jurisdiction of the Arkansas Department of Environmental Quality.

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 2006

**Intended Use:** This data set was developed for use in cartographic interfaces.

**Collection Methods:** This data set is a subset of the ADEQ's full PDS data set. The filter is based on the availability of high quality coordinates.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 9/14/2006

## **C) ADEQ Environmental Permitted Sites**

**General Description:** Location data for facilities, incident sites and monitoring points, at the permit level, regulated or tracked by environmental programs within the jurisdiction of the Arkansas Department of Environmental Quality.

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 2006

**Intended Use:** This data set was developed for use in cartographic interfaces.

**Collection Methods:** This data set is a subset of the ADEQ's full PDS data set. The filter is based on the availability of high quality coordinates.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 9/14/2006

#### **D) EPA Regulated Facilities, 1997**

**General Description:** This data layer provides point locations of EPA-regulated facilities in the State of Arkansas.

**Source:** Environmental Protection Agency (EPA)

**Format:** Vector Data Map Layer (ESRI shape files).

**Dates:** 1997

**Intended Use:** This data set is intended for use in state, regional, and local analyses.

**Collection Methods:** The point locations are derived from the following EPA program systems: Aerometric Information Retrieval System (AIRS), Permit Compliance System (PCS), Toxic Release Inventory System (TRIS), Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Resource Conservation and Recovery Information System (RCRIS), National Compliance Database (NCDB), Federal Facility Information System (FFIS), PCB Handler Activity Data System (PADS), and Section Seven Tracking System (SSTS).

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 9/15/2006

#### **E) Abandoned Mine Land Inventory System (AMLIS)**

**General Description:** Information about abandoned mines and reclamation projects.

**Source:** U.S. Department of the Interior, Office of Surface Mining

**Format:** Vector Data Map Layer (ESRI shape files) and Tabular Data Queries.

**Dates:** Updated regularly.

**Intended Use:** The purpose of the AMLIS is to provide information about abandoned mine land problem categories that meet the conditions of Section 403(a)(1-5) [coal] or Section 411(c)(1-4) [non-coal] of the Surface Mining Control and Reclamation Act of 1977 (SMCRA). These conditions range from those concerning the protection of public health, safety, general welfare, and property from extreme danger of adverse effects of mining practices to those conditions concerning the restoration of the environment previously degraded by adverse effects of mining practices, including current degradation of soil, water, woodland, fish, wildlife, recreational resources, or agricultural productivity.

**Collection Methods:** The AMLIS contains information on the location, type, and extent of AML impacts, as well as information on the cost associated with their reclamation. The Inventory is based upon field surveys by State, Tribal, and OSM program officials. It is modified and updated as new problems are identified and existing problems are reclaimed. The complete AMLIS consists of information collected about AML impacts, the guidance documents for managing the information, and the computerized database.

**Internet Location:** <http://ismhdqa02.osmre.gov/OSM.HTM>

**Date Last Accessed:** 9/19/2006

#### **F) Envirofacts Data Warehouse**

**General Description:** This is a data portal where detailed information can be obtained for individual EPA regulated facilities.

**Source:** Environmental Protection Agency (EPA)

**Format:** Vector Base Maps (ESRI Shape Files) and Tabular Data.

**Dates:** Varies.

**Intended Use:** The purpose of the Envirofacts Data Warehouse is to provide community planners with a tool for identifying and mapping EPA-regulated facilities in their communities. Mapped data can be retrieved for small geographic areas, namely communities, using "Enviromapper" and "Window to My Environment."

**Collection Methods:** All data are taken from EPA forms filed by the regulated facility. Data can be acquired through the "Envirofacts Multisystem," "Superfund Query," "Water Discharge Permits Query," "Safe Drinking Water Query," "National Drinking Water Contaminant Occurrence Database Query," "Drinking Water Microbial and Disinfection Byproduct Information Query," "Hazardous Waste Biennial Report Query," "Brownfields Management System," "Hazardous Waste Data Query," "Radiation Information Database Query," "Aerometric Information Retrieval System," "Envirofacts Master Chemical Integrator Query," and "Toxics Release Inventory Query and Reports."

**Internet Location:** <http://www.epa.gov/enviro/>

**Date Last Accessed:** 9/15/2006

#### **G) Solid Waste Illegal Dumps Data Files; Licensed Solid Waste Facility Operators; Recycling Grants**

**General Description:** Information for permitted facilities; solid waste facilities; illegal dumps; and recycling grants.

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Tabular Data and Reports.

**Dates:** Current

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** ADEQ collects these data through various means, including permits and event inquiries. Certain data may be summarized geographically by county, city, zip code, or address location.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 9/20/2006

#### IV. Environmental Hazards

This topical category lists data sets useful for the study of environmental hazards. The data sets listed in this category range from hazardous spill locations monitored by the ADEQ to maps of Arkansas flood zones used by insurance companies. Some information in these data sets may overlap with that of other data sets listed under different topic areas. The following data sets provide information about environmental hazards in Arkansas.

##### A) Hazardous Waste Generators Facility Summary

**General Description:** Information about hazardous waste treatment, storage, and disposal facilities in Arkansas (includes NAICS codes).

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Tabular Data and Reports.

**Dates:** 1980 - present

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** ADEQ collects these data through various means, including permits and event inquiries. Certain data may be summarized geographically by county, city, zip code, or address location.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 9/20/2006

##### B) Arkansas Flood Zones

**General Description:** Arkansas' Q3 Flood Data derived from the Flood Insurance Rate Maps (FIRM).

**Source:** Federal Emergency Management Agency (FEMA)

**Format:** Vector Data Map Layer (ESRI shape files).

**Dates:** 2000

**Intended Use:** The FIRM is the basis for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP). Q3 Flood Data files are intended to convey certain key features from the existing hard copy maps to provide users with automated flood risk data. These data may also be used to locate Special Flood Hazard Areas (SFHAs).

**Collection Methods:** The Q3 Flood Data are digitized from hardcopies of the Flood Insurance Rate Maps (FIRMS) published by the Federal Emergency Management Agency (FEMA).

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

### **C) Emergency Response Incident Summaries**

**General Description:** Information on environmental spills, including name and address of spiller, spill location, spill date, and spill material.

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Tabular Data and Reports.

**Dates:** 1989 - 2003

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** ADEQ collects these data through various means, including permits and event inquiries. Certain data may be summarized geographically by county, city, zip code, or address location.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 9/20/2006

### **D) Consent Administrative Order (CAO) Notice of Violation (NOV) Information**

**General Description:** Locations and description of reported and investigated environmental complaints and permit violations (Includes NAICS codes).

**Source:** Arkansas Department of Environmental Quality (ADEQ)

**Format:** Tabular Data and Reports.

**Dates:** 1980 - present

**Intended Use:** These data are intended for use by ADEQ personnel and provided to the public by law.

**Collection Methods:** ADEQ collects these data through various means, including permits and event inquiries. Certain data may be summarized geographically by county, city, zip code, or address location.

**Internet Location:** <http://www.adeq.state.ar.us/compsvs/webmaster/databases.htm>

**Date Last Accessed:** 9/20/2006

## **V. Watersheds, Soils, Geology, and Landforms**

This category combines several environmental topics that pertain to Arkansas geography. It includes information about the location and types of watersheds, soils, geology, and landforms. Most of the information in the listed data sets cannot be summarized for administrative or political boundaries. For instance, watersheds, soil types, and surface geology are not confined to county boundaries. Most of the following data sets are digital base maps intended for use with GIS software.

**A) Hydrologic Basins (Watersheds) 8-Digit, NRCS, 1994**

**General Description:** 8-Digit Hydrologic Basin borders in Arkansas.

**Source:** National Resource Conservation Service (NRCS)

**Format:** Vector Base Map (ESRI shape file).

**Dates:** 1994

**Intended Use:** This file is intended as a base map for state level analysis in Arkansas. It may not be appropriate for use at larger scales.

**Collection Methods:** This file contains 8-digit hydrologic unit boundaries for the State of Arkansas derived from the Natural Resource Conservation Service (NRCS). This layer was received from the National Center for Resource Innovations (NCRI) in 1994. They derived the layer from USGS DLGs.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

**B) Nutrient Surplus Areas - Arkansas**

**General Description:** Nutrient Surplus Areas by Hydrography Basin (watershed) as required by the State of Arkansas 84<sup>th</sup> General Assembly, Regular Session 2003.

**Source:** Arkansas Soil and Water Conservation Commission (ASWCC)

**Format:** Vector Base Map (ESRI shape file, AutoCAD, Microstation, SVG, VML).

**Dates:** 2005

**Intended Use:** Designation and description of Nutrient Surplus Areas as defined by the Arkansas 84<sup>th</sup> General Assembly and modified by the 85th General Assembly.

**Collection Methods:** These areas were delineated using 12-digit Hydrologic Unit Codes (HUCs), as described by the Arkansas Natural Resources Conservation Service (NRCS) State Office, for the South and East borders, with the state line being the North and West border. They are reclassified using the 8-digit HUCs.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 8/28/2006

**C) State Soil Geographic (STATSGO) Database**

**General Description:** Provides general soil association maps for states.

**Source:** USDA - Natural Resource Conservation Service (NRCS)

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 1994 and periodically updated depending on state and area.

**Intended Use:** STATSGO depicts information about soil features on or near the surface of the Earth. These data are collected as part of the National Cooperative Soil Survey.

**Collection Methods:** This data set is a digital general soil association map developed by the National Cooperative Soil Survey. It consists of a broad based inventory of soils and non-soil areas that occur in a repeatable pattern on the landscape and that can be cartographically shown at the scale mapped. The soil maps for STATSGO are compiled by generalizing more detailed soil survey maps. Where more detailed soil survey maps are not available, data on geology, topography, vegetation, and climate are assembled, together with Land Remote Sensing Satellite (LANDSAT) images. Soils of like areas are studied, and the probable classification and extent of the soils are determined. Map unit composition for a STATSGO map is determined by transecting or sampling areas on the more detailed maps and expanding the data statistically to characterize the whole map unit. This data set consists of georeferenced digital map data and computerized attribute data. The map data are collected in 1- by 2-degree topographic quadrangle units and merged and distributed as statewide coverages. The soil map units are linked to attributes in the Map Unit Interpretations Record relational data base which gives the proportionate extent of the component soils and their properties.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 9/22/2006

#### **D) Soil Survey Geographic (SSURGO) Database**

**General Description:** Provides detailed information about soil types for states, counties, and soil survey areas.

**Source:** USDA - Natural Resource Conservation Service (NRCS)

**Format:** Tabular data for counties and soil survey areas. Spatial data for Vector Base Maps (ESRI shape files).

**Dates:** 1994 and periodically updated depending on state and area.

**Intended Use:** SSURGO depicts information about the kinds and distribution of soils on the landscape. The soil map and data used in the SSURGO product were prepared by soil scientists as part of the National Cooperative Soil Survey. This soil survey contains information that can be applied in managing farms and wetlands; in selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts of land for farming, industry, and recreation.

**Collection Methods:** This data set is a digital soil survey and generally is the most detailed level of soil geographic data developed by the National Cooperative Soil Survey. The information was prepared by digitizing maps, by compiling information onto a planimetric correct base and digitizing, or by revising digitized maps using remotely sensed and other information. This data set consists of georeferenced digital map data and computerized attribute data. The map data are in a 7.5 minute quadrangle format and include a detailed, field verified inventory of soils and nonsoil areas that normally occur in a repeatable

pattern on the landscape and that can be cartographically shown at the scale mapped. A special soil features layer (point and line features) is optional. This layer displays the location of features too small to delineate at the mapping scale, but they are large enough and contrasting enough to significantly influence use and management. The soil map units are linked to attributes in the National Soil Information System relational database, which gives the proportionate extent of the component soils and their properties.

**Internet Location:** [http://www.ncgc.nrcs.usda.gov/products/data sets/ssurgo/index.html](http://www.ncgc.nrcs.usda.gov/products/data%20sets/ssurgo/index.html)

**Date Last Accessed:** 9/22/2006

#### **E) Surface Geology - Arkansas**

**General Description:** Arkansas general surface geology.

**Source:** Arkansas Archaeological Survey

**Format:** Vector Base Map (ESRI shape file).

**Dates:** 1976 (published 31-DEC-89)

**Intended Use:** Base map for statewide analyses that involve surface geology.

**Collection Methods:** Digitized from USGS Quad maps of Arkansas Surface Geology.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/28/2006

#### **F) Arkansas Major Land Resource Area (MLRA) and LRR boundaries**

**General Description:** Broad MLRA regions – mostly based on general soil type and regional landforms.

**Source:** National Resource Conservation Service (NRCS)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** 1994 – later versions are available from NRCS

**Intended Use:** This layer is intended as a base map for state level analysis using 1982, 1987, or 1992 Natural Resources Inventory data.

**Collection Methods:** This layer illustrates the NRSC's Major Land Resource Area (MLRA) boundaries used for collecting NRI data for the State of Arkansas.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

## VI. Ecoregions, Wetlands, Forests, Plants, and Wildlife

This category combines several topics relevant to ecological concerns, including information about the state's wetlands, forests, plants, and wildlife. Some of the information in the listed data sets can be summarized for administrative or political areas, such as counties, places, and zip codes. The listed data sets include base maps and tabular databases that can be used in GIS applications.

### A) EPA Ecoregions

**General Description:** Base maps showing Levels I – IV Ecoregions for the US.

**Source:** Environmental Protection Agency (EPA)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** 2004

**Intended Use:** Base map for use in a GIS. It can assist managers of aquatic and terrestrial resources in understanding regional patterns of the quality of resources.

**Collection Methods:** All ecoregion boundaries are digitized from USGS 1:250,000 scale base maps. Prior to digitizing, each base map is carefully initialized to orient and relate it to the surface of the earth in geographic coordinates.

**Internet Location:** <http://www.epa.gov/wed/pages/ecoregions.htm>

**Date Last Accessed:** 9/14/2006

### B) National Wetlands Inventory (NWI)

**General Description:** Wetlands areas and area types. Note: this layer is incomplete for Arkansas. Additional areas may be available through the USFWS Wetlands Online Mapper at <http://wetlandsfws.er.usgs.gov/NWI/download.html>.

**Source:** U.S. Fish & Wildlife Service (USFWS)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** 1991

**Intended Use:** The data provide consultants, planners, and resource managers with information on wetland locations and types. The data were collected to meet U.S. Fish & Wildlife Service's mandate to map the wetland and deepwater habitats of the United States. The purpose of this survey was not to map all wetlands and deepwater habitats of the United States, but rather to use aerial photointerpretation techniques to produce thematic maps that show, in most cases, the larger ones and types that can be identified by such techniques. The objective was to provide better geospatial information on wetlands than found on the U.S. Geological Survey topographic maps. It was not the intent of the NWI to produce maps that show exact wetland boundaries comparable to boundaries derived from ground surveys. Boundaries are therefore generalized in most cases. Consequently, the

quality of the wetland data is variable mainly due to source photography, ease or difficulty of interpreting specific wetland types, and survey methods.

**Collection Methods:** NWI digital data files are records of wetlands location and classification as defined by the U.S. Fish & Wildlife Service. This data set is one of a series available in 7.5 minute by 7.5 minute blocks containing ground planimetric coordinates of wetlands point, line, and area features and wetlands attributes. The digital data are produced from hardcopy maps produced and distributed by the U.S. Fish & Wildlife Service's National Wetland Inventory project.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

### **C) Forest Inventory and Analysis (FIA) Database System**

**General Description:** This database includes information on Area of Timber Land; Area of Forest Type; Saw Timber data; Annual Growth and Removal by Species; Forest Density; Land Areas for National Forests, Wilderness Areas, Parks, Monuments, Scenic Areas, and more.

**Source:** USDA - National Forest Service (NFS)

**Format:** Tabular data for counties, Congressional Districts, States, and NFS Codes.

**Dates:** Varies according to data set. Most area data sets are annual from 1992 to 2002.

**Intended Use:** These online databases are created, maintained and supported by the FIA program to make Forest Service data "readily accessible to their customers."

**Collection Methods:** This is the Forest Information and Analysis (FIA) Database. It includes the following data sets: Forest Health Data Set Archive; Timber Product Output; 2002 Resource Planning Act Assessment; 1992 and 1997 Resource Planning Act Assessment Database; and Climate Change Atlas for 80 Forest Tree Species of the Eastern U.S. Collection methods vary according to specific data sets.

**Internet Location:** <http://fia.fs.fed.us/tools-data/data/>

**Date Last Accessed:** 9/22/2006

### **D) Plants Database**

**General Description:** Database of plant species occurrence within county or Zip Code areas. Nativity, growing seasons, and other information are provided for thousands of plant species, namely weeds and invasive species.

**Source:** USDA - Natural Resource Conservation Service (NRCS)

**Format:** Tabular data for counties and zip codes.

**Dates:** Consistently Updated.

**Intended Use:** The PLANTS Database is intended to provide standardized information to the public about vascular plants, mosses, liverworts, hornworts, and lichens of the U.S. and its territories. It provides basic information on all plants in the United States and more detailed information on 2500 conservation plants for use in decision-making by conservationists, community leaders, and landowners.

**Collection Methods:** The NPDC is dedicated to maintaining the most current plant information possible in The PLANTS Database. Most of the information is collected by the National Plant Data Center (NPDC) and the general public.

**Internet Location:** <http://plants.usda.gov/>

**Date Last Accessed:** 9/22/2006

### **E) State Wildlife Management Areas (WMAs)**

**General Description:** Base map showing State of Arkansas Wildlife Management Areas owned by the Arkansas Game and Fish Commission.

**Source:** Arkansas Game and Fish Commission, GIS Divisional Staff

**Format:** Vector Base Map (ESRI shape file, AutoCAD, Microstation, SVG, VML).

**Dates:** 2004

**Intended Use:** To convey information to users so that map construction and design can be done in a timely and accurate fashion.

**Collection Methods:** Original WMA shapefiles were digitized into AutoCad version 13 & above from deed and plat book information using hard copy topo maps and State Plane coordinates. Conversion to UTM Nad 27 ESRI shapefiles was completed in ArcView 3x and to UTM Nad 83 projection in ArcMap version 8x. Acreage information is based on shapefile area calculations.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 8/31/2006

## **VII. Social-Environmental Features**

This topic includes social, cultural, and environmental information important to studying the interaction of humans and the environment. The data sets listed here pertain exclusively to social-environmental features in Arkansas. The types of data sets listed here include the location of cultural and natural landmarks; the location of various types of buildings and other manmade structures, such as dams and parks; scenic river segments and lookout points; federally named cultural and natural features; and many other features relevant to society and the environment. Almost all of the data sets listed here are geographically referenced and can be incorporated into a GIS.

### A) AHTD Culture

**General Description:** Data include cultural features, such as camps or lodges; chicken houses; factories or plants; fish hatcheries; farm units or dwellings; forest ranger stations; gas tanks; oil tanks; power plants and substations; scenic sites and overlooks; water supply tanks or stand pipes; and other cultural point features.

**Source:** Arkansas Highway and Transportation Department (AHTD)

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 2005

**Intended Use:** The purpose of AHTD Culture is to represent as accurately as possible structures or features that are currently present within the state.

**Collection Methods:** AHTD Culture is a combination of all of the cultural features that are plotted when updating county and city maps in the Mapping Section at the Arkansas State Highway and Transportation Department.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 8/28/2006

### B) AHTD Geographic Lines and Areas

**General Description:** Data include NFS Boundaries, scenic river segments, and other line and area features.

**Source:** Arkansas Highway and Transportation Department (AHTD)

**Format:** The AHTD collection of data sets provides information for various geographic features in Arkansas. Most of the data sets are either base maps or data maps in ESRI shapefile format.

**Dates:** Varies. Most data sets are updated monthly or yearly.

**Intended Use:** The purpose of these data sets is to provide researchers with regularly updated information about roads, boundaries, land use, structures, and many other features in Arkansas.

**Collection Methods:** These data are derived from a number of sources using various methods.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 9/19/2006

### C) Spatial Trends in Coastal Socioeconomics (STICS)

**General Description:** STICS is a data query tool that provides data from the U.S. Census Bureau, Bureau of Economic Analysis, and Outdoor Recreation data for watershed basins indexed by Hydrologic Unit Codes (HUC's). Note that HUC boundaries cross the state

boundaries. Some information in STICS can be obtained exclusively for the state of Arkansas.

**Source:** National Oceanic and Atmospheric Administration - National Ocean Service (NOAA-NOS)

**Format:** Varies from custom reports, to tabular data, to vector and raster base maps for use with GIS software.

**Dates:** 1970, 1980, 1990, and 2000

**Intended Use:** STICS is designed to provide demographic and economic data for environmental regions, such as watersheds.

**Collection Methods:** The data are derived from the U.S. Census Bureau's decennial censuses and the Bureau of Economic Analysis's economic reports. The data are interpolated for watersheds using census tract locations within watersheds.

**Internet Location:** <http://marineeconomics.noaa.gov/socioeconomics/>

**Date Last Accessed:** 9/20/2006

#### **D) Digital Line Graphs (DLGs)**

**General Description:** Includes airport locations; areas to be submerged; canals and ditches; dams; elevation; fish hatcheries; quarries; reservoirs; rest areas; section boundaries (PLS); state parks; state refuges; state forests; national forests; and many other features.

**Source:** U.S. Geological Survey (USGS)

**Format:** A collection of digital base maps and data map layers that are often distributed separately as 56 different map layers.

**Dates:** Varies according to Quad map creation date.

**Intended Use:** DLG's depict information about geographic features on or near the surface of the Earth, including terrain and political and administrative units. These data were collected as part of the National Mapping Program. It is the intention of the Arkansas State Land Information Board to facilitate the dissemination of the 1:100,000-scale Digital Line Graphs. Most of the data are provided in separate map layers for each feature class. For instance, there are no fewer than 56 separate map layers for roads, streams, airports, national forests, state parks, and much more.

**Collection Methods:** Digital Line Graph (DLG) data are digital representations of cartographic information. DLG's of map features are converted to digital form from maps and related sources. Intermediate-scale DLG data are derived from USGS 1:100,000-scale 30- by 60-minute quadrangle maps. If these maps are not available, Bureau of Land Management planimetric maps at a scale of 1:100,000 are used. Intermediate-scale DLG's are broken down into five categories: 1. Public Land survey, 2. boundaries, 3. transportation 4. hydrography, and 5. hypsography.

**Internet Location:** <http://edc.usgs.gov/products/map/dlg.html>

**Date Last Accessed:** 9/19/2006

### **E) Natural Amenities Scale**

**General Description:** A natural amenity scale constructed by combining six measures of climate, topography, and water area to reflect preferred environmental qualities.

**Source:** USDA - Economic Research Service (ERS)

**Format:** Tabular data for counties.

**Dates:** 1999

**Intended Use:** This data set was developed for identifying counties, namely rural, that may be considered desirable counties for residence.

**Collection Methods:** The natural amenities scale is a measure of the physical characteristics of a county area that enhance the location as a place to live. The scale was constructed by combining six measures of climate, topography, and water area that reflect environmental qualities most people prefer. These measures are warm winter, winter sun, temperate summer, low summer humidity, topographic variation, and water area. The data are available for counties in the lower 48 States. The file contains the original measures and standardized scores for each county as well as the amenities scale.

**Internet Location:** <http://www.ers.usda.gov/Data/NaturalAmenities/>

**Date Last Accessed:** 9/22/2006

### **F) Coastal Assessment and Data Synthesis (CADS)**

**General Description:** Data include Pesticide Use; Fertilizer Use; 1978-1992 Censuses of Agriculture; 1990 Census of Population and Housing; and the 1969-1993 REIS.

**Source:** National Oceanic and Atmospheric Administration - National Ocean Service (NOAA-NOS)

**Format:** Tabular data for watersheds, states, and counties. Also provides Vector Base Maps (ESRI shape files) for GIS use.

**Dates:** 1970 to 1993.

**Intended Use:** The purpose of CADS is to provide data, interpretation, and maps for the nation's estuaries and coastal watersheds. Information is also included for Arkansas watersheds.

**Collection Methods:** The data are derived from the U.S. Census Bureau's decennial censuses, the Bureau of Economic Analysis's REIS, and the Census of Agriculture.

**Internet Location:** [http://spo.nos.noaa.gov/projects/cads/ftp\\_data\\_download.html](http://spo.nos.noaa.gov/projects/cads/ftp_data_download.html)

**Date Last Accessed:** 9/20/2006

## **G) TIGER/Line**

**General Description:** Census geography; roads with address ranges; hydrography; railroads; other social and cultural features. Note: The last TIGER/Line file produced from the legacy database will be the 2006 Second Edition TIGER/Line files in the second quarter of 2007. See [http://www.census.gov/geo/www/tiger/future/future\\_tl.html](http://www.census.gov/geo/www/tiger/future/future_tl.html) for more information.

**Source:** U.S. Census Bureau, Geography Division

**Format:** Vector Base Map (ESRI shape files).

**Dates:** 1990 - 2005

**Intended Use:** Census Bureau produces these files in advance of the computer processing that will ensure that the address ranges in the TIGER/Line files agree with the final Master Address File (MAF) used for tabulating decennial censuses. State, County, Place, Voting Districts, and other administrative boundaries are also included in the TIGER/Line products. These files are primarily used by the Census Bureau to provide demographic data for various levels of geography.

**Collection Methods:** TIGER/Line Files are collected from a number of sources and methods. For more information on the collection methods, please refer to the Census Bureau's TIGER/Line web page: <http://www.census.gov/geo/www/tiger/index.html>.

**Internet Location:** <http://www.census.gov/geo/www/tiger/index.html>

**Date Last Accessed:** 9/15/2006

## **H) NationalAtlas.Gov**

**General Description:** Provides raw mapping data for creating dozens of base maps and data layer maps. Subjects include Agriculture, Biology, Boundaries, Climate, Environment, Geology, History, and more.

**Source:** U.S. Department of the Interior

**Format:** Maps can be downloaded as digital Base Maps or digital Data Map Layers for use in a GIS (vector and raster).

**Dates:** Varies according to original maps' sources.

**Intended Use:** NationalAtlas.gov is an interactive, online mapping program that provides electronic maps and services via the Internet. It replaces the National Atlas printed by the USGS until the 1970s. It also provides the ability to download dozens of digital map layers for use in a GIS.

**Collection Methods:** There are dozens of Raw Data downloads available from NationalAtlas.gov. The data collection methods vary according to the acquisition methods for specific map layers.

**Internet Location:** <http://nationalatlas.gov/index.html>

**Date Last Accessed:** 9/21/2006

## **I) County Typology Codes**

**General Description:** Economic Types (including Farm-dependent, Mining-dependent, etc.) and Policy Types (including nonmetropolitan recreation, retirement destination, etc.) determined for all counties in the United States.

**Source:** USDA - Economic Research Service (ERS)

**Format:** Tabular Data for Counties.

**Dates:** 2003

**Intended Use:** To provide policy-relevant information about diverse county conditions to policymakers, public officials, and researchers. ERS developed this new set of county-level typology codes to capture differences in economic and social characteristics. The codes are primarily meant to be useful in the analysis of rural conditions, trends, and program needs. ERS coded metropolitan counties to facilitate comparisons across the country. If researchers are solely interested in metropolitan conditions, they should carefully test whether these classifications are meaningful in that context.

**Collection Methods:** Although ERS coded all U.S. counties the thresholds for the economic and policy types were set using nonmetropolitan counties only. Most thresholds were roughly set at the nonmetropolitan mean plus one standard deviation. ERS used counties that met the 2003 definition of nonmetropolitan (micropolitan and noncore combined) in analyzing the means.

**Internet Location:** <http://www.ers.usda.gov/data/TypologyCodes/>

**Date Last Accessed:** 9/22/2006

## **J) National Hydrography Data set (NHD) Landmarks (polygons, lines, and points) - Arkansas**

**General Description:** Landmark polygon, line, and point features from the NHD. These are provided in three separate map files, one for each type of feature.

**Source:** U.S. Geological Survey (USGS)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** Completed: 6/8/1994; Publication Date: 1999

**Intended Use:** The NHD provides a national framework for assigning reach addresses to water-related entities, such as industrial dischargers, drinking water supplies, fish habitat areas, or wild and scenic rivers. Reach addresses establish the locations of these entities relative to one another within the NHD surface water drainage network in a manner similar to street addresses. Once linked to the NHD by their reach addresses, the upstream/downstream relationships of these water-related entities and any associated information about them can be analyzed using software tools ranging from spreadsheets to geographic information systems (GIS). GIS can also be used to combine NHD-based network analysis with other data layers, such as soils, land use, and population, to help better understand and display their respective effects upon one another. Because it provides

a national framework, water information and other analyses can be shared among many organizations.

**Collection Methods:** The National Hydrography Data set (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that comprise the nation's surface water drainage system. It is based initially on the content of the U.S. Geological Survey 1:100,000-scale Digital Line Graph (DLG) hydrography data, integrated with reach-related information from the U.S. Environmental Protection Agency Reach File Version 3.0 (RF3). More specifically, it contains reach codes for networked features and isolated lakes, as well as flow direction, names, stream level, and centerline representations for areal water bodies. Reaches are also defined to represent waterbodies and the approximate shorelines of the Great Lakes, the Atlantic and Pacific Oceans, and the Gulf of Mexico. The NHD also incorporates the National Spatial Data Infrastructure framework criteria set out by the Federal Geographic Data Committee. Data for Arkansas, specifically, can be found at the Internet location listed below.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

#### **K) Geographic Names Information System (GNIS) - Complete Data**

**General Description:** An inventory of the names and locations of physical and cultural geographic features located throughout Arkansas. Data are derived from the Geographic Names Information System (GNIS) holdings of the USGS.

**Source:** U.S. Geological Survey (USGS)

**Format:** Tabular Data.

**Dates:** Primarily 1994

**Intended Use:** The U.S. Board on Geographic Names is a Federal body created in 1890 and established in its present form by Public Law in 1947 to maintain uniform geographic name usage throughout the Federal Government. This is achieved with the Geographic Names Information System (GNIS).

**Collection Methods:** The original program of names standardization addressed the complex issues of domestic geographic feature names during the surge of exploration, mining, and settlement of western territories after the American Civil War. Inconsistencies and contradictions among many names, spellings, and applications became a serious problem to surveyors, mapmakers, and scientists who required uniform, non-conflicting geographic nomenclature. President Benjamin Harrison signed an Executive Order establishing the Board and giving it authority to resolve unsettled geographic names questions. Decisions of the Board were accepted as binding by all departments and agencies of the Federal Government.

**Internet Location:** <http://geonames.usgs.gov/>

**Date Last Accessed:** 9/15/2006

#### **L) Geographic Names Information System (GNIS) - All Features in Arkansas**

**General Description:** An inventory of the names and locations of physical and cultural geographic features located throughout Arkansas. Data are derived from the Geographic Names Information System (GNIS) holdings of the USGS.

**Source:** U.S. Geological Survey (USGS)

**Format:** Vector Data Map Layer (ESRI shape files).

**Dates:** Primarily 1994

**Intended Use:** The U.S. Board on Geographic Names is a Federal body created in 1890 and established in its present form by Public Law in 1947 to maintain uniform geographic name usage throughout the Federal Government. This is achieved with the Geographic Names Information System (GNIS).

**Collection Methods:** Downloaded Arkansas portion as an ASCII "txt" file from United States Geological Survey GNIS data sets via anonymous FTP. The file was then converted into "dbf" format in Microsoft Access 97. The resultant file was imported into ArcView GIS 3.2 and converted into a point theme "shp" file. The final stage involved extraction of the points representing bends from the "Feature" field of the "shp" file.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 9/15/2006

#### **M) National Scenic Areas, 100K (USGS DLG) - Arkansas**

**General Description:** National Scenic Areas in Arkansas.

**Source:** U.S. Geological Survey (USGS)

**Format:** Vector Data Map Layer (ESRI shape files).

**Dates:** Project Begin Date: 1983; Project Completion Date: 1989

**Intended Use:** DLG's depict information about geographic features on or near the surface of the Earth, terrain, and political and administrative units. These data were collected as part of the National Mapping Program. It is the intention of the Arkansas State Land Information Board to facilitate the dissemination of the 1:100,000-scale Digital Line Graphs.

**Collection Methods:** Digital Line Graph (DLG) data are digital representations of cartographic information. DLG's of map features are converted to digital form from maps and related sources. Intermediate-scale DLG data are derived from USGS 1:100,000-scale 30- by 60-minute quadrangle maps. If these maps are not available, Bureau of Land Management planimetric maps at a scale of 1:100,000 are used. Intermediate-scale DLG's are broken down into five categories: 1. Public Land survey, 2. boundaries, 3. transportation, 4. hydrography, and 5. hypsography.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/31/2006

## VIII. Land Use, Land Cover, and Land Ownership

This topic covers information for land use, land cover, and land ownership. The data sets listed here are all base maps for use in GIS and mapping applications. Land use and land cover data are regularly obtained using remote sensing via satellites or other aerial devices. Land ownership information differentiates publicly and privately owned areas. The base maps listed here are useful for studying the social-environmental interface. These data are also used to measure the impact of human activity on the environment.

### A) National Resources Inventory

**General Description:** A statistical survey of land use and natural resource conditions and trends on U.S. non-Federal lands.

**Source:** USDA - Natural Resource Conservation Service (NRCS)

**Format:** Users are encouraged to obtain area-specific data from NRI coordinators.

**Dates:** Every 5 years beginning in 1977. Annually since 1997.

**Intended Use:** The National Resources Inventory (NRI) is a statistical survey of natural resource conditions and trends on nonfederal land in the United States. Nonfederal lands include privately owned lands, tribal and trust lands, and lands controlled by State and local governments. The NRI provides nationally consistent statistical data on how these lands are used and on changes in land use patterns for the period 1982 - 2002. To assess conservation issues on nonfederal rural lands, this land use information must be analyzed in conjunction with the other NRI data elements. Land uses of particular interest are those that are used in the production of agricultural and timber products. The NRI provides the scientific framework for the National Assessment component of CEAP – the Conservation Effects Assessment Project – an interagency effort to quantify the natural resource benefits delivered through conservation actions on private land.

**Collection Methods:** NRI data were collected at more than 800,000 sample sites nationwide. This is a very large sample, which means that the data can be legitimately used to analyze issues at many geographic levels -- national, regional, State, and sub-State (multi-county). The NRI was not designed to provide statistical estimates for counties or 8-digit hydrologic units; however, examining the data at various geographic levels, including county or 8-digit hydrologic unit, is a legitimate analytical technique for gaining additional insight into the database. Anyone who intends to work with NRI data, especially at the county or 8-digit hydrologic unit scales, should read carefully the technical guidance as to the suitability and limitations of the data and the error-estimation procedures.

**Internet Location:** <http://www.nrcs.usda.gov/technical/NRI/>

**Date Last Accessed:** 9/22/2006

## **B) National Land Cover Database (NLCD), 1992.**

**General Description:** Landsat 5 TM classifications including various subclasses of water and ice, developed land, barren land, forested upland, non-natural woody land, herbaceous upland, herbaceous planted/cultivated land, and wetlands.

**Source:** Multi-Resolution Land Characteristics (MRLC) Consortium

**Format:** Raster Data Layers (GeoTIFF, ArcGrid, or BIL format).

**Dates:** Landsat TM passes from the 1988-1993 Leaf on and Leaf off thematic mapper series.  
Note: NLCD 2001 coverage for Arkansas is incomplete.

**Intended Use:** The Multi-Resolution Land Characteristics (MRLC) Consortium is a group of federal agencies who first joined together in 1993 (MRLC 1992) to purchase Landsat 5 imagery for the conterminous U.S. and to develop a land cover data set called the National Land Cover Data set (NLCD 1992). The MRLC consortium is specifically designed to meet the current needs of Federal agencies for nationally consistent satellite remote sensing and land-cover data. However, the consortium also provides imagery and land cover data as public domain information, all of which can be accessed through their website.

**Collection Methods:** One of the projects sponsored by the MRLC consortium was production of land-cover data derived from images acquired by Landsat's Thematic Mapper (TM) sensor, as well as a number of other data sources. The NLCD includes the source images, as well as classified land-cover data for specific acquisition dates. It is the first national land-cover data set produced since the early 1970s. It effectively replaces the LUDA and GIRAS data sets. Data for the conterminous United States circa 1992 (NLCD 1992), which were derived from Landsat-5 TM images, are complete and currently available for download. A description of the data, as well as the classification process utilized, has been published in a number of journal articles.

**Internet Location:** <http://www.mrlc.gov/index.asp>

**Date Last Accessed:** 9/22/2006

## **C) Arkansas Land Ownership**

**General Description:** Base map of State, Federal, and private land ownership in Arkansas.

**Source:** CAST GAP

**Format:** Vector Base Map (ESRI shape files).

**Dates:** 1996

**Intended Use:** This data set is intended to be a base map of land ownership in Arkansas.

**Collection Methods:** Not specified - Shows public and private land ownership in Arkansas.

**Internet Location:** [http://www.cast.uark.edu/UASL/data\\_available/index.htm](http://www.cast.uark.edu/UASL/data_available/index.htm)

**Date Last Accessed:** 8/28/2006

## **IX. Political and Administrative Boundaries**

This topic provides a list of base maps for political and administrative boundaries. These boundaries are important to environmental studies because environmental policies are often specific to political and administrative boundaries. Also, political and administrative boundaries are frequently used for summarizing environmental and other data important to environmental studies. The following two sources are the most used for political and administrative boundaries in Arkansas.

### **A) U.S. Census Bureau Cartographic Boundaries**

**General Description:** There are more than 30 types of cartographic boundary files available. These types include: County Boundaries, State Boundaries, Congressional Districts, Voting Districts, School Districts, American Indian Tribal Subdivisions, Census Areas, Zip Code Areas, Metropolitan Areas, and Places for Arkansas and other states.

**Source:** U.S. Census Bureau, Geography Division

**Format:** Vector Base Map (ESRI shape files).

**Dates:** Varies according to boundary type. Most are for 2000.

**Intended Use:** These files are intended for use as base maps in geographic information systems (GIS) and for census data tabulations. The digital map files are coded such that census data can be matched to the maps. This allows researchers to conduct geographic and statistical analyses with them. The boundary files can also be used for printing maps of cartographic boundaries.

**Collection Methods:** The boundaries are derived from the TIGER/Line data sets.

**Internet Location:** [http://www.census.gov/geo/www/cob/bdy\\_files.html](http://www.census.gov/geo/www/cob/bdy_files.html)

**Date Last Accessed:** 9/20/2006

### **B) Arkansas Cities - City Limits**

**General Description:** Boundaries for 500+ Arkansas cities.

**Source:** Arkansas Highway and Transportation Department (AHTD)

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 2005

**Intended Use:** This data set was developed to produce queryable city limit boundaries to aide in the development of projects, maps, and databases within the Arkansas State Highway and Transportation Department.

**Collection Methods:** All boundaries were digitally plotted from legal descriptions obtained from the city itself or through the Arkansas Secretary of State's Office.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 8/28/2006

## **X. Transportation Networks**

This topic area provides information on data sets for transportation networks. Transportation networks are important to environmental studies for many reasons. For instance, they can divide habitat areas; they are often the location of hazardous spills; and they are a source of runoff when it rains heavily. The following list provides information about the most commonly used transportation network data sets in Arkansas.

### **A) Arkansas Roads (All) - 2005**

**General Description:** All TIGER/Line road segments in the state. Each segment has an address range that can be used for address matching.

**Source:** U.S. Census Bureau TIGER/Line

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 2005

**Intended Use:** Census Bureau produces these files in advance of the computer processing that will ensure that the address ranges in the TIGER/Line files agree with the final Master Address File (MAF) used for tabulating decennial censuses.

**Collection Methods:** TIGER/Line Files are collected from a number of sources and methods. For more information on the collection methods, refer to the Census Bureaus' TIGER/Line web page: <http://www.census.gov/geo/www/tiger/index.html>

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 8/31/2006

### **B) Arkansas Roads (All), 2005**

**General Description:** AHTD Roads in Arkansas by road types, including gravel, paved, blacktop, unpaved, state highways, interstates, heavily traveled highways, and more. Certain road types have been extracted as separate data sets.

**Source:** Arkansas Highway and Transportation Department (AHTD)

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 2005

**Intended Use:** The data set provides information for all roads in the state of Arkansas. It includes location information for use in local and regional cartographic and spatial analysis applications. It is the intention of the Arkansas State Land Information Board to facilitate dissemination of public data.

**Collection Methods:** These locations were extracted from the Arkansas Highway and Transportation Department's (AHTD's) county mapping files for the year 2005.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 8/28/2006

## XI. Agriculture

Agriculture is an obvious environmental resource. It is an important aspect of the interaction of society and the environment. The Census of Agriculture is the most widely used data set listed here. The USDA Economic Research Service (ERS) has developed a useful tool for determining the impact of society and populations on agricultural resources. Also included in this list is a data set for the location of chicken houses in Arkansas, which was derived from the AHTD Culture data set, which is listed earlier in this report.

### A) USDA-NASS Census of Agriculture

**General Description:** This data set includes information on cropping practices, farmland land use, agricultural chemical use, livestock holdings, land in farms, agricultural workers, and other aspects of agricultural production and land use.

**Source:** USDA - National Agricultural Statistics Service (NASS)

**Format:** Tabular Data for States and Counties.

**Dates:** 1992, 1997, 2002

**Intended Use:** The census of agriculture is the leading source of facts and statistics about the Nation's agricultural production. It provides a detailed picture of U.S. farms and ranches every five years and is the only source of uniform, comprehensive agricultural data for every state and county or county equivalent in the U.S. Agriculture census data are routinely used by farm organizations, businesses, State departments of agriculture, elected representatives and legislative bodies at all levels of government, public and private sector analysts, and colleges and universities.

**Collection Methods:** Agriculture census data are used to: 1) Evaluate, change, promote, and formulate farm and rural policies and programs that help agricultural producers; 2) Study historical trends, assess current conditions, and plan for the future; 3) Formulate market strategies, provide more efficient production and distribution systems, and locate facilities for agricultural communities; 4) Make energy projections and forecast needs for agricultural producers and their communities; 5) Develop new and improved methods to increase agricultural production and profitability; 6) Allocate local and national funds for farm programs, e.g. extension service projects, agricultural research, soil conservation programs, and land-grant colleges and universities; and 7) Plan for operations during drought and emergency outbreaks of diseases or infestations of pests. In addition, agricultural news media and agricultural associations use census data as background material for stories and articles on U.S. agriculture and the foods we produce.

**Internet Location:** [http://www.nass.usda.gov/Census\\_of\\_Agriculture/index.asp](http://www.nass.usda.gov/Census_of_Agriculture/index.asp)

**Date Last Accessed:** 9/22/2006

## **B) Population-Interaction Zones for Agriculture (PIZA)**

**General Description:** ERS Population Interaction Zones Indices (1=rural - little or no urban-related population interaction; 2=low population interaction; 3=medium population interaction; 4=high population interaction).

**Source:** USDA - Economic Research Service

**Format:** Tabular data for counties; Vector polygons for the Nation; or Raster cells for the Nation.

**Dates:** 1980, 1990, and 2000

**Intended Use:** Widespread conversion of rural lands to urban uses has drawn attention at all levels of government. To provide information useful for projections of future changes in land use, ERS has created a system to classify remaining farmland into "population-interaction zones for agriculture" (PIZA).

**Collection Methods:** Population Interaction Zones for Agriculture (PIZA) represent areas of agricultural land use in which urban-related activities (residential, commercial, and industrial) affect the economic and social environment of agriculture. In these zones, interactions between urban-related population and farm production activities tend to increase the value of farmland, change the production practices and enterprises of farm operators, and elevate the probability that farmland will be converted to urban-related uses.

**Internet Location:** <http://www.ers.usda.gov/Data/PopulationInteractionZones/>

**Date Last Accessed:** 9/22/2006

## **C) Chicken Houses, 2000**

**General Description:** Chicken House locations in Arkansas.

**Source:** Arkansas Highway and Transportation Department (AHTD)

**Format:** Vector Base Map (ESRI shape files, AutoCAD, Microstation, SVG, VML).

**Dates:** 2000

**Intended Use:** The purpose of AHTD Culture is to represent as accurately as possible structures or features that are currently present within the state.

**Collection Methods:** This file contains location information for Chicken Houses in the state of Arkansas. These locations were extracted from the Arkansas Highway and Transportation Department (AHTD) Culture data set listed earlier in this report.

**Internet Location:** <http://www.geostor.arkansas.gov/>

**Date Last Accessed:** 8/28/2006

## **XII. Weather and Climate**

This topic area covers weather and climate information available for Arkansas. The following data sets provide tabular data for weather records, mapped weather data, and a base map of the state's climate divisions.

### **A) Weather and Climate Data**

**General Description:** Numerous data sets for weather and climate.

**Source:** National Oceanic and Atmospheric Administration - National Climatic Data Center (NOAA -NCDC)

**Format:** Varies from tabular data to vector and raster base maps for use in a GIS.

**Dates:** 1850's to Present

**Intended Use:** Most data are available for a fee. They can be retrieved as reports, pre-made maps, or in a digital map layer format for use in a GIS. The data are useful for mapping precipitation, temperature, and other weather/climate events over time. Data are available for states, the nation, and selected parts of the world.

**Collection Methods:** The data are collected from a number of sources, including satellite, radar, and weather stations.

**Internet Location:** <http://www.ncdc.noaa.gov/oa/ncdc.html>

**Date Last Accessed:** 9/20/2006

### **B) Climate Divisions**

**General Description:** Climate divisions, including mean temperature and rainfall.

**Source:** National Oceanic and Atmospheric Administration - National Climatic Data Center (NOAA -NCDC)

**Format:** Vector Base Map (ESRI shape files).

**Dates:** 1991

**Intended Use:** This base map was intended for displaying seasonal maps of precipitation and temperature in the National Water Summary series of reports.

**Collection Methods:** This base map began as two text files of IDs and coordinates and a file of label attributes supplied by NCDC. One text file has boundary arcs of climate divisions (not including state boundaries) and the other has label coordinates for climate division polygons. Attributes included a state number and a division number within that state (1-9). State boundaries were not readily available in a nice clean format that could be easily generated into polygons with the boundary data. A USA coverage was in an unknown Albers Projection. It was warped to match the climate division boundaries using ArcEDIT/ADJUST processing. Because of this, the accuracy of this coverage is questionable. However, it is suitable for analysis at scales greater than 1:20,000,000.

**Internet Location:** [http://water.usgs.gov/GIS/metadata/usgswrd/XML/climate\\_div.xml](http://water.usgs.gov/GIS/metadata/usgswrd/XML/climate_div.xml)

**Date Last Accessed:** 9/20/2006

## **Conclusion**

The Rural Sociology Program at the University of Arkansas compiled the preceding lists of data sets. These data sets are commonly used for studying the interaction of society and the environment in Arkansas. The information provided for each data set was derived, in part or whole, from the data set's metadata. This information is intentionally brief. This list is not designed to provide all of the necessary information for the proper use of these data sets. It is only intended to reveal available data sets. Users of these data sets are strongly advised to refer to the Metadata that accompanies each data set at the provided Internet locations.