

On December 11, 2000, KGS released the Kentucky digital coal atlas, consisting of 12 maps and charts showing original and remaining coal resources in eastern and western Kentucky for six historically important coals. Nine of the new maps and charts pertain to resources in eastern Kentucky and three show resources in western Kentucky. Additional maps for western Kentucky will be published in the future.

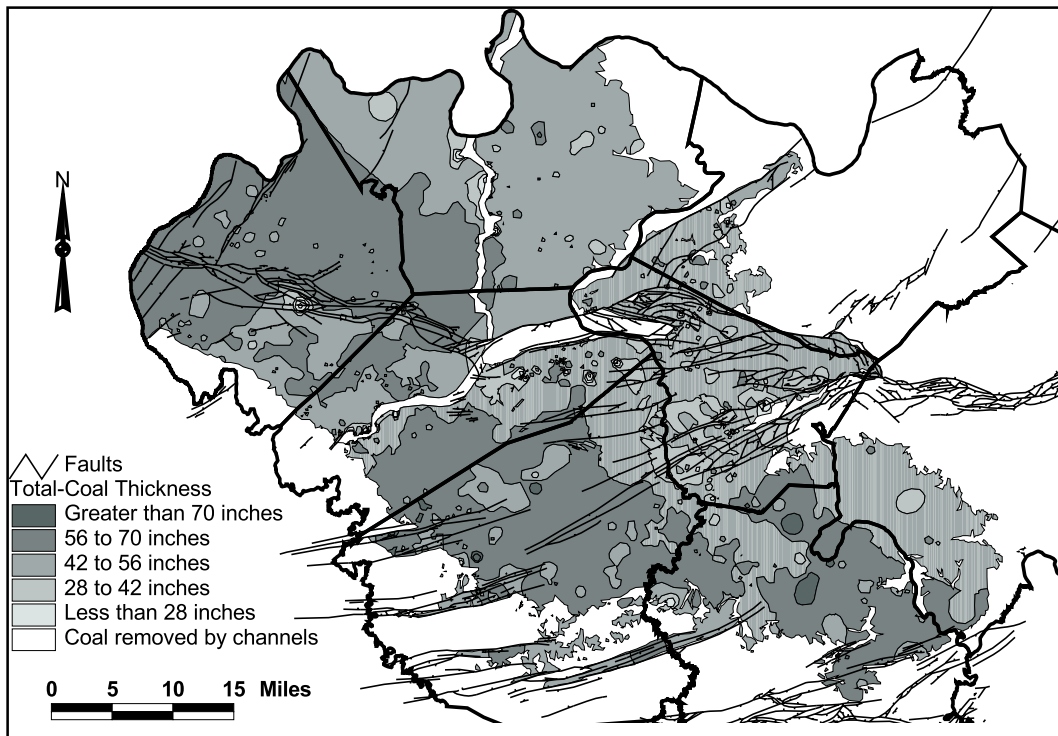
The coal atlas is the culmination of years of extensive field work, data collection, and analysis. The atlas is unique because it was produced using state-of-the-art computer technology for creating digital geologic

maps and very detailed information about coal resources in Kentucky. The detailed assessment of coal resources required for the completion of the atlas has been under way since 1996, with partial funding from the U.S. Geological Survey (USGS) as part of a national program to assess remaining coal resources available for mining. The atlas, which is available as computer files on a CD-ROM or as traditional paper maps, can be viewed on the KGS Web site at www.uky.edu/KGS/coal/webcoal/pages/coal/nca_refs.htm.

Previous estimates of coal resources have been published primarily as tables of data with information

about the tons of coal available for mining. In contrast to this, maps present visually the distribution of remaining coal resources and thereby add value to the data. The maps that constitute the atlas illustrate the geographic distribution of the coal-resource data. This digital coal atlas is a road map for Kentucky coal and describes the characteristics that will have an impact on their future development. This new product, based on significant contributions of data from private industry, has greatly improved our understanding of the coal resources of Kentucky and has allowed KGS to provide the most detailed description of the resource available to date for Kentucky.

“This work is a significant accomplishment for Kentucky and the USGS. The digital maps provide valuable information that is accurate, unbiased, and current to decision makers in government and industry.”
 —Bonnie McGregor,
 USGS Eastern Regional Director



“The digital coal atlas will be essential for energy policy makers; coal companies active in exploration; and environmental, land-use, and transportation planners.”
 —Jerry Weisenfluh,
 Principal Investigator for the Kentucky Coal Atlas Project

Example of data and a map included in the Kentucky digital coal atlas—total coal thickness of the Springfield coal in western Kentucky. This illustration is a gray-scale rendition of the original color version in the digital coal atlas.

How can the coal atlas be used?

The digital coal atlas will benefit a broad spectrum of people, businesses, and organizations in Kentucky and elsewhere. Historical mining is documented to show the location, thickness, and depth of coal resources that remain available for future mining. Information in the atlas describes the size and area of coal beds in relation to the land surface. Geologists at KGS are able to do this with greatly improved accuracy due to its detailed geologic mapping database. No other state in the nation has comparable data to assess coal resources.

Coal thickness and the depth of the coal below the land surface are also described. This is done using discrete measurements of the coal at locations where samples of coal were collected in the field. Kentucky has one of the most comprehensive coal-thickness databases in the nation based on decades of data collection in the field. Maps were then created showing the geographic distribution of coal thickness.

Coal-thickness data are used to calculate coal tonnages that were present prior to mining. Coal thickness is one of the most important factors that determine the ability to mine the coal.

Who will the atlas help?

Coal Industry Officials—Information and analysis in the digital coal atlas indicate that geographic shifts in coal production may occur in the foreseeable future. The maps and charts show the degree of depletion of resources, the extent of the remaining coal available for future mining, and thickness and elevation of the coal, which will be useful to coal industry officials seeking reserves to replace those that are currently being mined. Many companies have already found the maps beneficial in exploring for new reserves of coal. The maps provide a regional perspective of where historical mining has taken place for specific coal beds and the nature of the remaining coal in adjoining areas. Company officials

will also be interested in the site-specific measurements of coal beds in areas of commercial interest to them. In addition, the digital atlas can be used together with information that a company has in its records to identify potential reserves to meet their needs.

Persons Interested in Coal-Resource Assessment—The maps and charts in the coal atlas describe the most important coal beds in Kentucky. These coal beds are ones that have had the greatest historical and recent production. Although the six coal beds described in the atlas constitute a small number of Kentucky's total number of coals, they represent much of Kentucky's present annual production.

Energy Policy-Makers—Persons studying energy policy can use these maps to gain a regional perspective on the status of Kentucky's coal resource. The assessment in this atlas indicates that much of eastern Kentucky's remaining resources are relatively thin (less than 42 inches). State lawmakers have already begun to recognize this issue by passing legislation that created tax credits for mining thin coal, and this tax relief has already had a positive impact on increasing coal production. The distribution and thickness of remaining resources is illustrated and will help determine areas of the Commonwealth that will likely contribute significantly to future coal production.

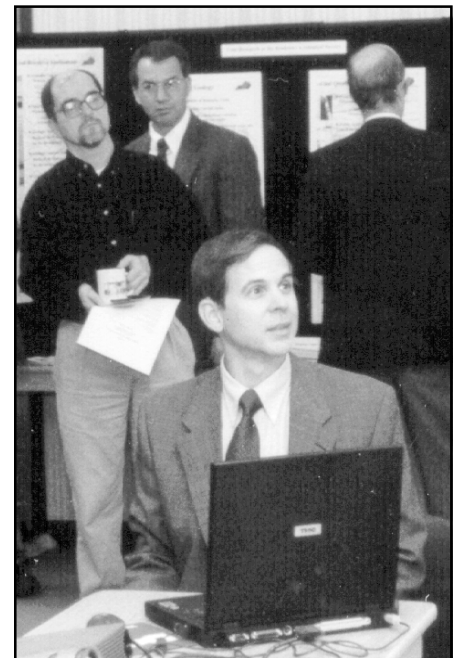
Transportation Planners—The digital coal atlas will allow transportation planners to quickly undertake a preliminary assessment of a proposed highway or road to determine if it would encounter old abandoned coal mines. The atlas could also be used to determine the cost of acquiring private minerals in rights-of-way on the proposed route for highway construction projects. This information may permit early route adjustments to avoid costly segments.

Mine Safety and Environmental Planning Officials—Information on the extent and depth of coal mines in specific areas will be valuable to study the impacts of underground mining on land use. Other charts in the coal atlas have information about mining charac-

teristics and coal quality, which will be useful for mine safety and environmental planning. The data can also be used to identify areas for developing water resources from abandoned underground mine works in regions where water is difficult to locate.

How do I order the atlas?

Paper copies of the individual maps and charts that constitute the digital coal atlas are available for a nominal charge of \$10 each. Anyone interested in the digital coal-bed data used to compile the maps can purchase data sets on a single CD-ROM for \$30. For further information, please call the KGS Publication Sales office at (859) 257-3896 or toll-free at (877) 778-7827 for customers living outside of Lexington. ❖



Jerry Weisenfluh demonstrates the coal atlas CD-ROM at a press conference in December 2000.