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SEEDIS

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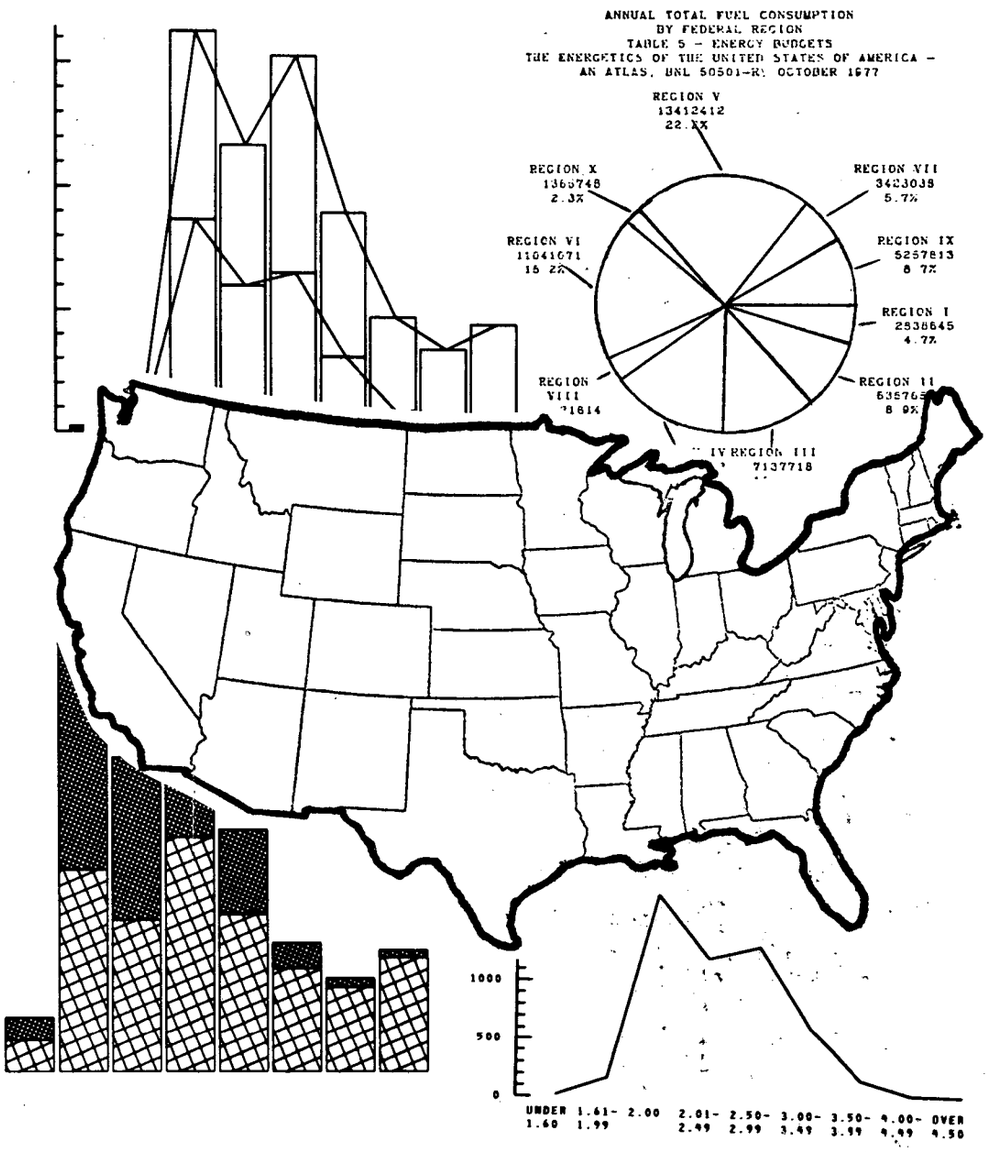
SOCIO-ECONOMIC-ENVIRONMENTAL-DEMOGRAPHIC

INFORMATION SYSTEM



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U. S. DEPARTMENT OF ENERGY

Assistant Secretary for Environment
and
Office of Energy Research

AND

U. S. DEPARTMENT OF LABOR

Employment and Training Administration

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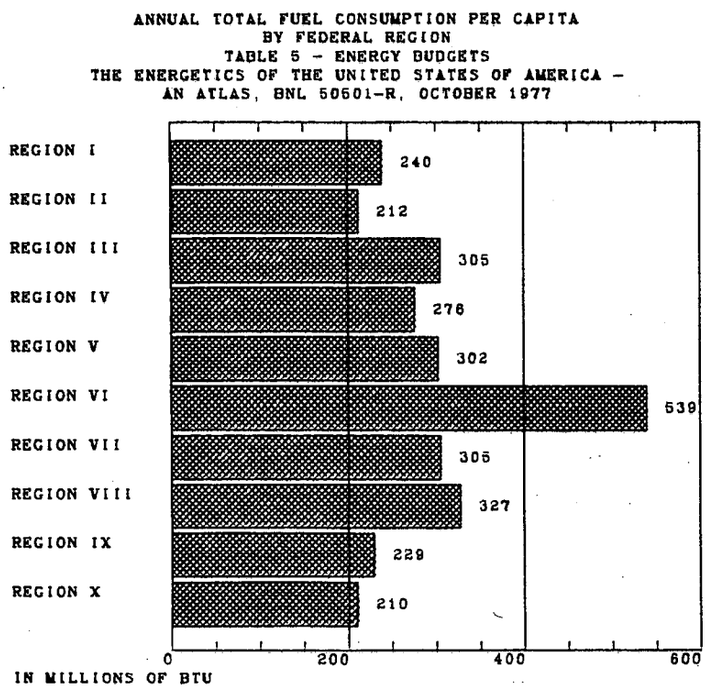
SEEDIS

The LBL Socio-Economic-Environmental-Demographic Information System (SEEDIS) consists of a set of program modules for retrieving, analyzing, and displaying selected portions of a very large database used for environmental impact studies, energy policy analysis, and labor force assessment. The project originated in 1972 with the acquisition and installation of most of the 1970 Census of Population on LBL's 50-billion character, direct-access mass storage system. Manpower Summaries for varying geographic areas and a set of Urban Atlases presenting selected census-tract statistics for sixty-five major SMSA's were early products of the system. The addition of other large databases, including various economic censuses, air quality data, energy data, etc., demonstrated the value of an integrated information system in carrying out these studies. As programs for manipulating and displaying these data were developed for a series of projects, it became evident that the SEEDIS facilities should be made available to a broad spectrum of researchers, analysts, and managers throughout DOE and other federal agencies. In 1977 work began to provide access to SEEDIS on a distributed network of minicomputers, in addition to the large scale facilities available over existing networks (ARPANET, TELENET, TYMNET). The purpose of the distributed system is to provide ready access to a centralized large scale computational and data management facility, and local processing power for integrating local data with SEEDIS data.

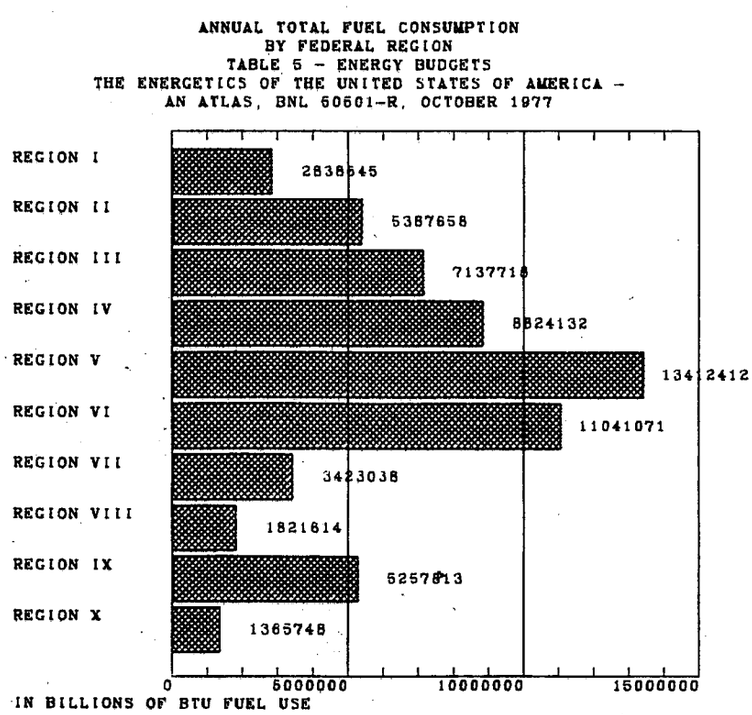


DATA TYPES:

- Energy
- Population
- Migration
- Income
- Labor Force/Employment
- Housing/Household Characteristics
- Manufacturing/Agriculture
- Environmental Quality
- Mortality
- Geocoding

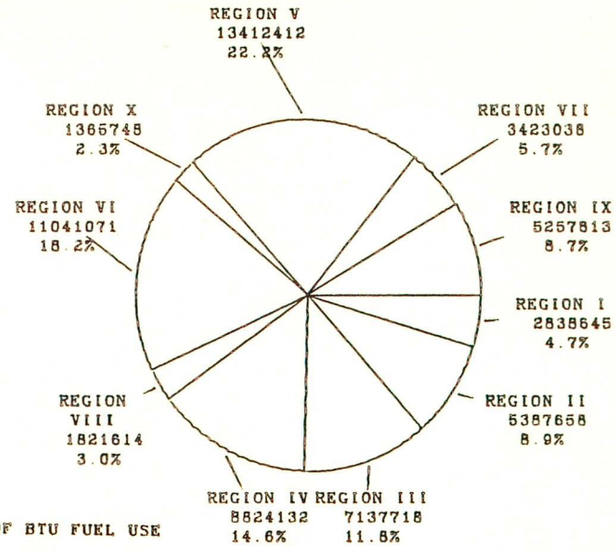
SEEDIS TOOLS:

- Data Selection
- Data Entry
- Tables
  - Totals
  - Percentages
  - Ranking
  - Averages
- Charts
  - Line Graphs
  - Bar Charts
  - Pie Charts
  - Scatter Plots
- Maps
  - Thematic
  - Symbolic
  - Line



The flexibility and diversity of SEEDIS tools allow the user to create a display which highlights the important facets of selected data. For example, the bar charts on the previous page give a general view of fuel consumption trends on a regional basis, while the map shown here displays a more detailed view of each state in comparison to others in the nation. The pie chart shows each region's proportional share of the nation's annual consumption of fuels.

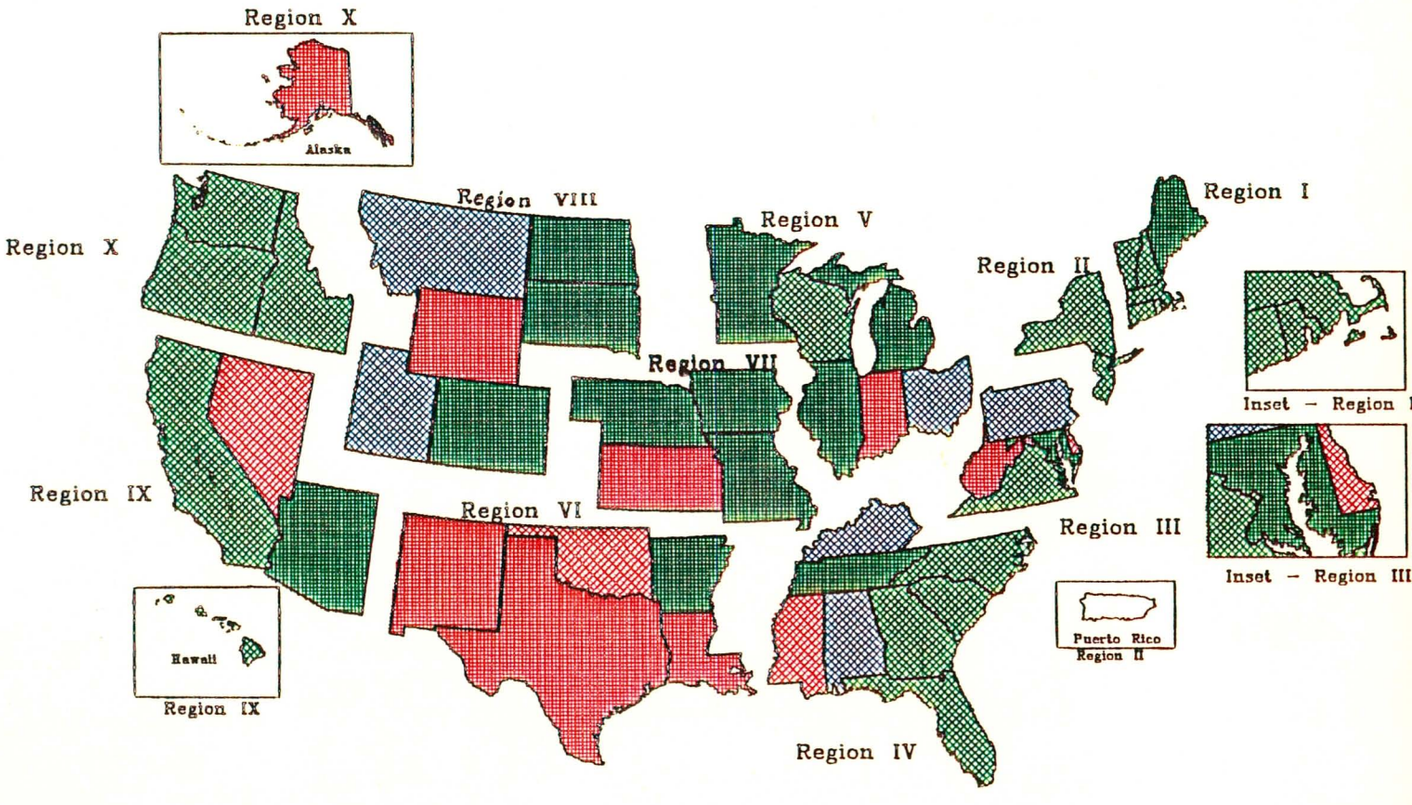
ANNUAL TOTAL FUEL CONSUMPTION
BY FEDERAL REGION
TABLE 5 - ENERGY BUDGETS
THE ENERGETICS OF THE UNITED STATES OF AMERICA -
AN ATLAS, BNL 50501-R, OCTOBER 1977



IN BILLIONS OF BTU FUEL USE

Total Fuel Consumption Per Capita

United States by Federal Region



United States Average = 297 Millions of BTU

Legend

Millions of BTU Use

- ABOVE 400
- 350 - 400
- 300 - 349
- 250 - 299
- BELOW 250

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Data Source

Table 5. Energy Budgets
The Energetics of the United States of America - An Atlas, BNL 50501-R, Oct 1977

GBF Source

LBL - SEEDIS Geographic Data Base

Map Compilation

Interactive CARTE - SEEDIS

JULY - 1978

SEEDIS FEATURES

easy to use

A user-friendly interface to the complex data management, analysis and display modules was developed to shield the user from the complex job control language of the computer system. The SEEDIS MONITOR is an executive program which provides straightforward access to SEEDIS tools and data, as well as "help" facilities, a local computer mail system, and an option to provide comments to the system designers. A menu format guides the user through selection of a geographic study area, specification of data to be extracted from the large integrated database, data entry, analysis and display modules.

accessible

SEEDIS is accessible to remote users over existing communications networks (the ARPANET, TELENET and TYMNET), on dial-up terminals and to remote batch stations. Work has begun to provide access to SEEDIS on a distributed network of minicomputers.

flexible / diversified

In addition to providing a diversity of data types and analytical and display capabilities, SEEDIS provides flexibility with a choice of brief or full mode prompting; choice of guided entry into the integrated system or into specific utility modules for the experienced user; and with an iterative, interactive design process to create meaningful input to policy analyses and planning studies.

operational

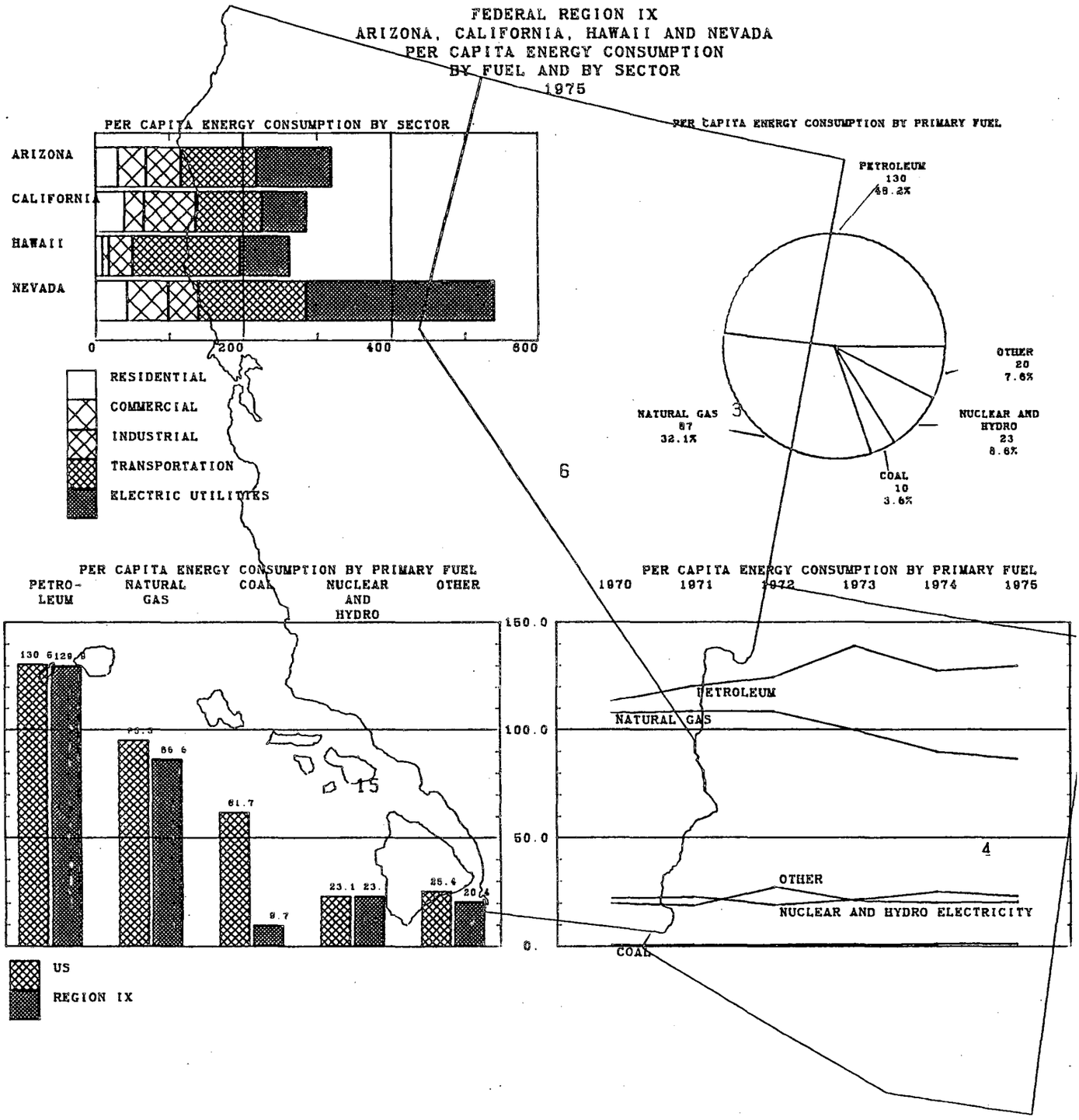
The SEEDIS project originated in 1972 with the installation of most of the 1970 Census of Population on LBL's mass storage system. Use has continued as development of the system met both project-specific requirements and broadening applicability to a growing community of researchers, managers, and planners within DOE, DOL's Employment and Training Administration, the Army Corps of Engineers and other federal agencies. SEEDIS data are also available to state and local agencies and to the private sector through the National Technical Information Service.

well-documented

SEEDIS documentation is available in a variety of forms, including user manuals, workbooks, on-line help, and technical papers describing various facets of the system in detail.

evolutionary

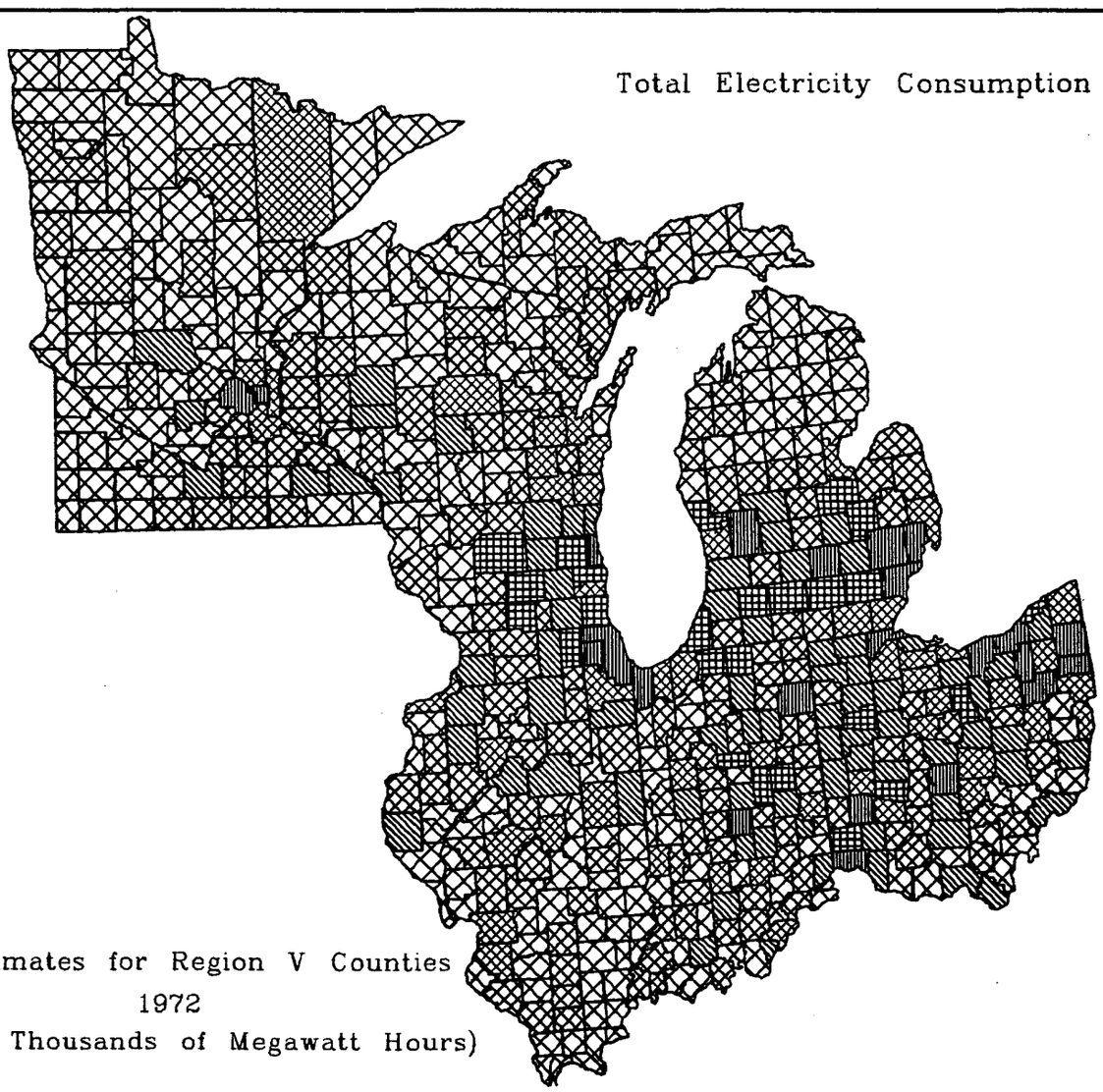
While portions of SEEDIS were developed to meet specific, project-oriented requirements, the system has evolved to continually meet changing requirements and to provide analytical tools for a broadening class of problems. The evolutionary nature of SEEDIS as an integrated information system is demonstrated by the growth in scope and nature of the database and by an expanding community of users for a variety of applications. State-of-the-art development includes sophisticated data management techniques and implementation in a network environment to provide greater applicability and continued responsiveness to user needs.



SEEDIS users have access to extensive data at the state, county, SMSA, and census tract levels. Using the SEEDIS tools, the user can merge his or her own data with selected portions of the large resident database. SEEDIS can be used for time series comparisons, comparing data for different parts of the nation, or to compare different data types. In this display, annual per capita energy consumption in four western states are compared by fuel and by sector.

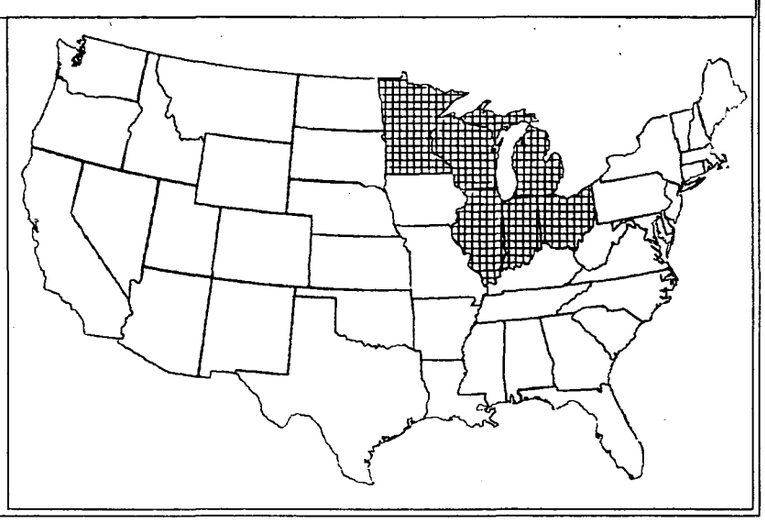
Data from the large resident database are automatically retrieved and made available to the user for analysis and display. The design of a map, graph or table is done by the user. Design possibilities range from the very simple, in which default decisions for layout are made automatically, to the very elaborate, with multiple insets, tables, titling and footnoting specified by the user. The SEEDIS tools have been developed and documented for the user with relatively little computer experience, making the system easy to use and attractive to the new user, but provide power and sophistication to the more experienced user.

The map below shows total annual electricity consumption for counties in Region V, with an inset to identify the location of and the states in the Region.



Source – The Energetics of the USA
An Atlas BNL 50501–R OCTOBER 1977

- Above 2000
- 1000 – 2000
- 500 – 999
- 250 – 499
- 100 – 249
- Below 100



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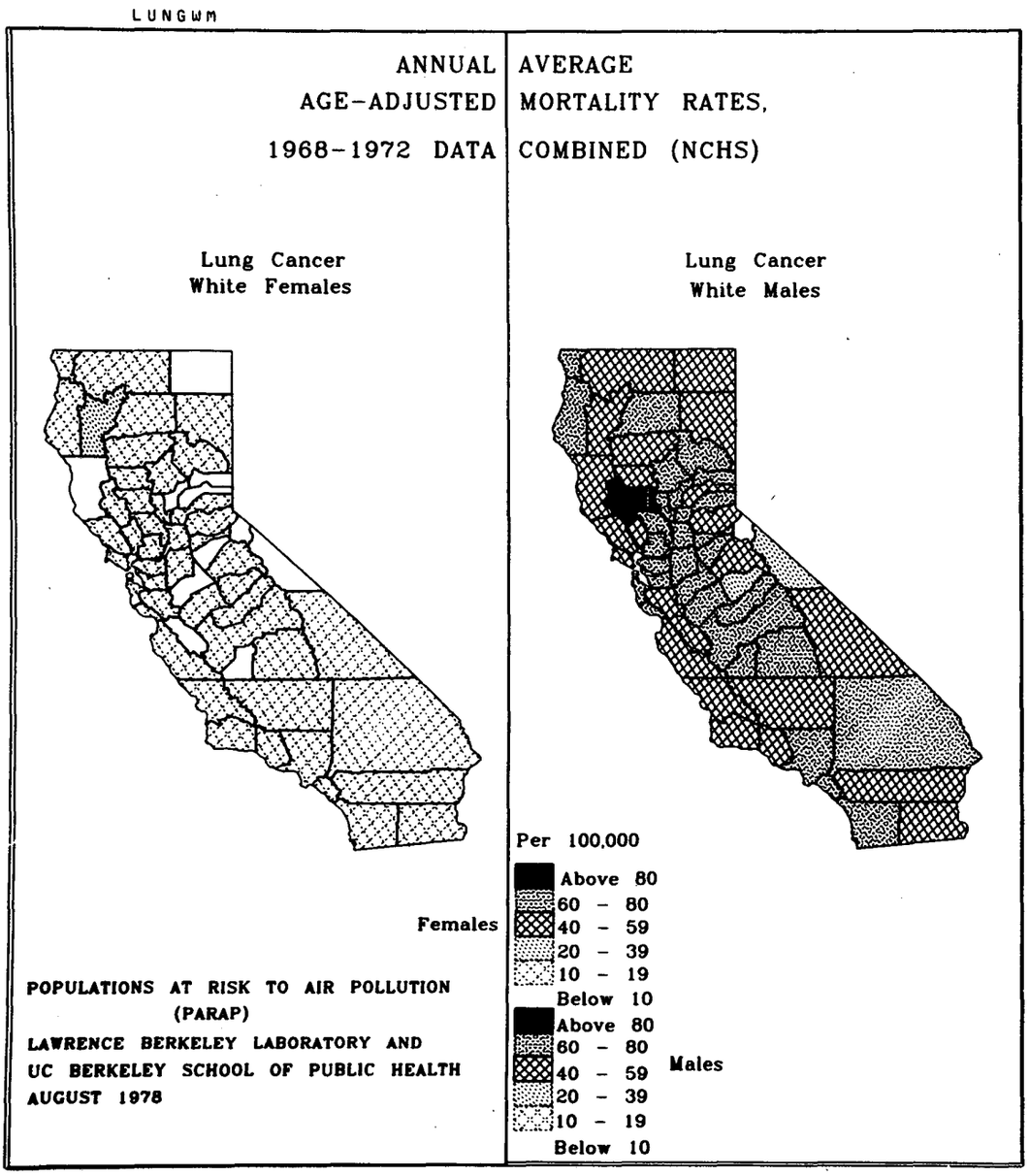
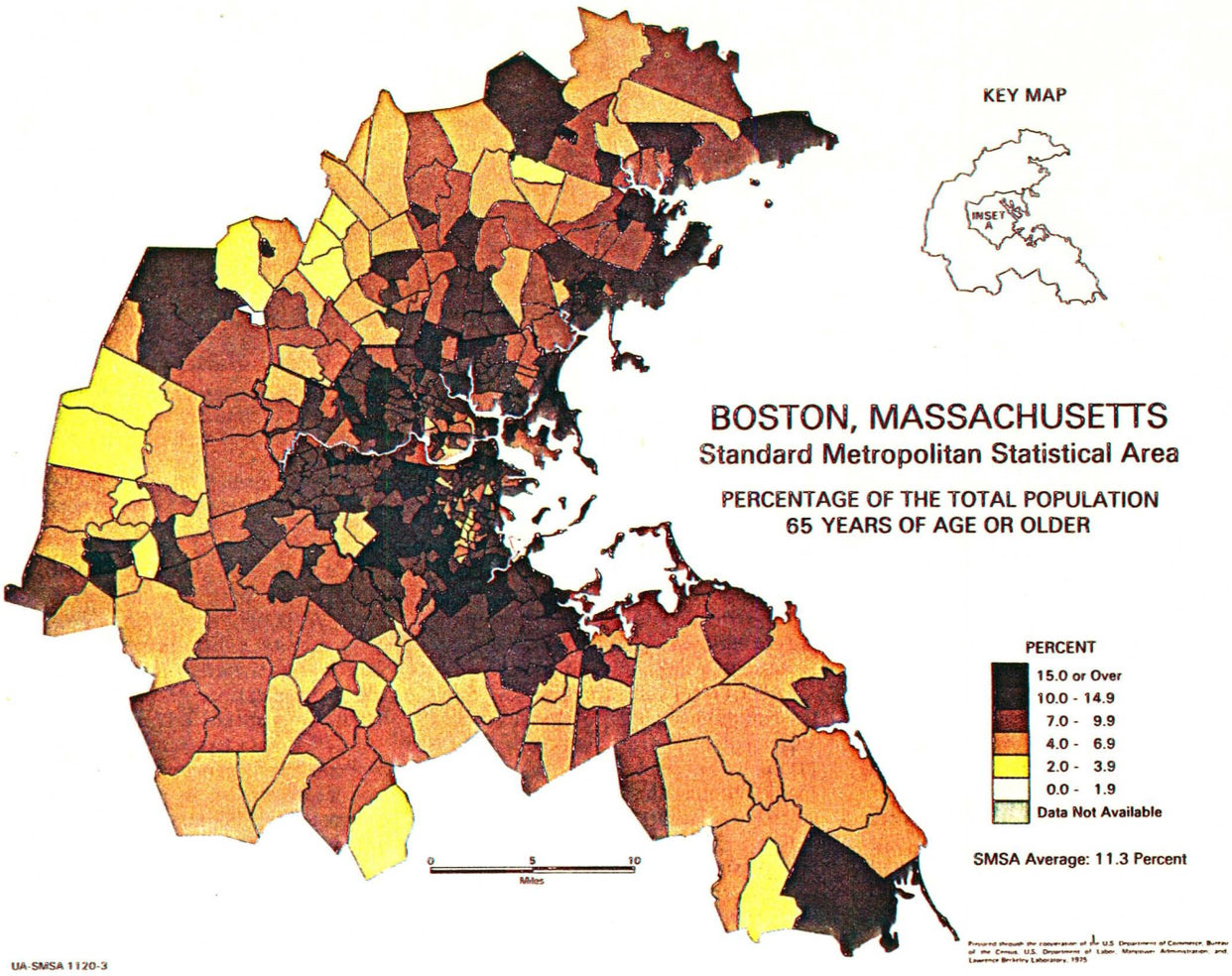
SEEDIS facilitates comparison of data in a comprehensible form for varying geographic areas, for populations of certain characteristics, or for various points in time. Below, lung cancer mortality rates for counties in California are contrasted for males and females. In particular, the acquisition and integration of 1980 Census data will provide a unique opportunity for time series comparison of selected data from the 1960, 1970, and 1980 Censuses of Population.





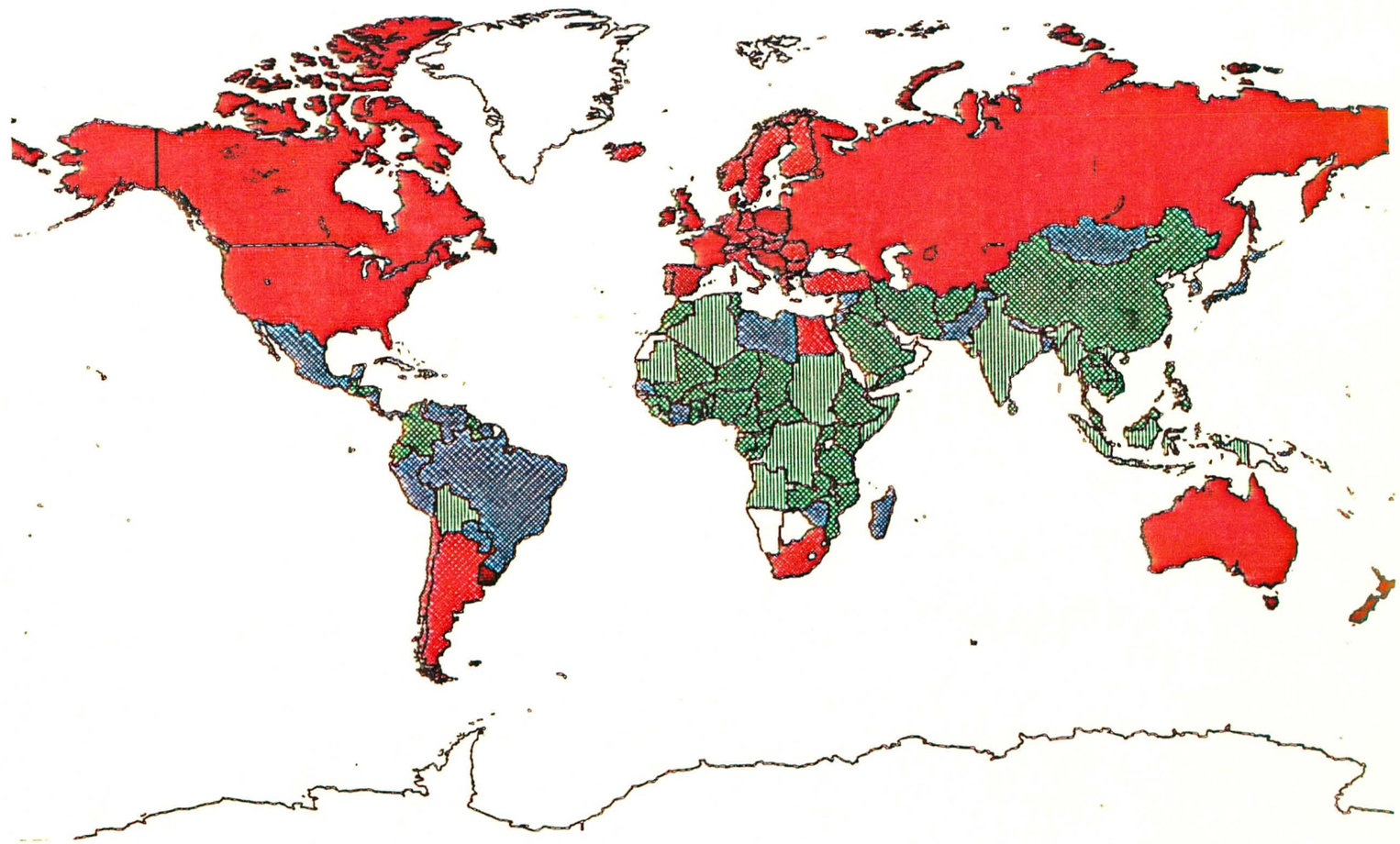
This map is a reproduction from the Urban Atlas series, a series of sixty-five atlases produced for the Department of Commerce and the Department of Labor using LBL's map editing and display system (CARTE, MAPEDIT and ZING). Some 35,000 census tract outlines for 241 SMSA's were digitized and edited at LBL. The color separation negatives for the maps were produced by the CARTE program on a COM (computer output to microfilm) device, enlarged at Bureau of the Census photographic shops, and printed by a commercial printer. These atlases demonstrate the high quality output available from computer cartography.

AVERAGE DAILY CALORIC INTAKE

for most countries of the world in 1970

CALORIES PER PERSON PER DAY

ABOVE	3,100
2,700 -	3,100
2,300 -	2,699
2,000 -	2,299
0 -	1,999
BELOW	0
(NO DATA AVAILABLE)	



DATA SOURCE -- WORLD DATA HANDBOOK
U.S. DEPARTMENT OF STATE
PUBLICATION 8665, AUGUST, 1972.

GBF SOURCE FILE -- WORLD DATA BANK I
MILLER PROJECTION

MAP COMPILATION -- INTERACTIVE CARTE

COMPUTER SCIENCE AND APPLIED MATH DEPT.
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