



WHAT'S HAPPENIN'



The Iowa Geological Survey's Geographic Information Systems Bi-Monthly Newsletter

This newsletter is being developed as an attempt to better inform employees of the Department of Natural Resources, and public users of GIS data, of what is going on in the world of GIS. The general format will be to introduce various datasets and shapefiles that have been developed, and possibly forgotten about or just were little known outside of the GIS Section. A discussion of datasets that will soon become available to users is also included. Finally a look at where people would like to go in terms of developing data and enhancing the GIS Section's ability to help users is presented. Please address any questions, concerns or suggestions regarding this newsletter to Chris Kahle at ckahle@igsb.uiowa.edu, or Andy Asell at aasell@igsb.uiowa.edu.

Exploration of Existing Data



Census 2000 – A whole lotta data!

There are many different social, economic and housing characteristics in the NRGIS Library's Cultural and Demographic folders that can be compared to the various Iowa Geological Survey and Iowa Department of Natural Resources existing geographic and facility related coverages/shapefiles.

Previous to Census 2000 work was done to collect information for Census 1980 and Census 1990. The files in these directories contain limited information, but do have a lot of population related information. This work is located in the Census_1980 and Census_1990 folders locally on the H:\ drive at DataNAD83/IA_State/Cultural_Demographic or via the web at http://www.igsb.uiowa.edu/nrgislibx/resultsFrame.asp?filename=IA_state\Cultural_Demographic&t=Cultural and Demographic Data

Census 2000 was different. Advances in technology, along with improvements in accessing data through the US Census Bureau's website, made the downloading and manipulation of data much easier than years past, although it can still be cumbersome to use. A complete collection of the data was undertaken. In addition to the usual Summary Files, the US Census Bureau also compiled four datasets to distribute that were profile type tables to make use easier. Shapefiles using data collected by others that looked at population over time, as well as agricultural characteristics (derived from the Agricultural Census), were also incorporated into the collection and reside in the Statewide Profiles directories.

There are three different groupings of datasets available in the library. These are the summary files, statewide profiles and a grouping of data performed by IGS staff that pulled out fields of interest from the many tables that made up the entire dataset. A brief explanation of each grouping follows.

SUMMARY FILES

Summary File 1 (SF1) contains detailed tables focusing on age, sex, households, families, and housing units. SF1 presents data in a hierarchical sequence down to the block level for many of its tabulations, but only to the census tract level for others.

Summary File 3 (SF3) consists of detailed tables of Census 2000 social, economic and housing characteristics compiled from the Census 2000 long-form questionnaire. SF3 presents data in a hierarchical sequence down to the block group for many of its tabulations, but only to the census tract levels for others.

The entire set of summary files are available by SF1 and SF3 breakdown in the 2000 Census Support Data section at H:\Data_NAD83\IA_State\Cultural_Demographic\Census_2000 locally or via the web at <http://www.igsb.uiowa.edu/nrgislibx/support.htm>

PROFILES

Statewide Profiles are a set of four tables (demographic, social, economic and housing) making up a collection of some of the more sought after information based on Census Bureau historical use. They provide quick access to data, although not as complete as the summary files. They do not require joining shapefiles to tables. They have already been joined to the County and Incorporated Places shapefiles and make up 8 separate shapefiles available in the Cultural and Demographic grouping under Statewide Data. Technical documentation and field definitions are available in Adobe Acrobat format locally at H:\Data_NAD83\IA_State\Cultural_Demographic\Census_2000\Support_Data or via the web at ftp://ftp.igsb.uiowa.edu/gis_library/IA_State/Cultural_Demographic/Census_2000/Support_Data/ProfileTD.pdf

FIELDS OF INTEREST

Fields of Interest is a collection of fields chosen from Summary Files by GIS staff from the overall collection of 115 tables of data available in SF1 and SF3. These fields address both housing (age of unit, size, taxes paid, phone service, vehicles, heating fuel), as well as population (gender, age, living situation, household size). Locally you can find technical documentation (Census Fields of Interest.doc) at H:\Data_NAD83\IA_State\Cultural_Demographic\Census_2000\Fields_of_Interest\Support_Data. For public users the following web link ftp://ftp.igsb.uiowa.edu/GIS_Library/IA_State/Cultural_Demographic/Census_2000/Fields_of_Interest/Support_Data/ will get you to Census Fields of Interest.doc, which has a listing of what tables are used from the Summary Files

Further questions regarding the Geological Survey's collection of Census Data should be directed to Chris Kahle, who can be contacted by phone at (319) 335-2068 or email at ckahle@igsb.uiowa.edu.

Where do I find the data?!?



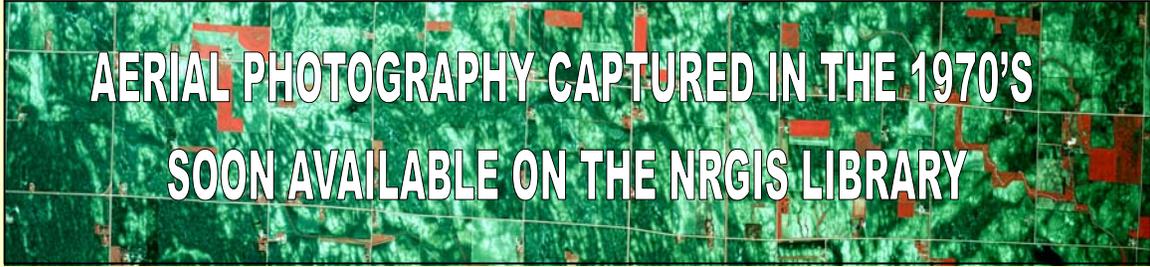
You can access the NRGIS Library at <http://www.igsb.uiowa.edu/nrgislibx/>

Block level and TIGER file shapefiles are available in the County-wide Data area at: http://www.igsb.uiowa.edu/nrgislibx/County_Frame.asp

Every other shapefile mentioned from above is available at: http://www.igsb.uiowa.edu/nrgislibx/resultsFrame.asp?filename=\\IA_state\Cultural_Demographic\&t=Cultural%20and%20Demographic%20Data

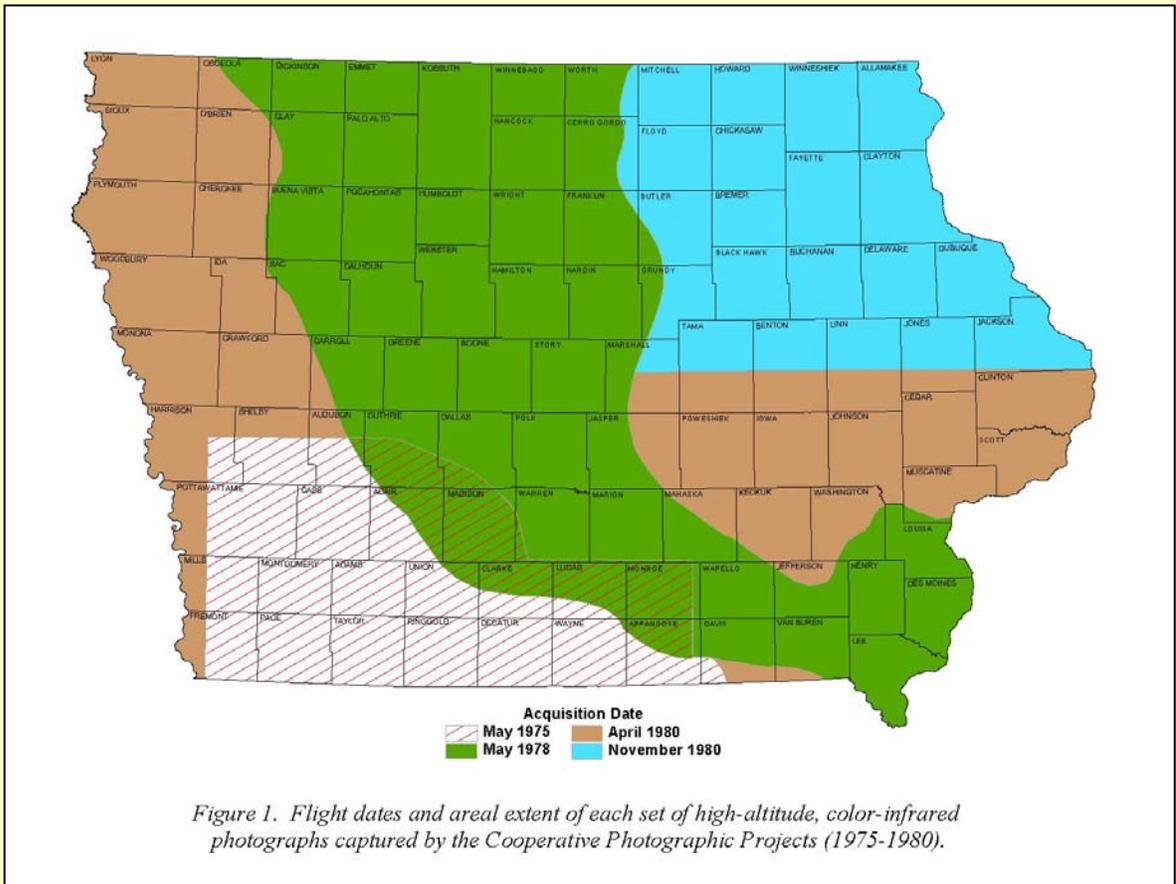
It is also highly recommended that users read the Census_Readme.doc, located at: ftp://ftp.igsb.uiowa.edu/GIS_Library/IA_State/Cultural_Demographic/Census_2000/Support_Data/

The US Census Bureau has also added two new collections of data sets Summary File 2 and Summary File 4. SF2 is a collection of 47 detailed tables having to do with population, kind of like our fields of interest collection. SF4 is a collection of 323 tables making up the sample data at tract level. There are currently no plans to bring this to the library, however users can find the data at <http://www.census.gov/main/www/cen2000.html>, under the Summary File 2 and Summary File 4 headers.



During a five and a half year period in the 1970's, assemblages of the former Soil Conservation Service (SCS)¹, the Rock Island District of the Army Corp of Engineers (ACE), the former Iowa Department of Soil Conservation (DSC)², and the Iowa Geological Survey (IGS) entered into several cooperative agreements to obtain high altitude, color-infrared (CIR) aerial photography for the state of Iowa. The imagery was to be used as a data source for a wide range of programs that pertained to issues such as water quality and quantity, soil erosion, flooding, and the mapping the surficial geology and land cover patterns of the state.

The effort to acquire complete coverage of the state was completed by four flight sessions over this five and a half year period (Figure 1).



¹ The Natural Resource Conservation Service (NRCS) was created from the SCS in 1994.

² In 1986, the DSC was moved into the Iowa Department of Agriculture and Land Stewardship (IDALS) and renamed the Division of Soil Conservation.

In the spring of 1975 the SCS provided funding and the IGS provided technical resources to obtain high altitude, CIR photos for south-central and south-western Iowa.

The SCS, ACE, DSC, and IGS worked collectively to obtain imagery covering the Des Moines River Basin located in the central and southeast portions of the state during the spring of 1978.

A legislative appropriation combined with funding from the SCS and IGS made it possible during the spring and fall of 1980 to obtain imagery of the remaining western and eastern portions of the state.

Until recently, the 9" x 9" (roughly 11 x 11 miles), 1:80,000 photo positive transparencies could only be viewed on light tables at the cooperators' main offices. With the evolution of scanning hardware, Geographic Information Systems (GIS), and remote sensing software as well as the increasing efficiency of data storage, efforts have begun at the IGS that will convert the photo positive transparencies into digital images that can be viewed with imaging, GIS, and remote sensing software products. Of the approximate 2200 original positives, approximately 35% have been scanned into *.tif format at a resolution of 600 dots per inch (dpi). In addition, around 6.5% of the images have been georeferenced with the remote sensing software ERDAS Imagine to a resolution of 3 meters (Figure 2). The scanned and georeferenced images will soon be available for download on the Natural Resources Geographic Information Systems (NRGIS) Library. In addition to the scanned and georeferenced images, a complimentary geodatabase file that depicts the location of the photos' centers and their scanning and georeferencing status will also be available. Scanning and georeferencing of the remaining photos will be completed as time permits. If you have questions or requests, please contact Andy Asell by phone at 319-335-1578 or via e-mail at asell@igsb.uiowa.edu.

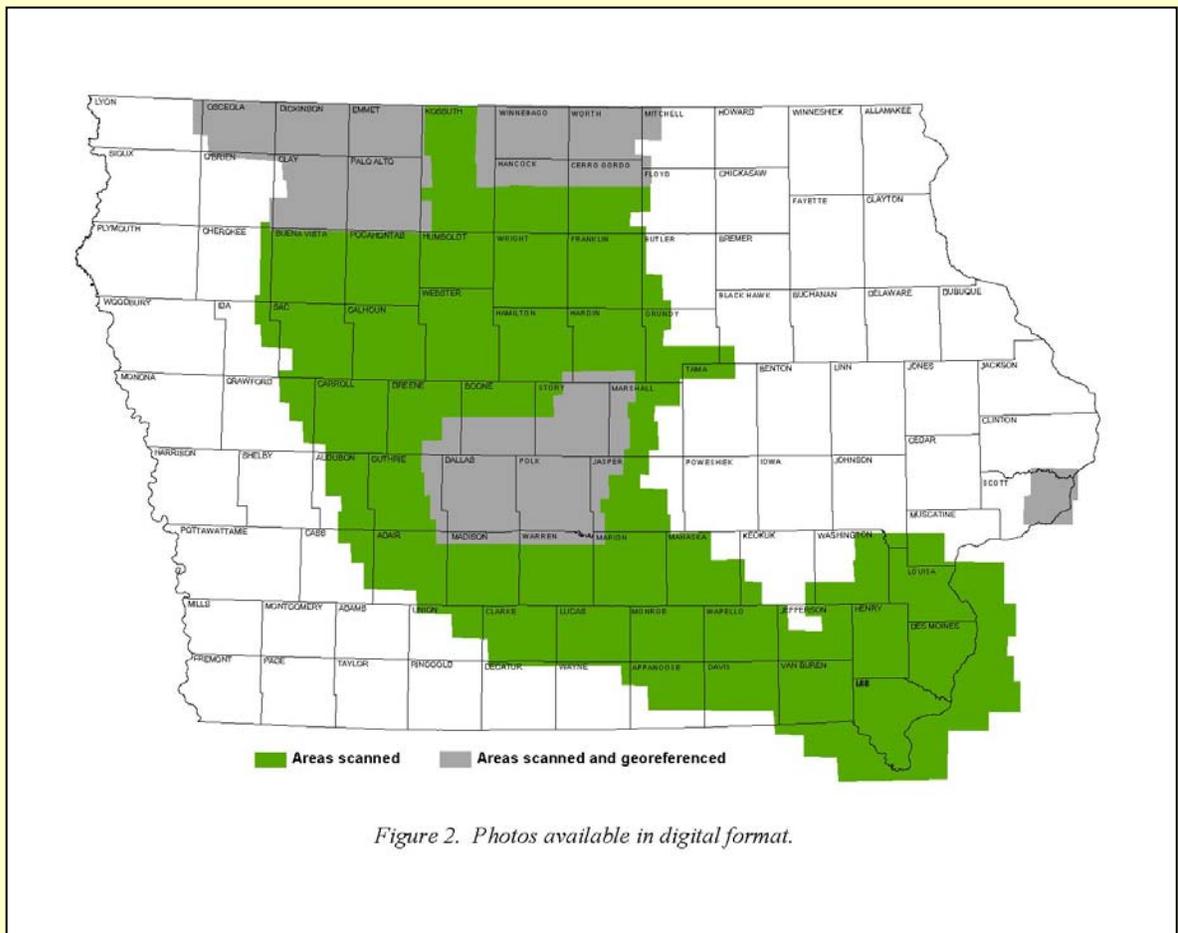


Figure 2. Photos available in digital format.

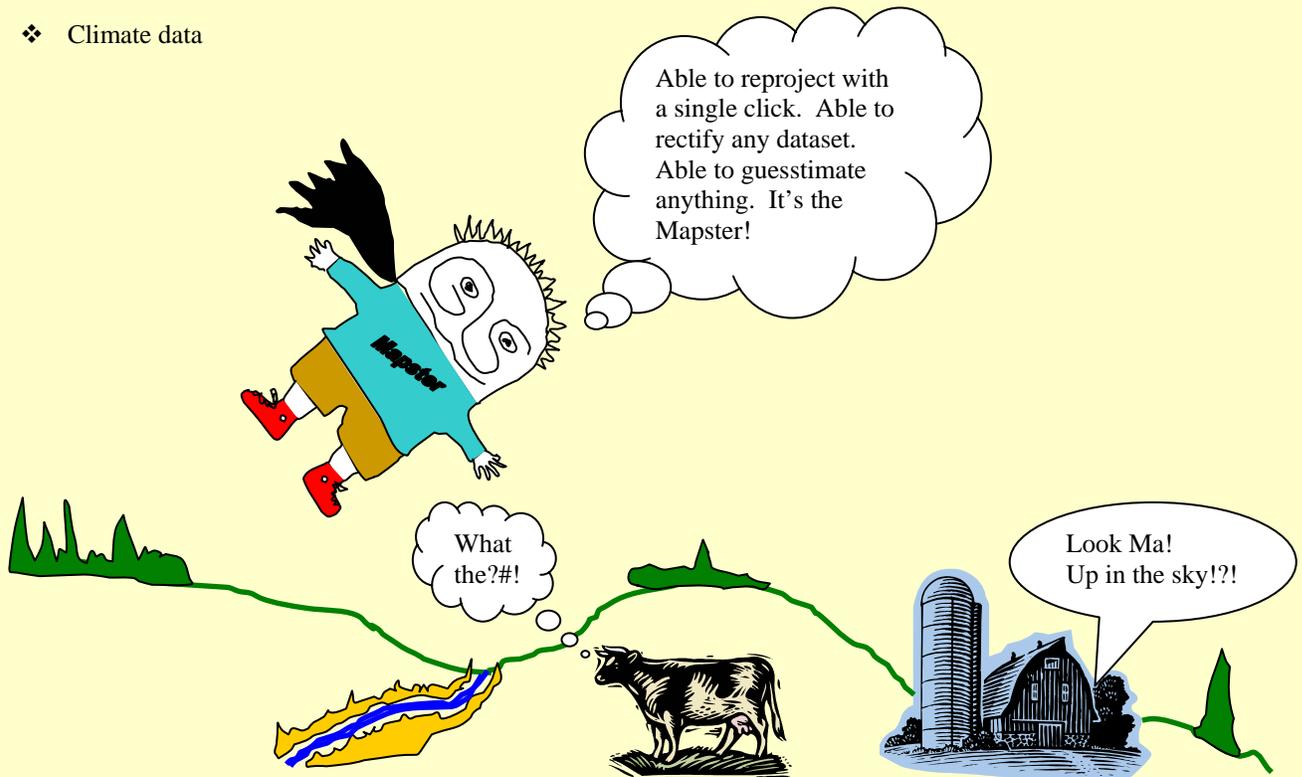


Wish List



The Wish List section presents ideas about what could be done to enhance our collection of data and our ability to better serve the public. If you have ideas that you would like to be included in future newsletters please let us know. Only by sharing our ideas do we know what people want or expect from this Section.

- ❖ Repository for all DTMs, DEMs and topographic contours available for state.
- ❖ Horizontal/vertical control marker data from USGS, NGS, DOT and local government
- ❖ Update our PLSS coverage (with local updates where available) at least to what's represented on DRGs.
- ❖ 1-2 meter color aerial image data from FSA
- ❖ Satellite image archive
- ❖ Historical aerial photography and maps (original survey records, plats, coal mines, 15' topos)
- ❖ Climate data



The friendly folk of Iowa catch their first glimpse of The Mapster. What adventures will they encounter together? Tune in next time to find out.