

3. *Adding depth.* HGIN will take NLKAART two steps further in geographical depth by digitizing *wijken* (neighborhoods) and *buurten* (blocks). Census data are available for this level of geographical detail for the years 1849 to 1971. For the most recent census years (1960 and 1971), the available sources are very good and very detailed. The existing sources for the census years between 1930 and 1956 are less well preserved, but they should still facilitate the creation of map layers for the entire country. The sources for the years before 1930 are very scattered. A pilot project will research the possibility of finding and digitizing the necessary information for about thirty municipalities back to 1849. The results of this pilot will be evaluated to see if it is possible (technically and financially) to recreate the sub-municipal boundaries of all Dutch municipalities for the census years between 1849 and 1930.
4. *Distribution through WWW.* The HGIN project aims to distribute maps and (census) data over the Internet. Different GIS servers will be tested before a choice is made.

The first results of HGIN will be available in 2006.

HGIN Resources Online

- HGIN home: <http://www.niwi.knaw.nl/nl/geschiedenis/projecten/toon> (in Dutch)

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HGIS Germany: An Information System on German States and Territories from 1820 to 1914

This project grew out of an interest in the construction of digital historical maps of the development of German and European states. Such maps, arranged in thematic strands and combined in series covering important benchmark years, have been placed on a mapserver that is already in operation at the Institute of European History (IEG) at Mainz, an independent research institute loosely connected with Mainz University. However, map series can only show a limited amount of information for selected dates at fixed scales, and it is generally not possible to attach a large variety of thematic data such as statistical or general historical information to them. A GIS solution, using an ArcGIS platform, was therefore designed in order to cover this gap, which, in a sense, then led to a new

project, "HGIS Germany," now being developed by the IEG in conjunction with the Institute for Spatial Information and Surveying Technology (i3mainz) at Fachhochschule Mainz, University of Applied Sciences. The project team is headed by Andreas Kunz (IEG) and Wolfgang Boehler (i3mainz). Major funding for an initial three-year phase has been secured from the Krupp Foundation of Essen, Germany.

HGIS Germany will be an historical information system focused on the development of Germany's states and territories during the nineteenth century. Powered by a GIS engine, it will enable the user to select specific territorial units—such as states, provinces, and districts—and explore their "life histories" over a period of 100 years. At the core of the system are data on changes in the spatial development of the units under investigation, basically the forty-one states comprising the German Confederation of 1815 and their successor states up to 1914. All boundary changes that occurred between and within these states (to the level of the governmental district—*Regierungsbezirk*) will be recorded in the GIS database on a yearly basis, creating a complete record of area changes for even the smallest of the German states or "statelets" at the time—of which there were quite a few prior to unification in 1871. Moreover, the design of the database and its input make it possible to display administrative linkages of the nearly 500 areas that comprised the German Confederation in 1820. This is done in a hierarchical fashion, providing a foundation for a comprehensive administrative history of Germany that will be far more flexible and more easily accessed than existing print histories.

Besides the spatial development of territories, the information system will offer additional geographical and contextual information related to the units, such as the name and location of the seats of government, the attachment of units to supra-national bodies such as customs unions, or whether an area was ruled by more than one state as a so-called "condominium." Moreover, special attention has been given to the recording of some 140 very small enclaves and exclaves, all of which can be accessed through the database in conjunction with some 130 administrative divisions of the 41 German states. At present, this data exists for 1820, but eventually such information will be provided on an annual basis from 1820 up to 1914.

The information system will serve as a platform for historical statistics as well. Numerical data will be integrated directly into the GIS database, so that scholars can use the data in statistical calculations or to generate thematic maps. Naturally, within a project of limited financial resources only selected data and limited functionalities can be placed at the disposal of the user. Initially, the system will include figures on population, textile production (to 1850), the production of iron and steel (as of 1850), the mining of coal and iron ore (as of 1850), and—in the realm of socio-political history—on the ruling families of the German monarchical states. The data on population and production will, if possible, be made available at the lowest territorial level now used in the system, that

is, for governmental districts. Finally, multimedia presentations on each state, as well as on administrative units and special territories, will soon be available from the project website. The presentations contain explanatory texts and visual documents such as historical maps, manuscript documents, images, tables, and graphs. The objects in these presentations will be integrated at the upper query level, as will the maps on the IEG mapserver.

HGIS Germany will become available as an Internet-based system. A prototype may be available as early as the fall of 2005. It will be accessible both through the IEG and the *i3mainz* websites. We may also create a more expert-oriented version, which would be available on demand through academic and/or institutional channels for all members of the growing historical GIS community.

HGIS Germany Resources Online

- Development of German and European states: <http://www.ieg-maps.uni-mainz.de>.
- HGIS Germany: Will be accessible through <http://www.ieg-maint.de> and <http://www.13maint.fh-mainz.de>.

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Historical GIS Initiative in Russia

Russian archives contain hundreds of thousands of large and medium-scale maps and related manuscripts describing administrative boundaries and the nature and economy of the country on a very detailed level. They belong to military surveys, surveys of forests, and estate plans from the eighteenth to the twentieth centuries. Every historian uses them to study localities. A wide spectrum of statistical data on nature, land use, population, economy, culture, and social life was gathered, processed, and stored by the government with the data's affiliation to the relevant administrative division and place-names. The demand for such data now comes from a broader scientific community, including political scientists, geographers, economists, ecologists, and linguists. Meeting all the needs of detailed, countrywide research based on these materials still exceeds human power.

There have been few attempts in Russia to integrate spatially referenced historical data. The main obstacles have been (1) the incompatibility of maps from different periods due to various scales, coordinate systems, projections, and mapping technology; (2) the difficulty of dealing with the great variety of textual data that can be spatially referenced; (3) changes over time in administrative boundaries; (4) variability in spelling