



Interactive Maps on War and Peace: A WebGIS Application for Civic Education

Lars Wirkus (1) and Alexander Strunck (2)

(1) Head of Section Data & GIS, Bonn International Center for Conversion - BICC, Germany (wirkus@bicc.de), (2) Databases & GIS, Bonn International Center for Conversion - BICC, Germany (strunck@bicc.de)

War and violent conflict are omnipresent—be it war in the Middle East, violent conflicts in failed states or increasing military expenditures and exports/ imports of military goods. To understand certain conflicts or peace processes and their possible interrelation, to conduct a well-founded political discussion and to support or influence decision-making, one matter is of special importance: easily accessible and, in particular, reliable data and information.

Against this background, the Bonn International Center for Conversion (BICC) in close cooperation with the German Federal Agency for Civic Education (bpj) has been developing a map-based information portal on war and peace with various thematic modules for the latter's online service (<http://sicherheitspolitik.bpb.de>).

The portal will eventually offer nine of such modules that are intended to give various target groups, such as interested members of the public, teachers and learners, policymakers and representatives of the media access to the required information in form of an interactive and country-based global overview or a comparison of different issues. Five thematic modules have been completed so far: *War and conflict*, *peace and demobilization*, *military capacities*, *resources and conflict*, *conventional weapons*.

The portal offers a broad spectrum of different data processing and visualization tools. Its central feature is an interactive mapping component based on WebGIS and a relational database. Content and data provided through thematic maps in the form of WebGIS layers are generally supplemented by info graphics, data tables and short articles providing deeper knowledge on the respective issue. All modules and their sub-chapters are introduced by background texts. They put all interactive maps of a module into an appropriate context and help the users to also understand the interrelation between various layers. If a layer is selected, all corresponding texts and graphics are shown automatically below the map. Data tables are offered if the copyright of datasets allows such use. All data of all thematic modules is presented in country profiles in a consolidated manner.

The portal has been created with Open Source Software. PostgreSQL and PostGIS, MapServer, OpenLayers, MapProxy and cmsmadesimple are combined to manipulate and transform global data sets into interactive thematic maps. A purpose-programmed layer selection menu enables users to select single layers or to combine up to three matching layers from all possible pre-set layer combinations. This applies both to fields of topics within a module and across various modules. Due to the complexity of the structure and visualization constraints, no more than three layers can be combined.

The WebGIS-based information portal on war and peace is an excellent example of how GIS technologies can be used for education and outreach. Not only can they play a crucial role in supporting the educational mandate and mission of certain institutions. They can also directly support various target groups in obtaining the knowledge needed by providing a collection of straight forward designed, ready-to-use data, info graphics and maps.