

A new System for the Efficient Publication of Heterogeneous Spatial Data and Communication of Research Results – The IMPETUS Interactive Digital Atlas (IIDA)

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The technical progress in the last decade has provided researchers with tremendous amounts of spatial data gained by satellites, model results in or point measurements in very high temporal resolution. This gives the possibility of detailed analysis and process understanding of eco systems like it was never possible in history.

But now there is a challenge to store and display the heterogeneous data with all the relevant metadata, so that after the end of a project the data, methods and metadata as well as the scientific results are not lost.

Another important task is the communication of the research results and the methods how the results are gained to other scientists, stakeholders and interested public. Diverse GIS can be employed for that task but they have some drawbacks. Often they are complex to learn, need to be installed on a computer, mostly they are not cost free and run only on a specific computer operation system.

After testing numerous programs it turned out that not one of them fulfils all the tasks. Therefore the IMPETUS Interactive Digital Atlas (IIDA) was created. In the IIDA all kind of data with spatial relevance (satellite data, modelling results, measurement data, all kind of maps) as well as other documents and even multimedia data (pictures, videos etc.) with all their relevant meta data can be stored in an efficient way.

The IIDA is programmed in JAVA, so it is independent from the computer operation system, doesn't need any installation on the computer and can be distributed without cost. As well it can be distributed via WWW with very little effort. An efficient programming enables the IIDA to deal even very big raster data sets in sufficient speed. Generic software tools have been developed to assist the authors in creating and distributing digital atlas online or offline, compile maps, create links between videos, images, and geo-objects via drag and drop. They are assisting as well by the proper lay out of the maps so that the creation of an atlas doesn't need high skilled operators.

It is possible to pre-define maps for the users (e.g. land use change with all relevant information like satellite images of different years, road pattern, settlements ect.), but it is as well possible that end user can create his own maps by combining the single information layers. For every dataset there is the possibility to store the metadata describing how the data or result had been gained. A useful feature is the possibility to choose different multi languages.

Manifold options and the user friendly concept make the IIDA an interesting tool for all institutions which are doing research in a spatial context.