

# PREVIEWING GIS DATA WITH GISLOOK ON MAC OS X

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## Abstract

*GISLook previews the content of vector and raster GIS files on Mac OS X. It is a plug-in that extends the operating system, allowing the user to inspect the content of various GIS file types without needing to start an application. GISLook and its complement plug-in GISMeta simplify and accelerate the handling of GIS data.*

## GISLook and GISMeta

GISLook and GISMeta are free plug-ins for Mac OS X 10.5 that preview GIS data in Finder windows. GISLook shows vector and raster GIS data as images, sized between small thumbnails and large full-screen representations. Three of the most common vector formats are currently supported: ESRI Shape, E00 ArcInfo Interchange, and ArcInfo Coverage. GISLook renders points, lines, and polygons from these formats with black dots, strokes, and filled areas. As for raster grids, such as digital elevation models or thematic data, GISLook previews the following formats: BIL, BIP, BSQ, ESRI ASCII Grid, ESRI Binary Grid, PGM, SRTM, Surfer Grid, and USGS DEM. High grid values are represented in white; low values in black.

A simple wizard guides the user through installation of the plug-ins. Afterwards, the Finder displays thumbnail icons for GIS files in one of the supported formats (Figure 1). GIS data is also displayed in so-called Cover Flow windows (Figure 2), Quick Look windows (Figure 3), and a few other applications that make use of the Quick Look technology. For a large preview, the user selects a document in the Finder and presses the space bar. The file will then instantly be viewable in a separate Quick Look window.

GISMeta is a complementary plug-in that displays the dimensions (width by height) of GIS raster grids in the Finder windows (Figure 1). GISMeta supports the same raster file formats as GISLook. The width and height of the grids are also accessible for Spotlight searches, i.e. the user can search for grids of a certain size using the standard search interface of the operating system.

## Programming

Operating system extensions, such as GISLook and GISMeta, can be written in C or a similar programming language. The developer must be acquainted with the API (application programming interface) that is provided by the operating system. In the case of GISLook, the API is part of Quick Look (a system level component of Mac OS X that is documented by Apple) so that third-party developers can extend it with other formats not natively supported. The developer must also be familiar with the

functionality that the extension provides. For GISLook this means deciphering the documentation of the supported GIS file formats. Fortunately, open-source libraries (such as ShapeLib or GDAL) exist that can read various GIS formats. They can be used for the vector formats to simplify coding. Raster grids, however, are often too large to fit entirely in the memory, because there is only limited memory space available for Quick Look plug-ins. Using GDAL for raster formats was therefore not possible and a custom code had to be developed that resamples the grids to a lower resolution without loading them completely into the memory.

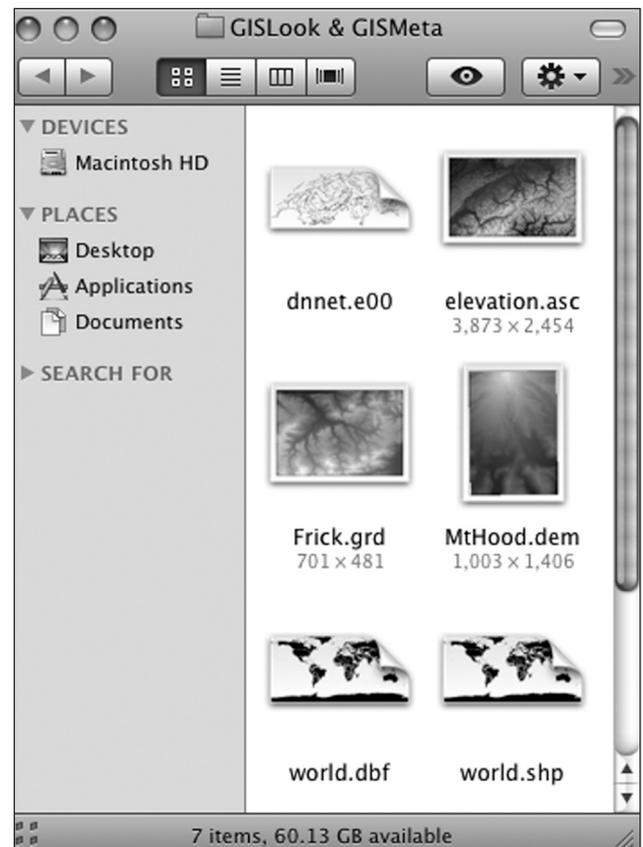


Figure 1 Finder window with GISLook providing preview of raster and vector data and GISMeta displaying the dimensions of grid data

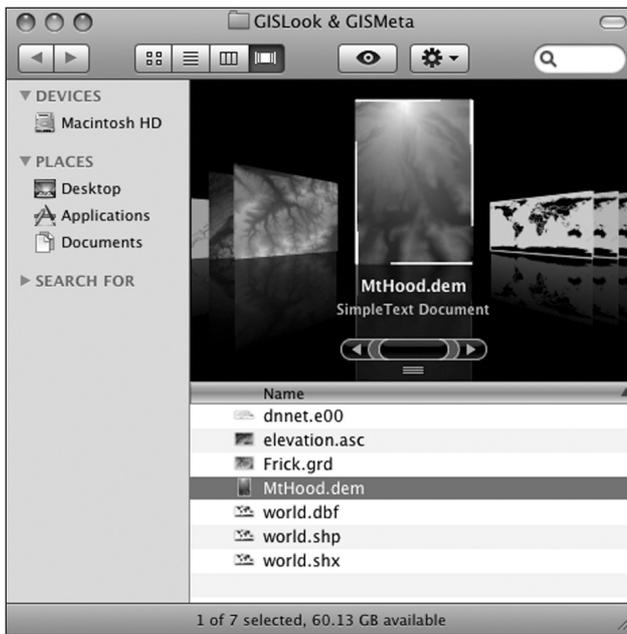


Figure 2 GIS data in a Cover Flow window

## Conclusion

GISLook and GISMeta were written because it was felt that working with GIS data could be simplified and accelerated. The free plug-ins have been downloaded a few thousand times so far and where time permits, additional file formats may be added to future versions.

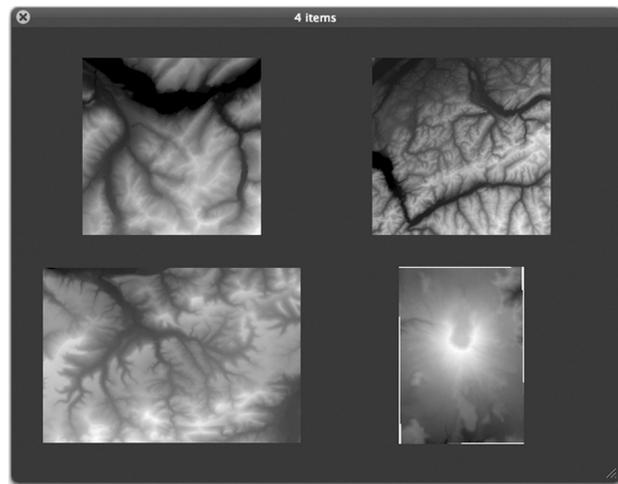


Figure 3 Previewing data with GISLook in a Quick Look window

## Download

GISLook can be freely downloaded from <http://jenny.cartography.ch/gislook/> and plug-ins for additional formats (e.g. Adobe Illustrator or EPS) can be found at <http://www.quicklookplugins.com/> or <http://www.qiplugins.com/>.

## Biography

Bernhard Jenny ([jenny@karto.baug.ethz.ch](mailto:jenny@karto.baug.ethz.ch)) works at the Institute of Cartography of ETH Zürich, Switzerland, where he has developed various software applications for cartographers.