

# Archiving Printed and Digital Atlases – How to keep the «Atlas of Switzerland» available for future generations

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## Abstract:

Printed and digital atlases are fine pieces of art – maps and figures are uniquely created and visualized from raw data, and specific tools or customized layouts and interfaces are designed to strongly convey a clear message to the user. During the whole atlas building and production process, authors are fully engaged in creating and updating the atlas concept, in data acquisition, in the cartographic visualization process and the technical workflow, in a lot of problems and publication issues, and in the project management.

However, throughout the whole period of atlas development, the pending problem of how to archive and make accessible such complex products as atlases after the active phase of their life cycle is not addressed. Since the national «Atlas of Switzerland», published in printed editions (1965–1997) and digital versions (2000– today), faces exactly that situation of lacking a consistent archiving strategy, we want to address the challenge by developing some practical guidelines for preserving and reusing atlas information.

Discussions with library experts at ETH Zurich showed various fields of actions and aspects, considering the main viewpoints of *external archiving* (for public use) and *internal archiving* (for expert use).

*External archiving* requires, for both printed and digital atlases, a systematic recording and filing of the atlas product. For cataloging, one can work according to standards, e.g., MARC21/RDA [<https://www.loc.gov/librarians/standards>] and ISO 19165-1:2018 preservation of digital geographic information [<https://www.iso.org/standard/67325.html?browse=tc>]. Moreover, digital atlases are confronted with the challenge of incompatibility of the technical atlas client with future hardware or software versions. Because digital atlases are often closed systems (on CD-ROM, DVD, online shell), a possible solution for the digital versions of the «Atlas of Switzerland» could be a client emulation, meaning that older (technically outdated) products can run (partly) on newer operating systems by means of dedicated software [<https://en.wikipedia.org/wiki/Emulator>].

*Internal archiving* of atlas material is even more demanding; it includes project management information (letters, contracts), database (geometries, attributes), multimedia (text, pictures, sound, etc.), metadata (sources), repositories (workflow description, tools and plugins), and software source code. In this context, the question of the preservation levels to be aimed at must also be asked [<https://www.tib.eu/en/tib/policies/preservation-policy>]:

- *Bitstream preservation:* This merely involves saving and preserving the bitstream (i.e., from atlas data/code to visualization) by monitoring and exchanging the storage media. No action is taken to support preservation at the logical file format level. Bitstream preservation is the lowest preservation level.
- *Logical preservation:* The long-term availability and legibility of objects is ensured at the file format level. Logical preservation ensures the executability of objects.
- *Semantic preservation:* Semantic preservation ensures long-term interpretability at the contextual level. Any context information required is recorded in accompanying metadata (representation information) and checked at regular intervals to ensure it is up to date. In line with migration at the logical level, metadata can be migrated and versioned at the contextual level.

Concerning the long-term project «Atlas of Switzerland», it is planned to preserve information on all three levels of long-term archiving. It is important to save not only the source code or a compiled version on the bitstream level, but also the file formats on a logical level. Finally, the semantic preservation seems to be most important, since the atlas project is evolving in time, techniques, and also staff members. Therefore, it is essential to preserve the history, the concepts and ideas, and also their realization/implementation into an atlas user interface, together with interactive tools and maps. In order to achieve these goals, a documentation of the look & feel of the former «Atlas of Switzerland» versions as well as a recording of the interactive atlas functionality seems to be a viable way.

In this contribution, we will present the current situation and some hands-on solutions for the «Atlas of Switzerland» project, and discuss future means like a storybook to link different kinds of material for archiving atlases.