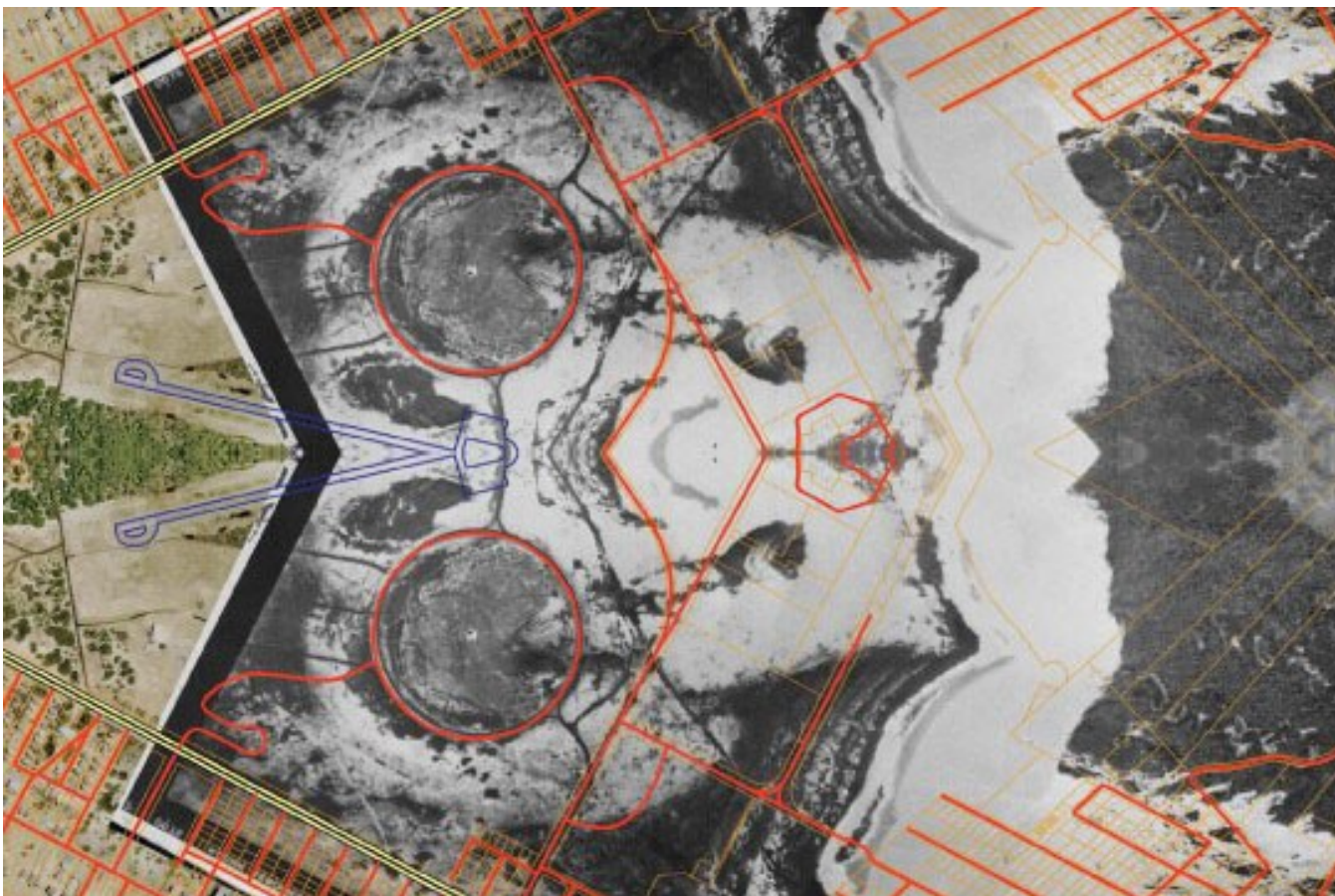# GEOSPATIAL DATA STEWARDSHIP: KEY ONLINE RESOURCES
AN NDSA REPORT

Modified image courtesy of the state of North Carolina.

February 2014	An Introduction to Geospatial Data Stewardship Resources

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EXECUTIVE SUMMARY

Legislators, funders and planners have long understood the value of using geospatial information in decision-making processes and planning efforts. These users are beginning to recognize the value of having access to older geospatial data as a resource to explore societal and environmental change over time. Compelling business uses such as tracking changes in population, land or vegetation over time or providing a cultural record of place to document economic change are spurring users to seek out and use superseded geospatial content.

This document lists online resources that highlight key concepts and practices supporting the preservation and stewardship of digital geospatial data and information. GIS practitioners take the initial preservation actions in the decisions they make regarding data creation and management. Librarians, archivists and museum professionals are often called on to support access and the long-term historical and temporal analysis of these same materials. The resources below offer a starting point to methods, tools and approaches across the information lifecycle to assist in understanding current best practices in the stewardship of geospatial data. These resources will be regularly updated at http://www.digitalpreservation.gov/ndsa/working_groups/geo-stewardship-resources.html.

A comprehensive list of resources can be found at Geospatial Data Preservation, a site hosted and maintained by the Center for International Earth Science Information Network (CIESIN) at Columbia University: http://geopreservation.org.

ABOUT THE NATIONAL DIGITAL STEWARDSHIP ALLIANCE

Founded in 2010, the National Digital Stewardship Alliance (NDSA) is a consortium of institutions that are committed to the long-term preservation of digital information. NDSA's mission is to establish, maintain and advance the capacity to preserve our nation's digital resources for the benefit of present and future generations. NDSA member institutions represent all sectors and include universities, consortia, professional associations, commercial enterprises and government agencies at the federal, state and local levels.

More information about the NDSA is available from http://www.digitalpreservation.gov/ndsa/.

URLs current as of 3/1/14

INTRODUCTIONS TO GEOSPATIAL DATA STEWARDSHIP

Resources that provide a high-level understanding of the issues involved in geospatial data stewardship.

- Geospatial Multistate Archive and Preservation Partnership (GeoMAPP) Final Report
  http://www.geomapp.net/docs/GeoMAPP_FinalReport_final_20111231.pdf

- Final Report of the National Geospatial Digital Archive (NGDA) and Federated Archive
  Cyberinfrastructure Testbed (FACIT) Projects http://www.ngda.org/docs/ngda-final-report.pdf

- North Carolina Geospatial Data Archiving Project Final Report
  http://digitalpreservation.gov/partners/documents/ncgdap_final_report.pdf

- DPC Technology Watch Report: Preserving Geospatial Data
  http://www.dpconline.org/component/docman/doc_download/363-preserving-geospatial-data-by-guy-mcgarva-steve-morris-and-gred-greg-janee

- GeoMAPP Geoarchiving Glossary http://www.geomapp.net/using.htm

GEOSPATIAL STEWARDSHIP BUSINESS PLANNING

Resources on the business and legal issues that must be addressed to secure sustainable support for geospatial stewardship activities.

- GeoMAPP GeoArchiving Business Planning Toolkit
  http://www.geomapp.net/publications_categories.htm#busplan

- GeoMAPP GeoArchiving Self-Assessment Tool
  http://www.geomapp.net/docs/GeoMAPP_GeoArchiving_SelfAssessment_20100914.xls

- State of Utah Business Plan For Archival Preservation of Geospatial Data Resources
  http://www.geomapp.net/docs/Utah_Business_Plan_Geospatial_%20Archive_2008.pdf

- Libraries as Distributors of Geospatial Data: Data Management Policies as Tools for Managing
  Partnerships http://muse.jhu.edu/journals/library_trends/v055/55.2steinhart.html

- Legal Agreements Governing Archiving Partnerships: The NGDA Approach
  http://www.ngda.org/docs/Pub_Sweetkind_Arch2009%20_09.pdf

GEOSPATIAL DATA APPRAISAL AND SELECTION

Resources that address the processes of appraisal and selection as they apply to geospatial data with long-term value. Appraisal is often associated with government archival and records management processes and concerns the identification of records or other information to determine the merits of long-term or permanent retention. Selection is typically associated with libraries and addresses the identification of materials for preservation because of their continuing value.

URLs current as of 3/1/14

- NDSA Issues in the Appraisal and Selection of Geospatial Data Report
  http://www.digitalpreservation.gov/ndsa/working_groups/documents/NDSA_AppraisalSelection_report_final102413.pdf

- Collection Development Policy for the National Geospatial Digital Archive
  http://www.ngda.org/research/Collections/NGDA_Collection_Development_Policy_11_06_final.doc

- FGDC: Managing Historical Geospatial Data Records: Guide for Federal Agencies
  http://www.fgdc.gov/library/factsheets/documents/histdata.pdf

- Collection Development Policy for Montana State Library
  http://apps.msl.mt.gov/About_the_Library/Policies/22_colldev.pdf

- Collection Policy - Cornell University Geospatial Information Repository
  http://cugir.mannlib.cornell.edu/CUGIRCollectionDevtPolicy_20060825.pdf

- Library of Congress Collections Policy Statements: Cartographic and Geospatial Materials
  http://www.loc.gov/acq/devpol/cartog.pdf

- California's Geospatial Records: Archival Appraisal, Accessioning, and Preservation
  http://salt.unc.edu/eLegacy/

GEOSPATIAL DATA DESCRIPTION

Resources that address the issues around efforts to describe geospatial data, especially as the description (metadata) deals with the need to document in order to support long-term preservation and use.

- Federal Geographic Data Committee: Geospatial Metadata http://www.fgdc.gov/metadata

- Center for International Earth Science Information Network : Data Model for Managing and Preserving Geospatial Electronic Records http://www.ciesin.columbia.edu/ger/DataModelV1_20050620.pdf

- GeoMAPP: Archival Metadata Elements for the Preservation of Geospatial Datasets
  http://www.geomapp.net/docs/GIS_OAIS_Archival_Metadata_v1.0_final_20110921.pdf

- An Investigation Into Metadata for Long-Lived Geospatial Data Formats
  http://www.digitalpreservation.gov/meetings/documents/ndiipp08/session7_hoebelheinrich_paper.doc

- GeoMAPP: Utilizing Geospatial Metadata to Support Data Preservation Practices
  http://www.geomapp.net/docs/GeoMetadata_Items_for_Preservation_2011_0110.pdf

GEOSPATIAL DATA MANAGEMENT, TRANSFER AND STORAGE

Resources that address the issues around the management of digital geospatial data, including the challenges of managing, storing and transferring digital geospatial data.

URLs current as of 3/1/14

- GeoMAPP Storage Primer
  http://www.geomapp.net/docs/GeoMAPP_Storage_Primer_final_20111231.pdf

- Grade: Scoping a Geospatial Repository for Academic Deposit and Extraction
  http://edina.ac.uk/projects/grade/

- GeoMAPP: Best Practices for Archival Processing for Geospatial Datasets
  http://www.geomapp.net/docs/GIS_Archival_Processing_Process_v1.0_final_20111102.pdf

- GeoMAPP: Geospatial Data File Formats Reference Guide
  http://www.geomapp.net/docs/GeoMAPP_Geospatial_data_file_formats_FINAL_20110701.xls

- NCSA/NARA Technical Report: Scientific Formats for Geospatial Data Preservation: A study of Suitability
  and Performance http://www.hdfgroup.org/projects/nara/Sci_fmts_and_geodata_HDF.pdf

- Advancing Geospatial Data Curation
  http://www.ukoln.ac.uk/events/pv-2005/pv-2005-final-papers/030.pdf

- GeoMAPP: Best Practices for Geospatial Data Transfer for Digital Preservation
  http://www.geomapp.net/docs/Geo_Data_Transfer_BestPractices_v1.0_final_20111201.pdf

- Library of Congress: "Bagger" Data Transfer Tool https://github.com/LibraryOfCongress/bagit-java

FURTHER INFORMATION

- Geospatial Multistate Archive and Preservation Partnership (GeoMAPP): A multi-year project supported
  by the National Digital Information Infrastructure and Preservation Program (NDIIPP) at the Library of
  Congress that explored ways to expand the capabilities of state governments to provide long-term
  access to geospatial data. http://www.geomapp.net/

- The National Geospatial Digital Archive (NGDA): A multi-year project supported by NDIIPP at the Library
  of Congress that explored the development of a collecting network for archival geospatial information.
  http://www.ngda.org/

- North Carolina Geospatial Data Archiving Project (NCGDAP): A multi-year project supported by NDIIPP at
  the Library of Congress that focused on the collection and preservation of digital geospatial data
  resources from state and local government agencies in North Carolina.
  http://www.lib.ncsu.edu/ncgdap/

- National Digital Stewardship Alliance Geospatial Content Work Group: Part of the NDSA Content
  Working Group interested in exploring challenges and solutions to the long-term preservation,
  stewardship and accessibility of digital mapping information.
  http://www.digitalpreservation.gov/ndsa/working_groups/content.html

- Federal Geographic Data Committee (FGDC) Users/Historical Data Working Group: The U/HDWG
  promotes and coordinate activities among Federal agencies who are primarily users of, not generators
  of, geospatial data. http://www.fgdc.gov/participation/working-groups-subcommittees/hdwg

URLs current as of 3/1/14