



United States
Environmental Protection
Agency

Office of Environmental
Information
Washington, DC 20460

Document ##
September 2015

EPA GeoPlatform Data Publishing Workflow Standard Operating Procedure

Draft Version 1.2, September 30, 2015

Ana Greene

Information Exchange and Services Division
Office of Information Collection

Lee Kyle

Chief, Information Services and Support Branch
Information Exchange and Services Division
Office of Information Collection

Harvey Simon

Geospatial Information Officer
Office of Environmental Information

Tom Scheitlin

Chief, Application Solutions Branch
National Computer Center
Office of Technology, Operations, and Planning
Office of Environmental Information

Document Change Control

The following is the document control for revisions to this document.

Version Number	Date of Issue	Author(s)	Brief Description of Change
v1.0	June 22, 2012	Jessica Zichichi, Suzanne Pierson, Torrin Hultgren, Innovate!, Inc.	Initial Draft
v1.1	January 11, 2013	Torrin Hultgren, Innovate!, Inc.	Updated URLs, revised terminology, added EPA GeoPlatform Online registration
v1.2	September 30, 2015	Steven Jett, Mettja Kuna, Torrin Hultgren, Suzanne Pierson, Innovate!, Inc.	Review and update to accommodate changes to publishing environments.

Table of Contents

Document Change Control.....i

1.0 Introduction 1

2.0 Scope and Applicability 1

3.0 Procedures..... 2

 Step 1: Understand the Data Publishing Options 2

 EPA GeoPlatform Hosting Environment 2

 EPA Data Download Sites 3

 EPA Clip N Ship Application 3

 EPA GeoPlatform Online 3

 Metadata Publishing: EPA Environmental Dataset Gateway (EDG) 4

 Step 2: Process and Implement in a Development Environment 4

 General Data Publishing Requirements 4

 General Data Publishing Recommendations 4

 Step 3: Deploy/Publish Content 5

 EPA GeoPlatform Hosting Environment –Deployment Steps 5

 EPA Data Download Site – Deployment Steps 5

 EPA Clip N Ship Application – Deployment Steps 5

 EPA GeoPlatform Online – Deployment Steps 5

 Step 4: Publish Metadata and Create Linkages 5

 Create Metadata 5

 Step 5: Review/Approve/Finalize Published Data 6

1.0 Introduction

EPA Regions, Program Offices, and Research Laboratories need cost effective and efficient ways to make GIS data available for distribution to individuals within the Agency, to Agency partners, and to the public. The need may range from relatively simple tasks such as making a GIS dataset available for download, to more complex tasks such as creating a web mapping application to deliver GIS information. The process of making these data available to a desired audience is referred to as “data publishing.”

The EPA GeoPlatform (see Figure 1) provides enterprise GIS resources to EPA offices to meet a variety of geospatial needs. EPA offices are encouraged to use GeoPlatform resources to publish their GIS data. These resources include servers and software designed to handle most data preparation and distribution needs. Data publishing resources, along with data reuse resources and established standard operating procedures, are collectively referred to as the “GeoPlatform Data Publishing Framework.” The Framework is supported by an experienced staff that will assist offices with data publishing requests.

EPA developed this Standard Operating Procedure (SOP) document to help guide individuals through the process of publishing data to EPA’s GeoPlatform. This document explains the process of preparing and publishing data to each of the four data publishing options:

- EPA GeoPlatform Hosting Environment
- EPA Clip N Ship Application
- EPA Data Download Sites
- EPA GeoPlatform Online

Individuals wishing to publish data to the EPA GeoPlatform must follow basic steps for preparing data and metadata, initiating data hosting requests, and overseeing data updates and maintenance. This SOP outlines those steps and describes the key components that comprise the GeoPlatform Data Publishing Framework.



Figure 1. The EPA GeoPlatform is a shared, One EPA technology and governance framework which encompasses a community of expertise as well as a suite of geospatial tools, data, and services that help coordinate and consolidate mapping activities, applications development, and data management across the Agency.

2.0 Scope and Applicability

This document describes the procedures to prepare GIS data and applications for publishing to EPA’s GeoPlatform. It does not provide information regarding publishing to other EPA environments (e.g., offices that use their own servers). Individuals using other means to publish data *may* use information in this document as a reference; however, different rules may apply to other environments outside of the EPA GeoPlatform.

3.0 Procedures

This section describes the steps required for publishing data to the EPA GeoPlatform Data Publishing Framework. This SOP details the **five** steps for publishing data.

1. **Understand the Data Publishing Options.** Understand the various EPA data publishing options.
2. **Process and Implement in a Development Environment.** Select the publishing option appropriate for your content, familiarize yourself with some general requirements and recommendations for preparing data for publishing, and prepare a development version for testing and troubleshooting your data/application.
3. **Deploy/Publish Content.** Follow procedures specific to the publishing option you have selected and work with the appropriate team (when necessary) to publish your data.
4. **Publish Metadata.** Follow established metadata procedures and work with your organization's EDG Steward to publish metadata in the EDG and create linkages between data and metadata.
5. **Obtain Approvals and Finalize Deployment.** Obtain the appropriate management approvals for your content based on your selected data publishing option.

Review Existing Data and Services

Before embarking on the process of developing and publishing your data, take some time to determine whether existing data and services meet your needs. You may search the [EPA Environmental Dataset Gateway \(EDG\)](#) to find existing datasets or services that other offices have developed. Using existing services within your applications can save significant resources by avoiding duplicative development and operational costs.

Step 1: Understand the Data Publishing Options

This section provides an overview of publishing options available within the EPA GeoPlatform. You may publish data in **one or more** formats depending on your organization's needs (e.g., use within your own applications) as well as the needs of your customer(s). Key considerations and limitations for selecting each option are presented in the sections below.

EPA GeoPlatform Hosting Environment

The EPA GeoPlatform Hosting Environment provides a shared space for EPA personnel to publish web services and simple, custom GIS applications. Internet and intranet production servers are available in the EPA GeoPlatform Hosting Environment and the process for publishing to intranet and internet servers is the same. When you publish services using ArcGIS for Server in the EPA GeoPlatform Hosting Environment, familiarize yourself the deployment process. If you need more information about ArcGIS for Server services, please visit [Esri's ArcGIS for Server website](#).

EPA Data Download Sites

The EPA Data Download Sites (Figure 5) allow EPA Regions, Program Offices, and Research Laboratories to make GIS data files available in web-accessible folders for others to download. Publishing data as one or more **downloadable files** provides others with easy access to your data.

If you wish to publish your data as a downloadable file at the EPA Data Download Sites, familiarize yourself with the EPA Data Download publishing process as explained at the [Environmental Dataset Gateway \(EDG\) website](#).

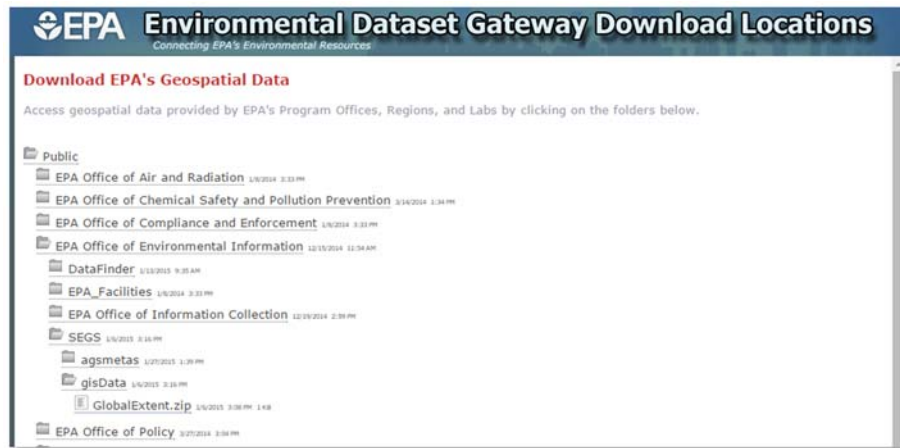


Figure 5: EPA Data Download Site web page.

EPA Clip N Ship Application

The [EPA Clip N Ship](#) Application (Figure 6) is an interactive data extraction tool that allows users to view your data on a map, zoom to and select area of interest, choose an output format, and download a copy of the data clipped to the area of interest. Clip N Ship provides users the benefit of being able to simultaneously extract multiple data layers for an area of interest, rather than downloading individual large data files for an entire region, state, or the nation. An overview of frequently asked questions and how to use the Clip N Ship Application is available at the [EDG website](#).

EPA GeoPlatform Online

EPA GeoPlatform Online allows you to create and share interactive maps for geographic visualization. EPA GeoPlatform Online is continuously improving, with additional functions and tools developed on an ongoing basis. Please visit [Esri's webpage](#) to see the latest improvements.

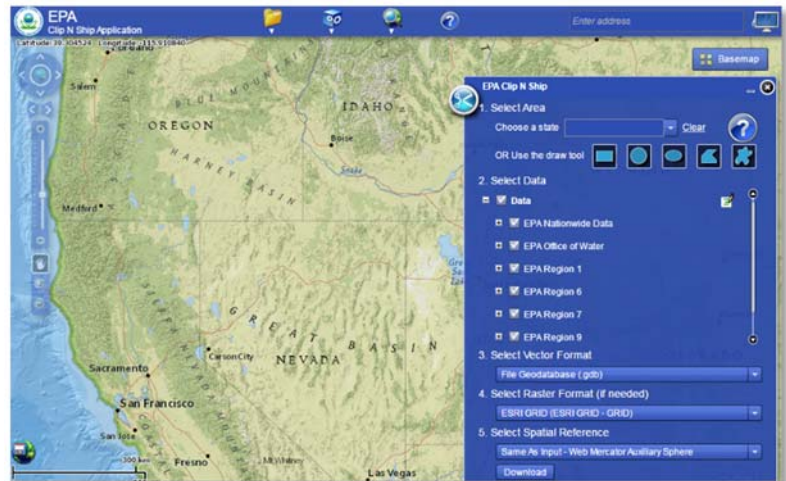


Figure 6: EPA Clip N Ship Application.

Metadata Publishing: EPA Environmental Dataset Gateway (EDG)

EPA's EDG (Figure 8) allows EDG Stewards to publish metadata describing their datasets and web services so that they are discoverable and accessible to Agency personnel and external users. Data Publishers are required to contribute metadata to the EDG for all resources published to the EPA GeoPlatform. For more information, please visit the [EDG website](#).

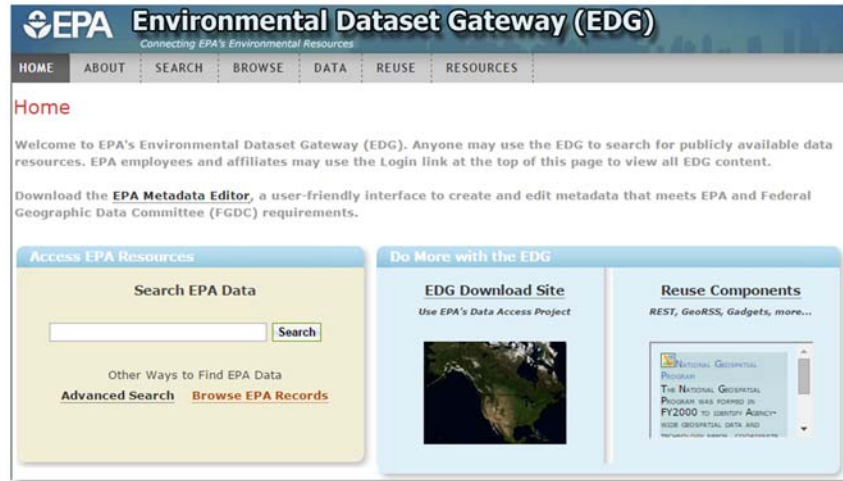


Figure 8: EPA Environmental Dataset Gateway (EDG) home page.

Step 2: Process and Implement in a Development Environment

This section describes how to develop content that meets publishing requirements and how to initiate GeoPlatform hosting requests. Once you have selected your data publishing option(s), GIS Analysts/Developers will create resources for development and testing purposes. The Analyst/Developer will then work with EPA National Geospatial Support (NGS) Team personnel assigned to deploy content to the selected publishing location(s). The development phase is the time to initiate hosting/publishing requests so that when your content is ready, the paperwork and access requirements are complete.

During the development phase, keep in mind that you are ultimately making published data available to a wide range of users. Below are some publishing requirements and recommendations to guide data creation efforts. These are universal best practices for all EPA GeoPlatform Data Publishing Framework publishing options. Additional guidance on metadata preparation may be found in the [EPA Metadata Style Guide](#).

General Data Publishing Requirements

- Data must be approved for release by your organization.
- Data must be accompanied by complete EPA metadata, and the metadata must be published to the [EPA EDG](#).

General Data Publishing Recommendations

- Utilize user-friendly naming conventions for datasets.
- Create user-friendly attribute names and values.
- Provide documentation for attribute names and code lists within the dataset's metadata.
- Use the [EPA Metadata Style Guide](#) for detailed instructions on metadata creation, web service documentation, and EPA GeoPlatform Online documentation.

Step 3: Deploy/Publish Content

This section describes how to **deploy** content to the EPA GeoPlatform. Follow the steps below to publish the content to your selected environments.

EPA GeoPlatform Hosting Environment –Deployment Steps

Generally, deploying and publishing content to the EPA GeoPlatform Hosting Environment follows this procedure:

1. **Create development version.** GIS Analyst/Developer develops and tests web service(s) and/or an application on their local server or on a GeoPlatform Sandbox Server. Once satisfied, the Analyst/Developer delivers the content to the NGS Team.
2. **Create staging version.** The NGS Team re-creates the development version on a staging server within the EPA GeoPlatform Hosting Environment, following the instructions provided by the Analyst/Developer. The staging version allows the Analyst/Developer and other interested individuals to review the web service(s) and the application and make any necessary adjustments, in consultation with the NGS Team assigned to their project.
3. **Create production version.** Once the GIS Analyst/Developer and his or her manager are satisfied and all approvals have been obtained, the NGS Team will create the live version of the web service(s) and/or application that is ready to be used by your audience.

EPA Data Download Site – Deployment Steps

The detailed steps for placing downloadable data packages at the [EPA Data Download Site](#) are located at the [EDG website](#). You may decide to visit the [EDG Stewards web page](#) to identify the EDG Steward in your organization responsible for metadata contribution to EDG. If you have questions about this process, please email the EDG Team at edg@epa.gov.

EPA Clip N Ship Application – Deployment Steps

The detailed steps for contributing your data to the [EPA Clip N Ship Application](#) are located at the [EDG website](#). If you have questions about this process, please email the EDG Team at edg@epa.gov.

EPA GeoPlatform Online – Deployment Steps

As a logged-in user in EPA GeoPlatform Online, you can create web services, tile services, and web maps/applications/Story Maps that you may share with other GeoPlatform Online users and with the public. See the detailed information at Esri's [ArcGIS Online Help](#) for assistance with creating EPA GeoPlatform Online content.

Step 4: Publish Metadata and Create Linkages

Create Metadata

EPA-compliant metadata must accompany data published in the EPA GeoPlatform Data Publishing Framework. Metadata preparation processes vary based on the data publishing options you choose. Refer to the [EPA Metadata Style Guide](#) to determine which metadata preparation guidance you should follow, and follow the instructions in that document for the data publishing option(s) you choose:

EPA GeoPlatform Hosting Environment web service publication requires:

- [FGDC CSDGM metadata](#), published in EDG, describing the web service and how to access it
- [Web service metadata](#) at the service's REST page, describing the data in the service
- [EPA GeoPlatform Online content item details](#), on the service's GeoPlatform Online details page, describing the data in the service (when service is added as a content item)

EPA Clip N Ship data publication requires:

- [FGDC CSDGM metadata](#), published in EDG, describing the Clip N Ship dataset

EPA Data Download publication requires:

- [FGDC CSDGM metadata](#), published in EDG, describing the Data Download package

EPA GeoPlatform Online requires:

- [EPA GeoPlatform Online content item details](#) describing characteristics about the content item.

Step 5: Review/Approve/Finalize Published Data

Before the data publishing process is finished, it is important to review the final product on EPA production servers for completeness. Although you may have reviewed the content in the staging environment and approved the move to the production environment, it is important to review the final product and send a confirmation email to the NGS Team that deployed your data to the production servers to provide a final approval of the content or let them know if problems exist.