DATIM User Guide (version 17.0)

Chapter 4: SIT User Guide

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This guide for users of DATIM is supplied by:

Resource Information Group (RIG)
Ecosystem Management Coordination (EMC)
USDA Forest Service (FS)
Washington, DC

Prepared by University of Nevada, Las Vegas.

The full DATIM User Guide Series is available at the RIG-DATIM internet site.

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Preface

The Design and Analysis Toolkit for Inventory and Monitoring (DATIM) is a suite of web-based software tools designed by a team of USDA Forest Service resource inventory and forest planning specialists affiliated with the National Forest System (NFS) and the Forest Inventory and Analysis (FIA) National Program. The purpose of DATIM is to improve natural resource inventory and monitoring designs and data analyses by providing nationally consistent tools with access to forest inventory databases.

This document represents Chapter 4 of the DATIM User Guide Series for version 17.0, and is focused on the Spatial Intersection Tool (SIT). To access the other chapters in the series, please visit the DATIM webpage (opens in browser) hosted by the U.S. Forest Service’s Resource Information Group.

Who This Guide is For

SIT’s primary users include FIA and NFS analysts involved in land management planning and forest monitoring and assessment. Additional user groups include other Forest Service affiliates (e.g., State and Private Forestry), other federal agencies, state agencies, academic institutions, industrial entities, non-government organizations, and other interested parties.

Conventions Used

A number of text and formatting conventions are used in this guide for decorative purposes. Text conventions include various typefaces used to identify terms and other special objects. These special typefaces include the following:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Italic</em></td>
<td>A glossary term or phrase when first introduced.</td>
<td>A dataset is a collection of estimation units and data points that are collectively exhaustive and mutually exclusive.</td>
</tr>
<tr>
<td>Convention</td>
<td>Meaning</td>
<td>Example</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Underline</td>
<td>A navigation link encountered in the user interface.</td>
<td>From the SIT Home page, select Click here to download the SIT Addin File.</td>
</tr>
<tr>
<td>Monospace</td>
<td>Text that you type.</td>
<td>Enter “My Custom Attribute“ in the title field.</td>
</tr>
<tr>
<td>25% lighter bold</td>
<td>Indicates a label that does not prompt user input or action, such as a page title.</td>
<td>The Set Up Intersection page includes multiple steps requiring your input.</td>
</tr>
<tr>
<td>Border/Fill</td>
<td>Indicates a button that you select.</td>
<td>Select the Spatial Intersection button.</td>
</tr>
<tr>
<td>Bold</td>
<td>Indicates a field name or label prompting user input.</td>
<td>In the Attribute Name field, enter a descriptive name for your attribute.</td>
</tr>
<tr>
<td>Bold italic</td>
<td>Indicates an option available for selection in a drop-down list.</td>
<td>In the Export to CSV dropdown, select Yes.</td>
</tr>
<tr>
<td>Web hyperlink</td>
<td>Provides a hyperlink to a resource on the web (opens in browser).</td>
<td>To access the full User Guide Series, visit the DATIM webpage.</td>
</tr>
<tr>
<td>Document hyperlink</td>
<td>Provides a hyperlink to another location in this document (i.e., a header).</td>
<td>Continue to Step 4: Set Up Intersection.</td>
</tr>
<tr>
<td>SMALL CAPS</td>
<td>Keyboard key that you press.</td>
<td>Hit ENTER on your keyboard to continue.</td>
</tr>
</tbody>
</table>
Formatting conventions are used to alert you to Notes, Tips, and Cautions:

<table>
<thead>
<tr>
<th>NOTE:</th>
<th>Notes point out things you should be aware of to make better sense of the application.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIP:</td>
<td>Tips suggest faster, easier ways to accomplish tasks.</td>
</tr>
<tr>
<td>CAUTION!</td>
<td>Cautions are given to help you avoid potential pitfalls that can result in loss of work or other difficulties.</td>
</tr>
</tbody>
</table>

Illustrations Used

This guide uses figures (i.e., screen captures) to illustrate information discussed in the text. All figures contain alternative text in accordance with accessibility guidelines. Please note that images used in this document reflect information available at the time of writing and may be slightly different than what the user sees.

Responsible Organizations

Support for DATIM is provided by database and software developers employed by the USDA Forest Service in partnership with the University of Nevada, Las Vegas (UNLV). The DATIM project is co-sponsored by the Ecosystem Management Coordination (EMC) Director, and by the National Inventory and Monitoring Application Center (NIMAC) which is part of the FIA program.

The Organizations responsible for DATIM are:

USDA Forest Service
Ecosystem Management Coordination
Sidney R. Yates Federal Building
201 14th Street, SW
Washington, DC 20024

USDA Forest Service
Forest Inventory and Analysis
Sidney R. Yates Federal Building
201 14th Street, SW
Washington, DC 20024
Assistance

Information and documents related to DATIM are available on the [DATIM webpage (opens in browser)](https://www.data.gov) hosted by the Resource Information Group. Users are welcome to report bugs and other issues with functionality, usability, or workflow by sending an email to [SM.FS.datim@usda.gov (opens email client)](mailto:SM.FS.datim@usda.gov). Suggestions for improvements to the application are also welcome.

Login Support

If you need help logging into DATIM using *e-Authentication*, visit the USDA eAuthentication [Contact Us webpage (opens in browser)](https://www.eauthentication.usda.gov) or [Frequently Asked Questions (FAQ) webpage (opens in browser)](https://www.eauthentication.usda.gov/faq).

System Requirements

To use DATIM, your computer should have a supported operating system and the required hardware components and software resources.

**Supported browsers**

Google Chrome, Microsoft Edge, Firefox (Internet Explorer is not supported)

**Hardware requirements**

- Memory/RAM: 2 GB for SIT when using ArcGIS on your local machine
- Disk Space: 4 GB for SIT when using ArcGIS on your local machine

**Software requirements**

- ArcGIS 10.8 or higher
- High-speed (broadband) Internet connection
- ActiveX Filtering must be disabled
- Microsoft Silverlight 5.0 or higher
Permissions by User Role

DATIM user roles are permission-based and determine which tools and functionality are available to you, as shown in Table 2 below. Guests represent users not logged-in. When you register as a DATIM user, you are granted the Registered User role by default. If you believe you qualify for a specialized user role, please contact the DATIM team at sm.fs.datim@usda.gov (opens email client). The appropriate Forest Service administrator will be contacted to verify whether the role may be assigned. If you have more than one user role assigned to you, the role having the highest permission level for any given feature will be applied.

Table 2. SIT permissions based on user role

<table>
<thead>
<tr>
<th>Roles</th>
<th>Can Use Real Coordinates</th>
<th>Can Bypass Security Check (250-Acre Rule)</th>
<th>Role Can Be Granted to NFS Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered User</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Forest Administrator</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Regional Administrator</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>SIT Specialist</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Spatial Data Services</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>FIA Staff</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Introduction to SIT

DATIM’s Spatial Intersection Tool (SIT) provides a geospatial interface (GI) for users to access natural resource inventory datasets and intersect plot-based data with geospatial layers via ArcMap. It is integrated with the Analysis Tool for Inventory and Monitoring (ATIM) to enable you to focus your ATIM analysis on a geographic area of interest and to summarize the results of your analysis reports using map-based attributes.

In this chapter you will learn the following:

- How to install the SIT Add-In in the ArcMap Toolbar.
- How to create a point feature class.
- How to create a county feature class.
- How to set up an intersection.
- How to use SIT attributes in ATIM.
- How to manage and share your SIT attributes.
Getting Started

To begin your work in SIT, you must first launch the DATIM application and login. You will then install the SIT Add-In, either on your desktop (if you have a local ArcGIS installation) or in ArcMap in Citrix. Finally, you will launch SIT and establish a connection to DATIM.

Step 1: Login


2. Select the **Launch DATIM** button located near the top of the webpage. This will load DATIM in the same browser tab (Figure 4-1).

![Figure 4-1. Launching DATIM.](image)

3. Select **Login** in the upper-right corner of the header. When the Login dialog pops up, select the **eAuth Login** button (Figure 4-2). This will open the USDA eAuthentication webpage where you can enter your PIV/CAC PIN or login with a password.
4. From the DATIM Home page, select the **Spatial Intersection** button on the main page, or select **SIT** in the navigation menu (Figure 4-3).

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**Figure 4-2. Logging in.**

**TIP:** If you do not have an eAuth account, you can request one by visiting the [USDA eAuthentication webpage](https://www.usda.gov) (opens in browser).

---

**Figure 4-3. Navigating to SIT from DATIM Home.**
5. The SIT Home page opens with instructions on how to get started using SIT, depending on whether you have ArcGIS installed on your PC or whether you will be using ArcMap in Citrix (Figure 4-4). Either scenario requires installation of the SIT Add-In file.

![Spatial Intersection Tool Addin (SIT)](image)

**Welcome, Gretchen**

SIT is available to all users with eAuthentication accounts. If you do not have an eAuth account, you may request one from the USDA. [Click here](#) to request a new USDA eAuthentication account.

Please note: The SIT add-in targets the version of ArcGIS currently in Citrix.

To use SIT using your local ArcGIS installation:

1. Save the SIT Addin file to your local machine. [Click here](#) to download the SIT Addin File.
2. Place the SIT Addin file in the C:\Users\<USER NAME>\My Documents\ArcGIS\AddIns\Desktop\XX.XX directory, where XX.XX is the version of ArcGIS on your machine.
3. Launch ArcMap on your local machine, then proceed with steps 2-12 below, under To use SIT in Citrix. For step 5 in that section, browse to the folder named above in step 2.

To use SIT in Citrix:

1. Launch ArcMap in Citrix.
2. Go to Customize > Add-In Manager.
3. In the Add-In Manager dialog, click the Options tab.
4. Click the button labeled Add Folder.
5. Browse to the folder T:\FS\Reference\GeoTool\Agency\Application\ArcGIS****\Add-Ins and select SIT. Click OK.
   - Replace the ArcGIS**** folder with the ArcMap version you are using.
6. Click the button labeled Customize.
7. In the Customize dialog, select the Commands tab.
8. In the Categories section, find and select DATIM.
9. Drag the tool name SIT to any available toolbar.
10. Click the Close button.
11. Launch SIT by clicking the SIT icon in the DATIM - SIT toolbar.
12. Click Login to log in with your eAuthentication username/password or with LincPass. eAuth will return you to SIT after you successfully log in.

Figure 4-4. SIT Home page.

6. Continue to **Step 2: Install the SIT ArcMap Add-In**

**Step 2: Install the SIT ArcMap Add-In**

**Desktop installation**

If you have a local installation of ArcMap, you will need to download the SIT Add-In file to your desktop:
1. From the SIT Home page, select the link that states “Click here to download the SIT Addin File.”

2. Once the download is complete, move or copy the file to the following location:
   C:\Users\<USER NAME>\My Documents\ArcGIS\AddIns\DesktopXX.XX.

NOTE: XX.XX is the version of ArcGIS on your machine. (If you do not have ArcGIS on your machine, the SIT Add-In cannot be used.) Each time a new version of the SIT Add-In file is released, you will need to follow these steps to replace the old SIT Add-In file with the new one.

3. Launch ArcMap and skip to the instructions to Finish installation.

**Citrix installation**

If you do not have a local installation of ArcMap and are a Forest Service user, begin by launching ArcMap in the Citrix environment:

1. Login to the VDC Citrix StoreFront (opens in browser) environment using your Active Directory username and password (Figure 4-5).

   ![Figure 4-5. Citrix login.](image)

2. From the Categories tab, navigate first to National Applications and then to Natural Resource Manager (NRM). Select ArcMap 1071 to open ArcMap (Figure 4-6).
Figure 4-6. Launching ArcMap from the NRM Directory.

NOTE: ArcMap may also be launched within Citrix from some other folder directories, but the version number will need to be checked. Versions less than 1080 cannot use SIT version 17.0.

Finish installation

Whether you are installing the Add-In to ArcMap on your desktop or in Citrix, finish the installation by doing the following:

1. In the ArcMap standard toolbar, select Customize. From the dropdown menu, select the Add-In Manager option (Figure 4-7).

Figure 4-7. The Customize menu options in ArcMap.

2. From the Add-In Manager window, select the Options tab. Toggle the radio button to enable the option to Load all Add-Ins without restrictions and then select the Add Folder button (Figure 4-8).
3. Browse to the folder containing the SIT Add-In.

   **If working with a local ArcMap installation on your desktop:** Navigate to and select the folder `C:\Users\<USER NAME>\My Documents\ArcGIS\AddIns\Desktop XX.XX` and then select the **OK** button (Figure 4-9).
If working in the Citrix environment: Navigate to and select the folder T:\FS\Reference\GeoTool\agency\Applications\ArcGIS ****\AddIns\SIT and then select the OK button (Figure 4-10).

![Figure 4-10. Browsing to the SIT Add-In file from ArcMap in Citrix.](image)

NOTE: The ArcGIS **** folder will be the name of the ArcMap version currently hosted on Citrix (such as ArcGIS 1071).

4. Continue to **Step 3: Add the SIT Add-In to the ArcMap Toolbar**.

**Step 3: Add the SIT Add-In to the ArcMap Toolbar**

To use SIT, you will need to add the SIT add-in to the ArcMap toolbar. The instructions for doing this are the same whether you are working with ArcMap on your desktop or within Citrix.

1. From the ArcMap standard toolbar, select **Customize** and then the **Customize Mode** option (Figure 4-11).
2. In the Customize window, select the **Commands** tab. Select **DATIM** from the **Categories** list, and then drag the **SIT** icon from the **Commands** list into an existing menu or toolbar in ArcMap (Figure 4-12).

3. Continue to **Step 4: Launch SIT**.
Step 4: Launch SIT

1. From the ArcMap toolbar, launch SIT by selecting the SIT icon. A window will open with information about prerequisites for SIT.

2. If required layers are already loaded, select **PROCEED** to continue.

3. A NOTICE will pop up with information about fuzzed plot coordinates and how to obtain permission to access actual real plot locations (Figure 4-13).

![Figure 4-13. SIT Notice.](image)

4. Select the **Continue** button.

5. Continue to **Step 5: Establish the Connection to DATIM**.
Step 5: Establish the Connection to DATIM

1. Ensure that PROD is selected from the Connection drop-down (Figure 4-14). If you are using an earlier version of the SIT Add-In, PROD will be the only available connection option (Figure 4-14).

![DATIM login required to run SIT.](image)

2. You will be redirected to the eAuthentication page where you must provide your eAuth login credentials.

Once the SIT Add-In is installed in ArcMap and you are connected to the production (PROD) server, you are now ready to start Working With SIT.
Working With SIT

Before launching the SIT Add-In, existing layers to be used for your intersection must be loaded into the ArcMap session. At a minimum, this will be the shapefile or layer that you intend to intersect with plot locations. The intersection will require a point layer of fuzzed plot locations. If you intend to use real coordinate intersections, it will also require a county layer with a concatenated state and county FIPS (Federal Information Processing Standards, Census Bureau) code attribute.

The last two layers can be created within SIT, but they can also be used for subsequent intersections. If they are not to be created within SIT, they need to be loaded in the ArcMap session prior to launching SIT.

There are a few things you should note about the shapefile or layer that you intend to intersect with plot locations:

- If features (polygons) are selected in your intersection layer when you perform the intersection, the intersection will only be performed on selected features. If no features are selected, the intersection will be performed on all features.

- Layers with overlapping polygons present some issues with intersections in SIT. Under some circumstances, these intersections fail. If the intersection does not fail, SIT may have assigned attributes from only one of the overlapping polygons. Alternatively, SIT may assign attributes from both polygons to the plot, creating two separate records for the plot. This calls for careful interpretation of results when creating reports in ATIM using the SIT attribute. It is important to understand the implications of using layers with overlapping polygons. You may wish to edit, or have edited, the layer to eliminate overlapping polygons in a way that provides results that you, as a user, find most useful.

**NOTE:** SIT does not support geodatabases at this time.

Step 1: Welcome

After logging in, the SIT Welcome page will open (Figure 4-15). You will see your **Username** (this may be your DATIM numerical identifier if you have not provided a friendly name) and your user role.
1. If you are assigned multiple roles in DATIM, you can select from among them using the Selected Role dropdown (Figure 4-16). (See Permissions by User Role to help you determine which role to use.)

   ![Selected Role: Regional Administrator](image)

   Figure 4-16. Select Role.

2. Select the Start Wizard button to proceed to Step 2: Create Point Feature Class.

**Step 2: Create Point Feature Class**

After starting the wizard, you will advance to the Create Point Feature Class screen (Figure 4-17). Please note that SIT does not support geodatabases at this time. If you already created a point feature class and loaded it in the ArcMap session, you may skip this step.
Figure 4-17. Step 2: Create Point Feature Class.

1. Use the Select Analysis list box to select the ATIM analysis dataset on which to base the point feature class creation (Figure 4-18). By default, the picklist will include Standard Analyses only. To select a custom analysis, use the dropdown to filter the list by Custom Analyses. (Custom analyses include those created by and owned by you, or created by another user and shared with you.)

   ![Select Analysis](image)

   Figure 4-18. Select Analysis.

2. Use the Select Feature Class list to select a feature class that matches the layer’s projection (Figure 4-19). The options available for your selection are derived from the Table of Contents in the ArcMap session. Note that any layers added to ArcMap after SIT is launched will not be displayed in SIT.
3. Select the **Create Point Layer (Fuzzed Coordinates)** button (Figure 4-19).

4. A **Save As** screen will pop up. Create a file name for your shape file (or accept the default) and a file destination. SIT will then create the point layer using the fuzzed coordinates. This may take a few moments.

5. Once the point layer is created, it will be added to your ArcMap session in the **Table of Contents** (Figure 4-20). It will also appear in applicable SIT lists going forward.

6. Continue to **Step 3: Create County Feature Class**.
Step 3: Create County Feature Class

After creating a point feature class, you will advance to the Create County Feature Class screen (Figure 4-21). If you intend to perform the intersection using fuzzed coordinates, or if you already have a suitable county feature class loaded in the ArcMap session, you can skip this step.

Figure 4-21. Step 3: Create County Feature Class.

1. Use the Select State(s) list to select one or more States on which to base the county feature class creation (Figure 4-22). Multiple States may be selected for custom analyses.
2. Use the **Select Feature Class** list to select the feature class to use for the projection (Figure 4-23).

![Select Feature Class](image)

Figure 4-23. Select Feature Class.

**NOTE:** To successfully complete a spatial intersection, all layers used must be in the same projection.

3. Select the **Create County Layer** button.

4. A Save As screen will pop up. Create a file name for your shape file (or accept the default) and a file destination. SIT will then create the county layer for your selected state. This may take a few moments.

5. Once the county layer is created, it will be added to your ArcMap session and appear in the Table of Contents (Figure 4-24). It will also appear in applicable SIT lists going forward.
6. Note that the layer will have an attribute called ST_CNTY_CO that is the State and County FIPS codes concatenated as text. For the example above (Figure 4-24), the State FIPS code for Missouri is 29 and the County FIPS code for Boone county (in the central part of the State) is 19. The ST_CNTY_CO attribute for Boone county is 29019. (Many States contain counties with 3-digit FIPS codes, and so a leading ‘0’ is required.)

7. Continue to Step 4: Set Up Intersection.

**Step 4: Set Up Intersection**

1. When you select Set Up Intersection, a popup will display with information about the 250-acre rule. The 250-acre rule is a security check that is run to ensure that actual plot locations are not inadvertently disclosed through a summary report (Figure 4-25). Select the OK button to dismiss the popup.
2. You will now proceed to the **Set Up Intersection** screen (Figure 4-26).

![Spatial Intersection Tool (SIT)](image)

**Figure 4-26. Step 4: Set Up Intersection (upper portion of page).**

3. The **Set Up Intersection** step includes multiple fields requiring your input. Use the vertical scrollbar to ensure that you complete each step (Figure 4-26).

**TIP:** When setting up intersection, always enter an informative **Attribute Name** and **Intersection Description**. Also be sure to select the analysis that matches your point feature class.

4. Enter an **Attribute Name** in the text box (Figure 4-27). The attribute will be made available to you for reporting in ATIM. It is important to use a name that enables you or anyone you share the attribute with to properly interpret ATIM reports using your SIT attribute.

![Attribute Name](image)

**Figure 4-27. Attribute Name.**

5. Enter an **Intersection Description** in the text box (Figure 4-28). That description will be added to in the Analysis Summary (metadata) in ATIM. You can use this field to capture
useful information, such as the steps used in the intersection, which will help you and others to properly interpret and title ATIM reports.

**Figure 4-28. Intersection Description.**

6. Using the **Select Intersection By Analysis** list, select the analysis that will be associated with the SIT intersection (Figure 4-29). You must select the same analysis you used to create the point layer. By default, the picklist will include **Standard Analyses** only. To select a custom analysis, use the dropdown to filter the list by **Custom Analyses**. (Custom analyses include those created by and owned by you, or created by another user and shared with you.)

**Figure 4-29. Select Intersection By Analysis.**

**TIP:** If you selected a **Standard Analysis** but your point layer is from a custom analysis, you can return to **Step 2: Create Point Feature Class** and choose a custom analysis using the **Custom Analyses** list option.

7. Scroll down to access the remaining steps of the **Set Up Intersection** step (Figure 4-30). Those next steps involve determining whether to use real plot coordinates and whether to apply the 250-acre rule, as well as selecting your export settings. The options available to you depend on your available and selected user role.
In order to use actual plot coordinates in your intersection, you must have one of the following user roles: FIA Staff, Spatial Data Services, Regional Administrator, SIT Specialist, or Forest Administrator.

**Fuzzed Coordinate Intersections**

If your user role is *Registered Users*, the *Use Real Coordinates* default option of *No* and the *Use 250 Acre Rule* default option of *Yes* will be enforced. When those options are displayed in a lighter font, it means that you cannot change them (Figure 4-31).

![Figure 4-31. Default settings for real coordinates and the 250-acre rule.](image)

**NOTE:** Regardless of your user role, you can opt to keep the default settings and create an intersection using fuzzed plot locations and the 250-acre rule.
1. Select your export CSV settings. If desired, use the **Export to CSV** dropdown to select **Yes** to export your intersection results to a comma-separated values (CSV) file (Figure 4-32). This option is available only when using fuzzed plot locations.

![Select Export CSV Settings](image)

**Figure 4-32.** Select Export CSV Settings.

**NOTE:** When performing an intersection using fuzzed coordinates, a point shapefile of your results will automatically be created and loaded into ArcMap.

2. Scroll down the form to access the next portion of the **Set Up Intersection** page (Figure 4-33).

![Select Point Feature Class](image)

**Figure 4-33.** Select Point Feature Class, Feature Class, and Attribute for intersections.
Note that as you make your selections, they are added to right-hand panel of the SIT tool.

3. Select the point feature class that you want to use in your intersection (Figure 4-34). Remember that this must match the analysis that you selected earlier.

![Figure 4-34. Select Point Feature Class.](image1)

4. Select the feature class that you wish to intersect with the points (Figure 4-35).

![Figure 4-35. Select Feature Class.](image2)

5. Select the attribute from the feature class that you want assigned to the plots and loaded to DATIM (Figure 4-36).

![Figure 4-36. Select Attribute.](image3)
6. Scroll down the form to access the next portion of the **Set Up Intersection** page (Figure 4-37). You will see the county feature class layer and attribute selection options. If you are using fuzzed coordinates, those options will be unavailable to you. The feature layer is needed only for real coordinate intersections.

![Figure 4-37. Unavailable county feature class selections for fuzzed coordinate intersections.](image)

**NOTE:** If you do not have a county feature layer in your ArcMap session, or if you have additional feature layers in your ArcMap session, SIT may pick the “wrong” layer to show greyed out with fuzzed coordinates. This will not affect your intersection.

7. Select the **Run Intersect** button. It may take a few minutes to run the intersection, depending on the number of plots in your point feature class and how many of them intersect your attribute feature class.

8. An **Intersection Message** will popup to confirm that your attribute was created and informing you of the number of plots uploaded to DATIM (Figure 4-38). Select the **Go to DATIM** button if you want to use your new SIT attribute in ATIM. Otherwise, select the **Return to SIT** button.
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Figure 4-38. Intersection Message for a fuzzed location intersection.

Note: If your intersection feature class does not cover all the points in your point feature class, only plots that intersect will be returned to DATIM. In this case, the Missouri_2009-2013_Fuzzed point feature class consists of 7,516 plot locations. Only 971 of them intersected the MO_FSwtrshd_cond feature class. This results in the need for careful interpretation of results when using your SIT attribute in ATIM.

9. If you selected the option to return to SIT, look at the ArcMap Table of Contents. You will see a new point shapefile with your intersection results applied to fuzzed coordinates (Figure 4-39). This shapefile can be useful for checking results and other display purposes. Note that it only includes plots that intersected the feature layer of interest.

Figure 4-39. Fuzzed coordinate intersection results displayed in ArcMap.

In the Citrix environment, this shapefile is saved to a temporary file folder that gets cleaned out daily. If you want to keep it and continue using it, you will need to
copy/move it to a permanent file space. If working on Desktop ArcMap, you may want to make sure it is in a useful or known file space.

**Real Coordinate Intersections**

To perform a real coordinate intersection, you must have one of the following user roles: FIA Staff, Spatial Data Services, Regional Administrator, SIT Specialist, or Forest Administrator.

To bypass the 250-Acre Rule, you must have one of the following user roles: SIT Specialist, Spatial Data Services, and FIA Staff. There are strict guidelines on data availability and the use of SIT intersections that bypass the 250-acre rule. Generally, even if you have a user role that allows you to create an intersection that bypasses the security check, you cannot share it with a user who does not have the appropriate user role.

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**CAUTION!** If you have a user role that grants you access to real plot coordinates and the ability to bypass the 250-acre rule, if you go twelve months without logging into DATIM, your account will be locked. If this happens, contact the DATIM team by email at sm.fs.datim@usda.gov to request that your account be unlocked.

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To create an intersection using real plot coordinates:

1. From the **Set Up Intersection** screen, use the **Selected Role** dropdown to select a user role that enables you to perform a real coordinate intersection (Figure 4-40).

   ![Selected Role](image)

   **Figure 4-40. Selected Role.**

2. Under the **Select Real Coordinate Settings** label, set the **Use Real Coordinates** option to **Yes** (Figure 4-41).

   ![Select Real Coordinate Settings](image)

   **Figure 4-41. Select Real Coordinate Settings.**
3. If you have a user role that allows you to bypass the 250-acre rule, you can set the **Use 250 Acre Rule** option to *No*. Otherwise, leave it set to *Yes* (Figure 4-42).

![Select Real Coordinate Settings](image)

**Figure 4-42. Opting to use real coordinates and bypass the 250-acre rule.**

4. Select the point feature class that you want to use in your intersection (Figure 4-43). Remember that this must match the analysis that you selected earlier.

![Select Point Feature Class](image)

**Figure 4-43. Select Point Feature Class**

5. Select the feature class that you wish to intersect with the points (Figure 4-44).
6. Select the attribute from the feature class that you want assigned to the plots and loaded to DATIM (Figure 4-45).

7. Beneath the **Select County Feature Class** label, use the dropdown to select the county feature layer (Figure 4-46).

8. Beneath the **Select FIPS Code Attribute** label, use the dropdown to select the attribute options. If your county layer was created in SIT, the selected attribute will default to ST_CNTY_CO (Figure 4-47).
9. Select the **Run Intersect** button.

**NOTE:** The county layer created by SIT will have generalized boundaries designed for small-scale maps showing large areas. This can cause some fuzzed locations to fall outside the county layer. These plots will not be processed in a real coordinate intersection. If you have access to a county layer with more detailed boundaries that has a concatenated State and County FIPS code or the attributes to create one, you can use your own.

10. Processing times for intersections using real coordinates and the 250-acre rule are typically lengthy. If desired, you can set the **Receive Email Updates** field to **Yes** and then enter your email in the **Email** field (Figure 4-48). You will then receive an email notification when the intersection is complete.
11. Whether or not you opt to provide an email, click the **Submit** button to proceed.

12. A processing indicator will display. The initial status will indicate “Performing Real Coordinate Intersection.” The action in progress will be displayed at the bottom of the message (Figure 4-49).

![Performing Real Coordinate Intersection](image)

**Figure 4-49. Processing indicator for the real coordinate intersection.**

13. When the status changes to “Intersection Sent to DATIM,” you can close SIT. You can also leave SIT open to receive an update when the attribute is ready in DATIM ready (Figure 4-50).

![Intersection Sent to DATIM](image)

**Figure 4-50. Confirmation that the intersection was sent to DATIM.**

**TIP:** If you receive an **Intersection Message** that confirms the attribute was created but also states that, “actual coordinates are not enabled in DATIM,” there may be a problem with your Citrix profile. Contact the Customer Help Desk at 1-866-945-1354 and ask that your Citrix profile be reset.

14. Wait to be notified that your SIT attribute is ready in DATIM. If you provided an email address, you will receive an email that includes the processing results, including the number of plots processed, the number of plots that failed to meet the 250-acre rule, and the number of plots that were uploaded to DATIM (Figure 4-51).
15. If you left SIT open, you will see an “Intersection Message” with the processing results, including the number of plots processed, the number of plots that failed to meet the 250-acre rule, and the number of plots that were uploaded to DATIM (Figure 4-52).

16. Select the Go to DATIM button to use your new SIT attribute in ATIM or access it in the Custom Object Manager (COM). Otherwise, select the Return to SIT button. (See DATIM User Guide Series, Chapter 2 (opens in new tab) for instructions on how to use your SIT attribute in ATIM reports.)

NOTE: Some, but not all, of the processing results will be available in DATIM. If you are interested in the number of plots processed, the number of plots that failed to meet the 250-acre rule, and the number of plots uploaded to DATIM, you should either wait for the “Intersection Message” in SIT or opt to receive an email notification.

This concludes the section on working with SIT. The next section in this guide focuses on using SIT attributes in ATIM.
Using SIT Attributes in ATIM

To use your SIT attributes in DATIM’s Analysis Tool for Inventory and Monitoring (ATIM), you must use the **Reports: Static Analyses** option. Also referred to as “ATIM Static,” this feature uses a wizard-based approach to guide you through the process of creating analysis reports. When using SIT attributes in your ATIM report design, it is important that you select the same analysis that you used when you created your attribute in SIT. If you select an incompatible analysis (or more than one analysis), your SIT attributes will not be available for selection in the report format options.

When creating reports in ATIM Static, the following three workflows will enable you to use your custom SIT attributes in the reports:

1. **Copy and customize a standard report.** ATIM offers standard reports that represent “popular” population estimates and report formats. You can select a standard report, create a copy of it, and then customize it. For example, you can start with the standard report “Area of forest land, in acres, by ownership class and reserved status class” and then select the option to create a copy. You can then create your own custom report design. Maybe you want to change the row variable from “ownership class” to your custom SIT attribute. Or you might want to add dataset filters, add a circular retrieval filter, or select specific run options.

2. **Customize a report from scratch.** You can bypass the selection of a standard report and go straight to the custom report wizard. When you design a report from scratch, you will name and describe your report, select your estimate attribute, format the report by selecting your page, row and column variables, apply desired dataset filters, and configure your run options.

3. **Run custom analysis reports.** If you previously created custom reports using SIT attributes and saved them, you can access those again as “custom analysis reports.” You can re-run them, continue customizing them, and access custom reports shared with you by other users.

For complete instructions on using ATIM, see the **DATIM User Guide Series, Chapter 2: ATIM User Guide**. That chapter is available for download on the **DATIM webpage (opens in browser)**.
Managing SIT Attributes

DATIM’s My Dashboard (Saved Objects) feature enables you to access your collection of SIT attributes and other custom objects (e.g., analyses and reports). Any SIT attributes shared with you by other users are also available in the dashboard. You can view information about your SIT attributes and share them with others. You can also delete SIT attributes that you own or that you have Read/Write privileges for. You must be logged in to use this feature.

Step 1: Open My Dashboard (Saved Objects)

To open My Dashboard (Saved Objects):

1. Login to DATIM.

2. From the DATIM Home page, select the Manage Objects button from the main page, or select My Dashboard (Saved Objects) in the navigation menu (Figure 4-53).

Figure 4-53. Launching My Dashboard (Saved Objects).
3. When the dashboard opens, select the **SIT Attributes** tab (Figure 4-54).

![My Dashboard (Saved Objects)](image)

**Figure 4-54.** The SIT Attributes tab in the dashboard of saved objects.

4. Continue to **Step 2: Select an Attribute**.

**Step 2: Select an Attribute**

To select an attribute:

1. In the **Available Attributes** panel, you have the option to use the **Filter by Type** dropdown to select **My Attributes** or **Attributes Shared with Me** (Figure 4-55). (The **All Attributes** default setting will present all attributes available to you.)

![Available Attributes](image)

**Figure 4-55.** Available SIT attributes in the dashboard of saved objects.

2. Select an attribute from the list box in the **Available Attributes** panel.

3. Continue to **Step 3: Manage the Attribute**.
Step 3: Manage the Attribute

The following options are provided for managing your attribute: view attribute details; modify the attribute description; and delete the attribute.

Option 1: View Attribute Details

When an attribute is selected, you can view details about it in the Selected Attribute Details pane (Figure 4-56), including the attribute name and description, the intersected analysis name and description, the intersected analysis type, the location type (fuzzed or swapped), whether the 250-acre rule was applied, and the number of intersected plots. It also includes information about when the attribute was created and by whom.

![Figure 4-56. Available Attributes and Selected Attribute Details in the dashboard.](image)

Option 2: Modify Attribute Description

If you either own the attribute or have Read Write access to a shared attribute, you can modify the **Attribute Description** using the associated text box (Figure 4-57). Select the **Save** button to save your changes.
**Option 3: Delete the Attribute**

If you are the attribute owner or have Read Write access to a shared attribute, you can delete the attribute. To delete the attribute, select the **Delete** button (Figure 4-58). You will be prompted to confirm or cancel this action.

**NOTE:** If the SIT attribute being deleted is shared with other users, associations between the attribute and shared users will be removed to enable the deletion.

**Step 4: Manage Attribute Sharing**

If you are the attribute owner or have Read Write access to a shared attribute, you can share the attribute with individual users or with a team of multiple users. If you have Read Only access, you can view the sharing panel, but you cannot share the analysis with other users. You can also manage previously shared attributes, such as deleting shared users or teams or by changing the access type.

To share an attribute:

1. From the DATIM Home page, select the **Manage Objects** button from the main page, or select **My Dashboard (Saved Objects)** in the navigation menu.
2. When the My Dashboard (Saved Objects) page opens, select the SIT Attributes tab (Figure 4-59).

![My Dashboard (Saved Objects)](image)

**Figure 4-59. Selecting the SIT Attributes tab.**

3. From the Available Attributes panel, filter by the appropriate type (e.g., My Attributes or Attributes Shared with Me) and then select an attribute (Figure 4-60).

![Available Attributes](image)

**Figure 4-60. Filtering and selecting an attribute.**

4. Select the Share button located in the Selected Report Details panel (Figure 4-61).
5. From the Share Selected Attribute dialog, determine whether you want to share the attribute with individual users, or with a team of users. (The top half of the form is used to share with individuals, and the bottom half is used to share with teams (Figure 4-62).)
Option 1: Share With Users

This option allows you to share a custom attribute with other users, and to manage the sharing privileges assigned to those users.

To share a custom attribute with another user:

1. Use the Add User dropdown to select a user (Figure 4-63). Users are identified by their friendly name (if available), separated by their user identifier.

![Figure 4-63. Selecting a shared user.](image)

2. Use the Grant Access dropdown to indicate the permission type the shared member will have (Figure 4-64). The options include: (1) **Read Only**, which enables the member to use the attribute in reports but not modify the attribute description or delete it; and, (2) **Read/Write**, which allows the user to use the attribute in reports, modify the attribute description, delete the attribute, and share the attribute with others.

![Figure 4-64. Granting user access.](image)

3. Select the + (plus/add) button (Figure 4-65) to add the shared member to list of shared users.

![Figure 4-65. Adding a shared user.](image)

Option 2: Manage Shared Users

Each user with whom the attribute is shared is listed in the Share With Users panel. To stop sharing an attribute with a user, or to edit the permission level they are granted:
1. To change the permission level granted to a user, toggle the access button in the **Actions** column (Figure 4-66). You can identify the current permission level in the **Access** column.

![Figure 4-66. Access Toggle](image)

2. To stop sharing the attribute with a user, select the trash button in the **Actions** column (Figure 4-67).

![Figure 4-67. Remove Shared User](image)

**Option 3: Share With Teams**

The bottom half of the Share Selected Attribute form provides options for sharing the selected attribute with teams, and for managing the sharing privileges assigned to teams and team members.

To share an attribute report with a team:

1. Use the **Add Team** dropdown to select a team (Figure 4-68).

![Figure 4-68. Selecting a shared team.](image)
TIP: To create a new team, select Manage teams from the DATIM navigation menu. It is listed under Admin Tools. For detailed instructions on how to create a new team, see DATIM User Guide Series, Chapter 6: Administrative Tools.

2. Select the + (plus/add) button to add the shared team to the Share With Teams panel (Figure 4-69).

Option 4: Manage Shared Teams

Each team with which the attribute is shared is listed in the Share With Teams panel. Each shared member is also added to the Share With Users panel so that you can stop sharing with users individually or modify the permission level granted to them.

To stop sharing an attribute with a team:

1. In the Share With Teams panel, select an trash button located in the Actions column (Figure 4-70).

Option 5: Manage Shared Team Members

Each member of the team is listed individually in the Share With Users panel. To stop sharing an attribute with an individual team member, or to edit the permission level they are granted:

1. Select the trashcan button in the Actions column to stop sharing an attribute with a team member (Figure 4-71).
2. To change the permission level granted to a team member, toggle the access button in the **Actions** column (Figure 4-72). You can see the current permission level in the **Access** column.

![Figure 4-71. Removing a team member.](image)

![Figure 4-72. Toggling team member access.](image)

This concludes **Chapter 4: Spatial Intersection Tool User Guide**. To access the full **DATIM User Guide Series**, please visit the [DATIM webpage](#) (opens in browser).