Terrain Analysis Package (TAP™)

TAP 7 Installation and Setup Guide

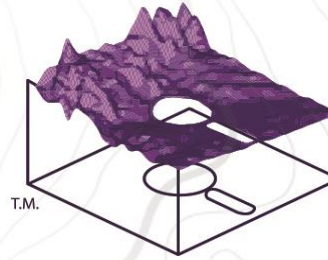# Introduction

Congratulations on your choice of SoftWright's Terrain Analysis Package (TAP™) 7 RF engineering software. This guide will walk you through the initial installation and setup of your new software. Topics covered include:
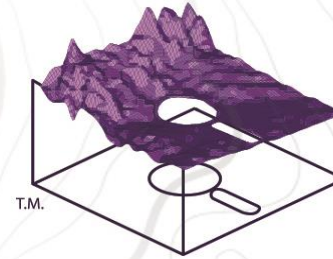
1. System Requirements

2. Installation

3. License Activation

    1. Online Activation

    2. Offline Activation

4. Importing Legacy TAP 6 Data

5. Topo Data Setup

6. Land Cover Data Setup
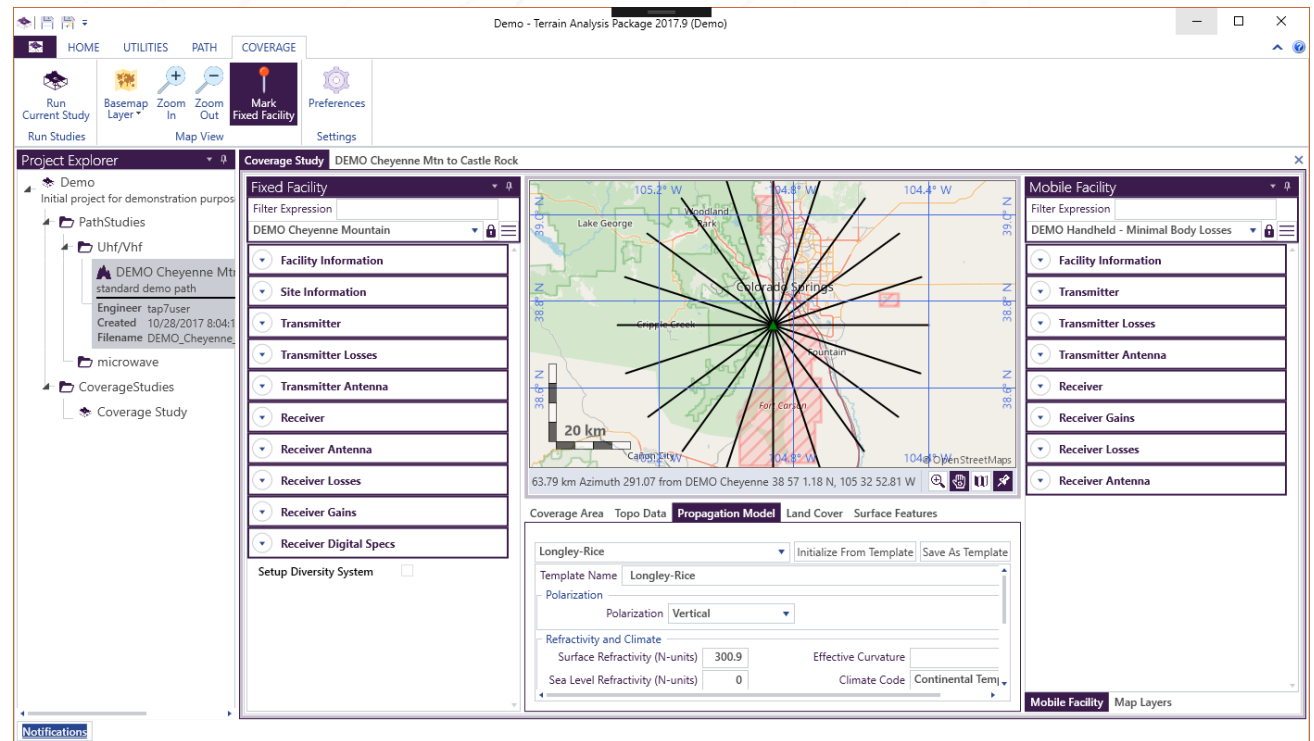
7. Offline Basemap Shapefile Setup

System Requirements

TAP™ is a 64-bit Windows application. It will operate on any supported Microsoft Windows operating system. Note that Windows 7 and Windows 8 are end-of-life and new TAP™ software is not back-tested to work with these operating systems.
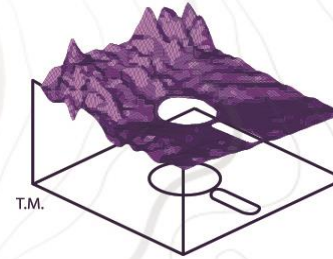
TAP™ 7.7 and above are completely self-contained installations with no external dependencies. Required components from the Microsoft .NET 8 runtime are installed alongside TAP™ in the program installation folder.
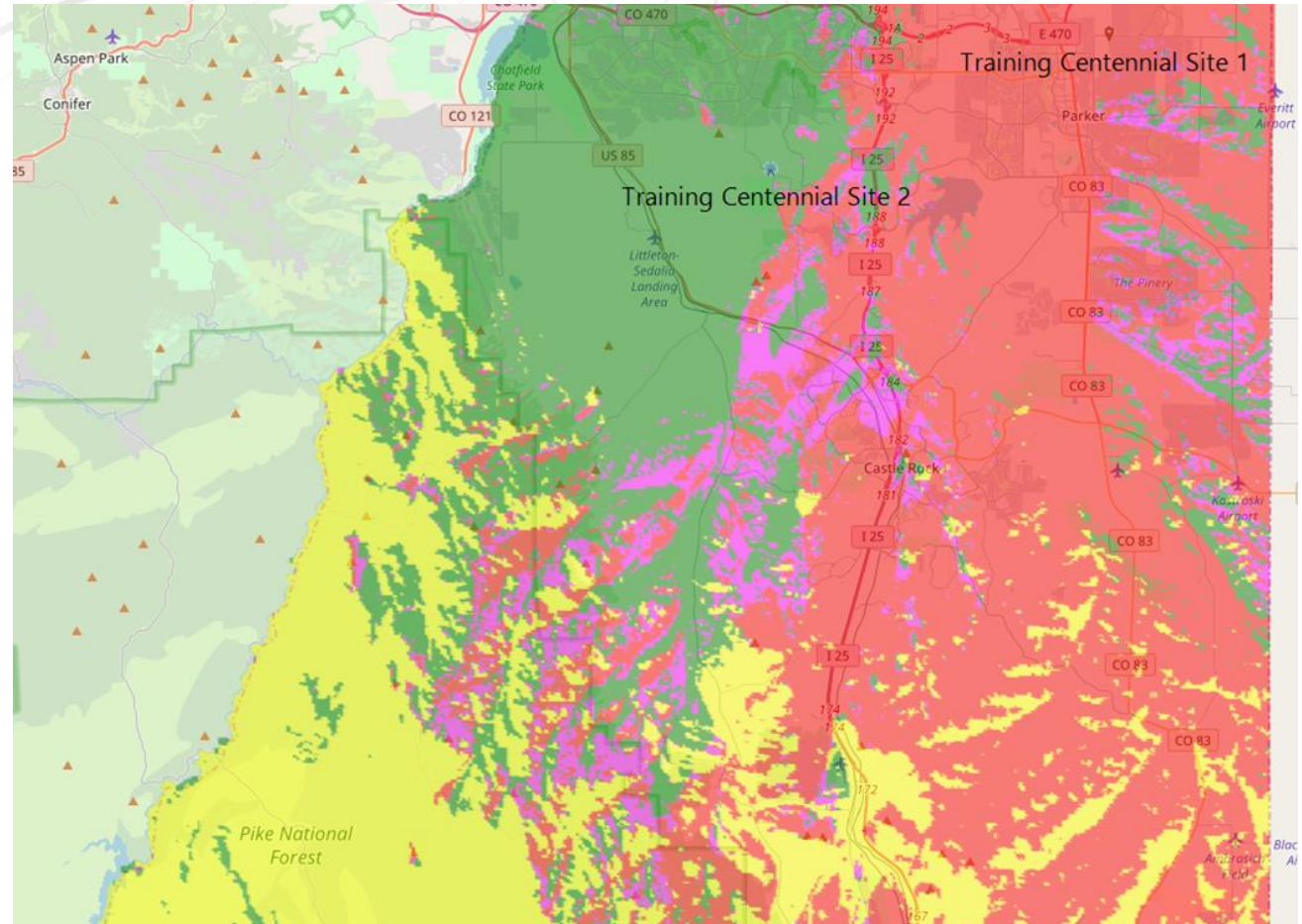
Installation

The installer is named 'TAP7CompleteInstaller.exe'. If you received a drive from SoftWright then the installer is available on the drive. It is also available by download from our website at www.softwright.com.

Run the installer and check the box to agree to the License terms and conditions. SoftWright strongly recommends that you accept the default installation folder location.

Click 'Next'.
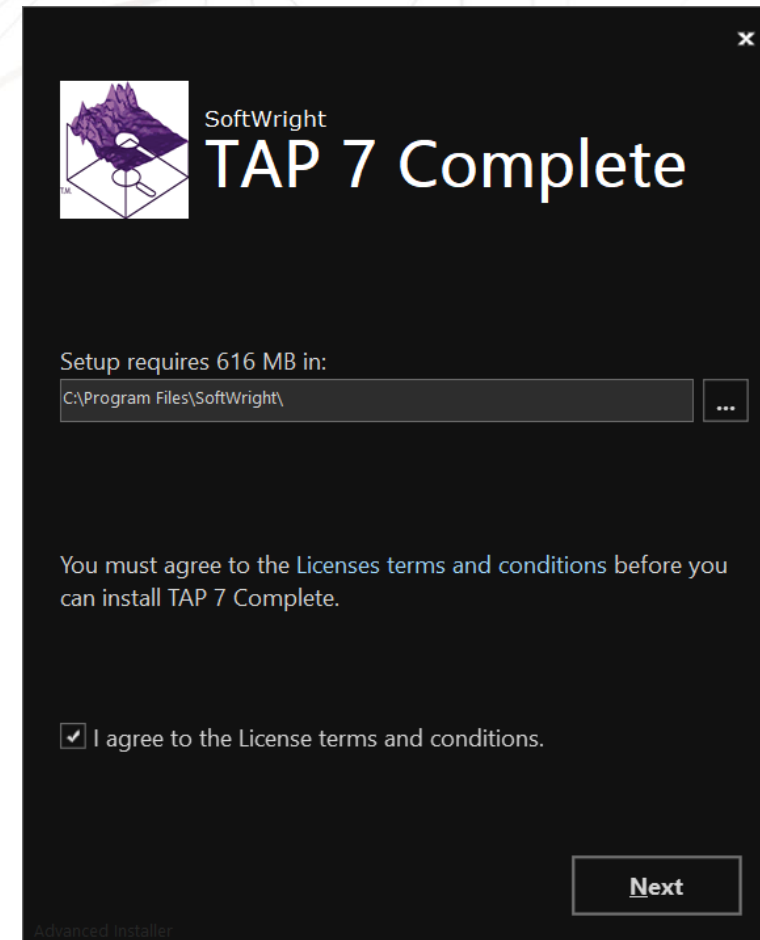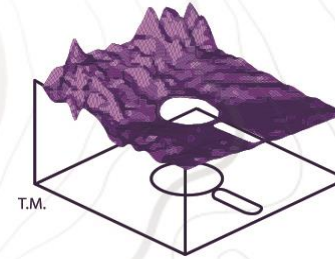

SoftWright
TAP 7 Complete

Setup requires 616 MB in:

`C:\Program Files\SoftWright\`

You must agree to the Licenses terms and conditions before you can install TAP 7 Complete.

☑ I agree to the License terms and conditions.

Next

Installation (cont'd)

The TAP™ 7 Complete installer includes both the main TAP™ 7 program and also TAP™ Mapper. TAP™ 7 is used to create Path and Coverage Studies, AutoPath and AutoCoverage Studies, Intermod Studies, and more. TAP™ coverage study results are written as Esri shapefiles. TAP™ Mapper is used primarily for viewing and analyzing the coverage study results as well as conducting Aggregate Coverage Studies, if licensed.
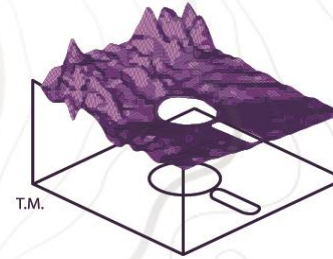
- Select the features that you wish to install. SoftWright recommends installing both TAP 7 and TAP Mapper.

- Click 'Install'.

- Installation progress will be indicated on the screen. When the installation completes, click 'Finish'.
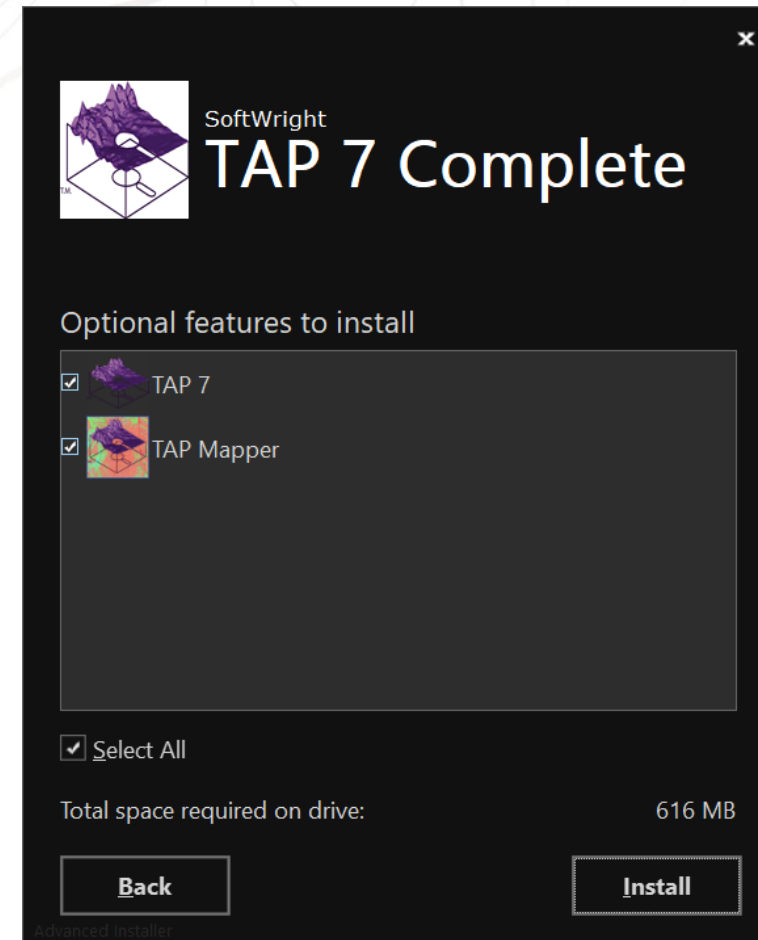
License Activation

Start TAP™ 7 from the Windows Start Menu or Desktop icon.

- When TAP™ 7 opens, click the application icon and the License Information page will appear.

- Online Activation
  - Online activation is the preferred method. If the computer has an internet connection, then simply enter the license code from SoftWright and press Activate License.
  - TAP™ 7 will contact SoftWright's license server and update the view with the pertinent license information.
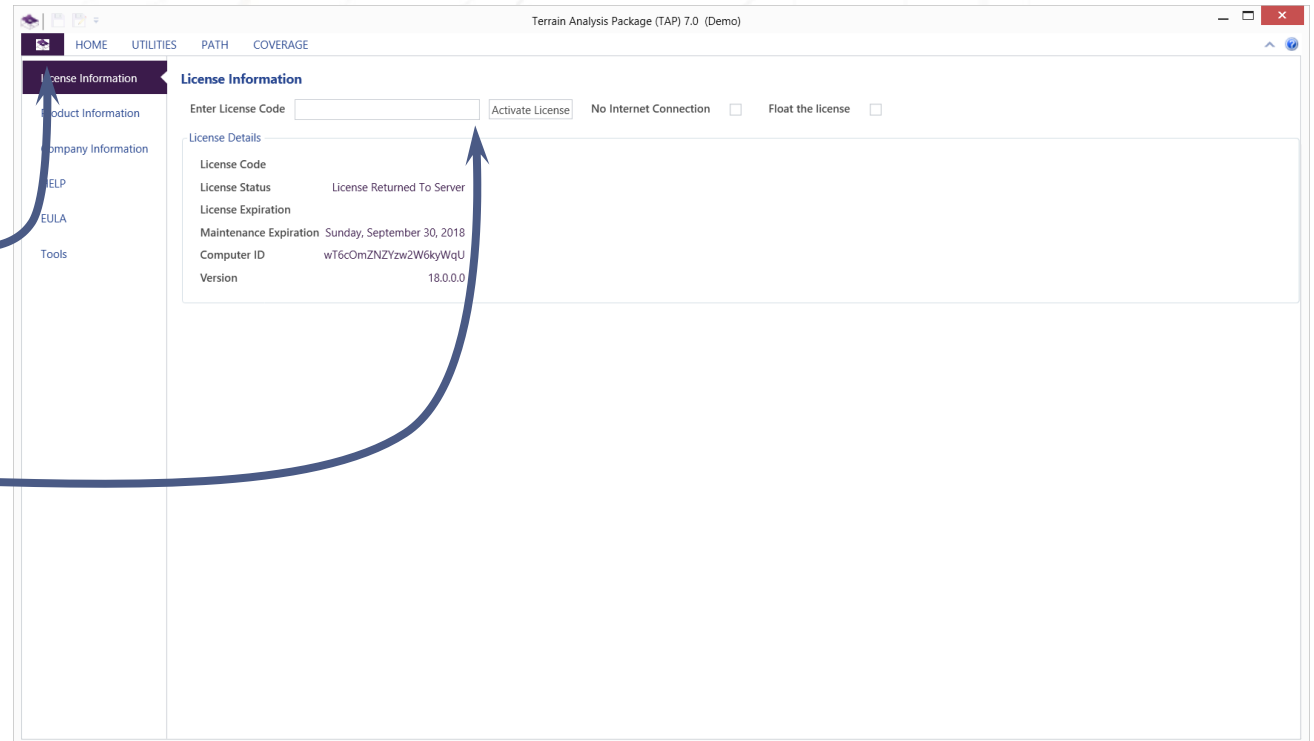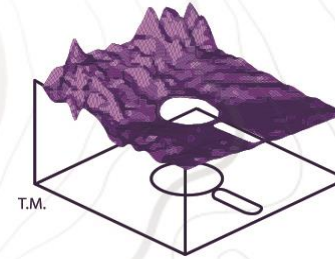
License Activation (cont'd)

If the computer cannot be connected to the internet even temporarily to activate the license, then offline activation is available.

- Offline Activation
  - Check the box to indicate No Internet Connection. Follow the instructions that appear. The steps include:
    - Get Activation Certificate. Take the certificate (a very long alpha-numeric code) to a computer with internet access.
    - Click the link to Activate TAP license at www.softwright.com/downloads/tap-activation and paste in the code.
    - Bring the response code back to the TAP software and paste it in the Enter License box.
    - Click Activate License.
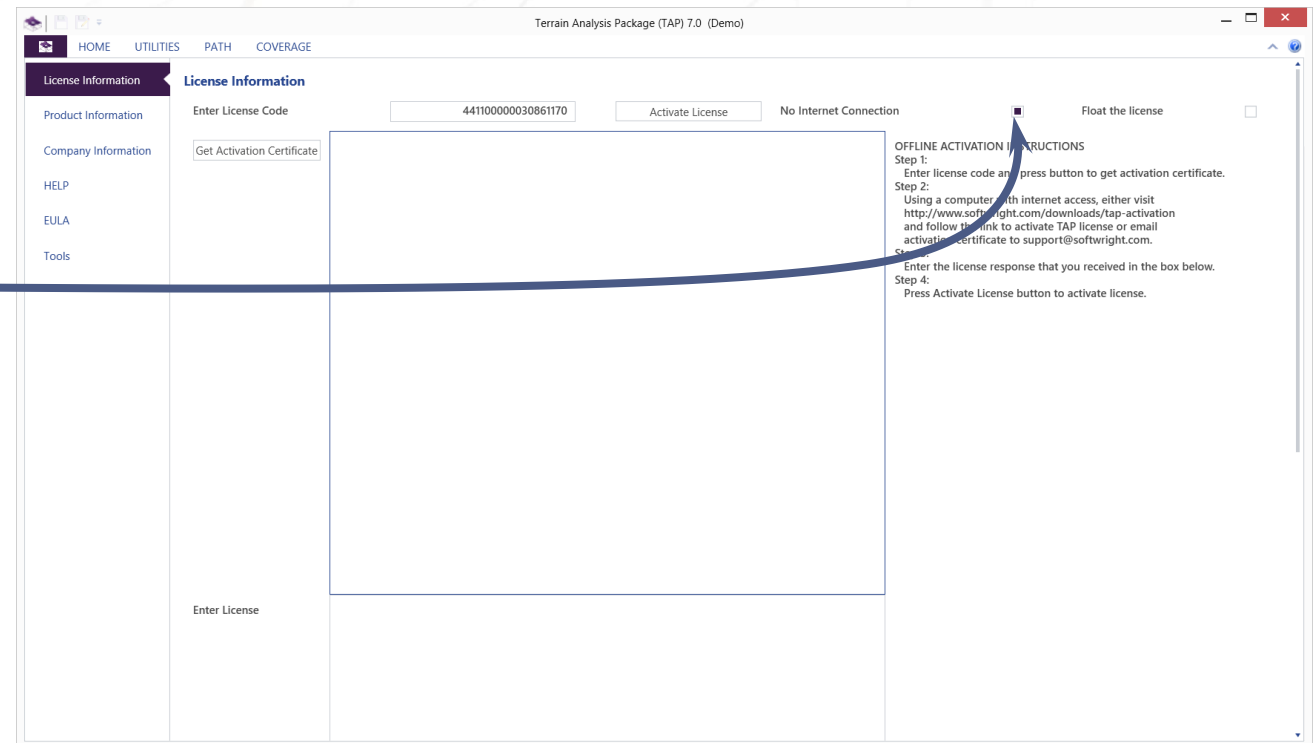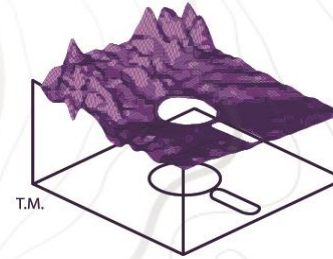
License Activation (cont'd)

When the license has been successfully activated, the License Information page will display the license attributes. Notably:

- Maintenance Expiration: Most TAP™ 7 licenses are perpetual and will not include a License Expiration date. The Maintenance Expiration will limit availability of new features to those released before the maintenance has expired.

- Module Installation: TAP™ software is modular in nature. Individual propagation models and many other features are licensed individually. The checkboxes indicate which modules are available.

- Float the License: TAP™ 7 may be installed on any number of computers. Check this box and any computer connected to the internet will attempt to activate the license on start-up and deactivate it on shutdown. In this way, multiple internet-connected computers can share a single TAP™ 7 license with only one active user at a time.
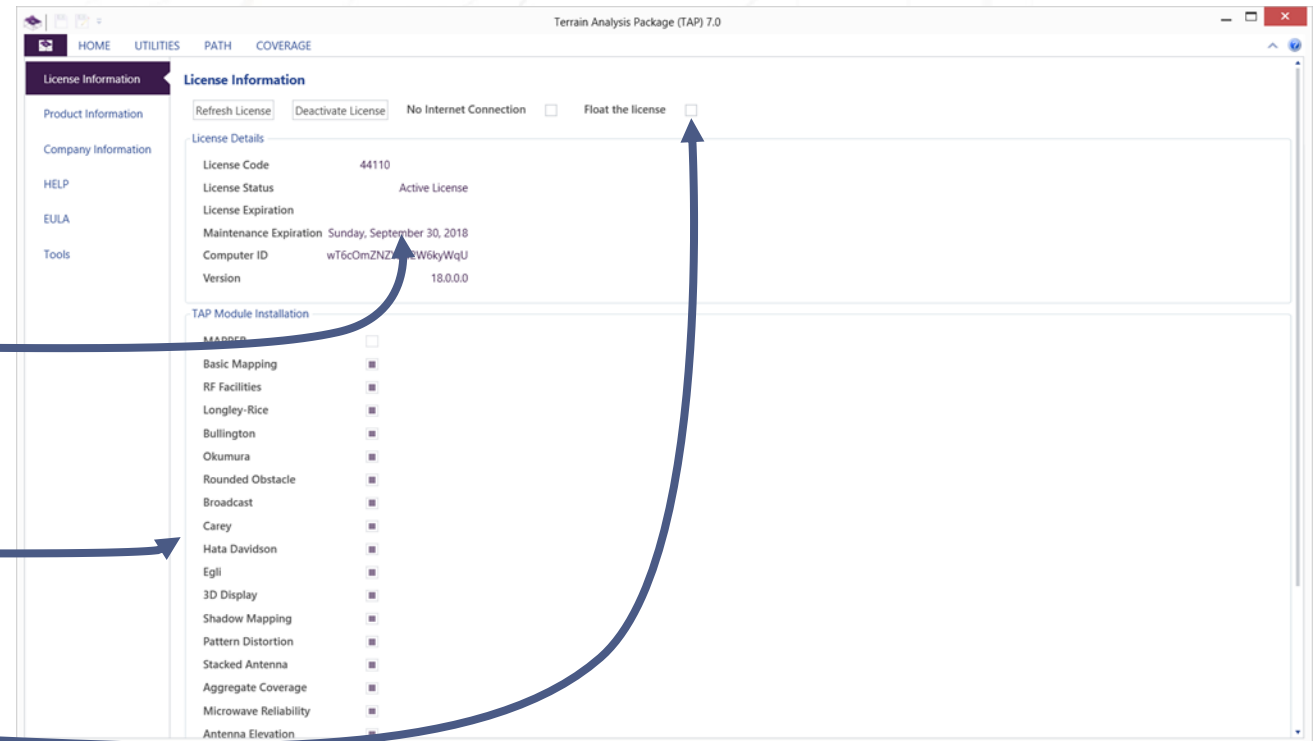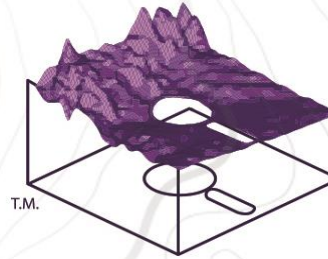
Mount Point Setup

If you have topo and/or land cover data on an external drive that TAP will access, it is recommended to set up a mount point for that drive to avoid issues with changing drive letter assignments. If not, skip to the next slide.

- Open Computer Management
  - In Win7, open Windows Explorer. Right-click on Computer and select Manage.
  - In Win10, right-click on the Start button and select Computer Management.

- Under Storage, select Disk Management
  - You will see the external drive in the list.
  - Right-click on the external drive and select Change Drive Letters and Paths.
  - In the Change Drive Letters and Paths dialog, select the drive and click Add.
  - Select Mount. Click Browse.
    - Click New Folder and add Mount Points folder.
    - Click New Folder again and add Softwright Data folder within Mount Points folder. Select Softwright Data and click OK.
  - Click OK to close windows, then close Computer Management

- When assigning data folders (i.e., for topo, land cover, shape files) in TAP, use C:\Mount Points\Softwright Data.
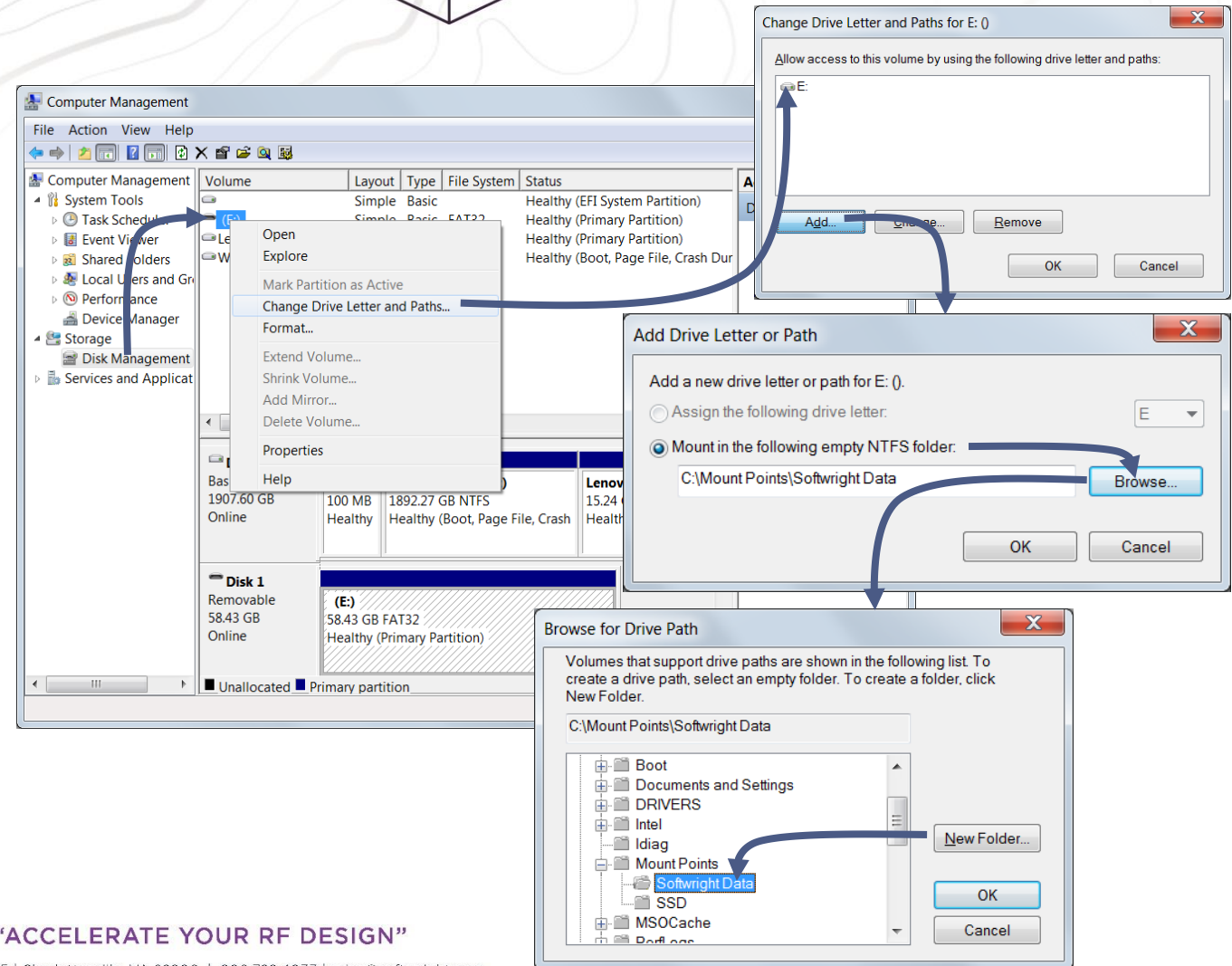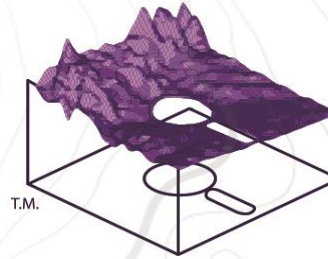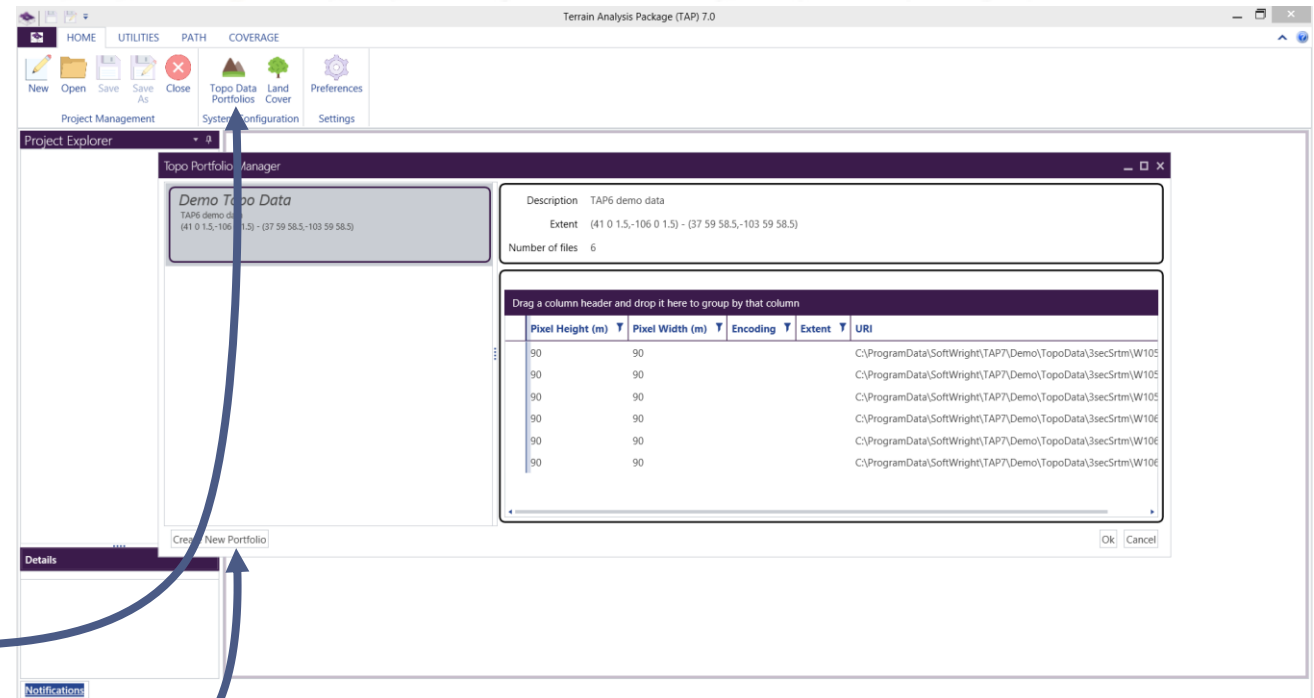
Topo Data Setup

TAP 7 requires topographical (terrain elevation) data to draw path profiles and calculate propagation loss for path analyses and area coverage studies. The demo software only includes low-resolution data for Colorado, USA. In order to work in your areas of interest, you will need to tell TAP 7 where to access the topo data for your area of interest.
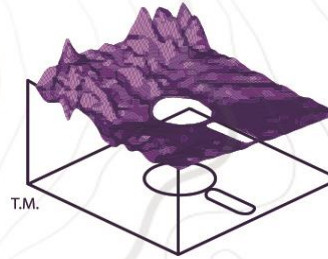
- SoftWright delivers topo data on external solid state drives (SSDs). You may either copy this data to your local drive (preferred location is C:\Users\Public\Documents\TapShared\Topo) or leave it on the external drive in the Topo Data folder. SSDs provide the best performance.

- Click the Topo Data Portfolios button.

- The Topo Portfolio Manager will appear.

- Click on the Create New Portfolio button.

Topo Data Setup (cont'd)



- Give the Topo Data Portfolio a Name and Description, then click OK. It will appear in the Portfolio List.

- Click Add Folders and then browse to the location of your Topo Data folder – either on external SSD or internal drive.

- Browse to the location of the Topo Data folder. In this example, it is the recommended location. Select the top level folder.

- TAP will add the recognized topo data files to the portfolio and list the file locations, resolutions, and extents. (This may take several minutes if you have a large amount of data.)

- Note that most users will only require one new topo data portfolio that contains all of the available data. Click OK when finished.
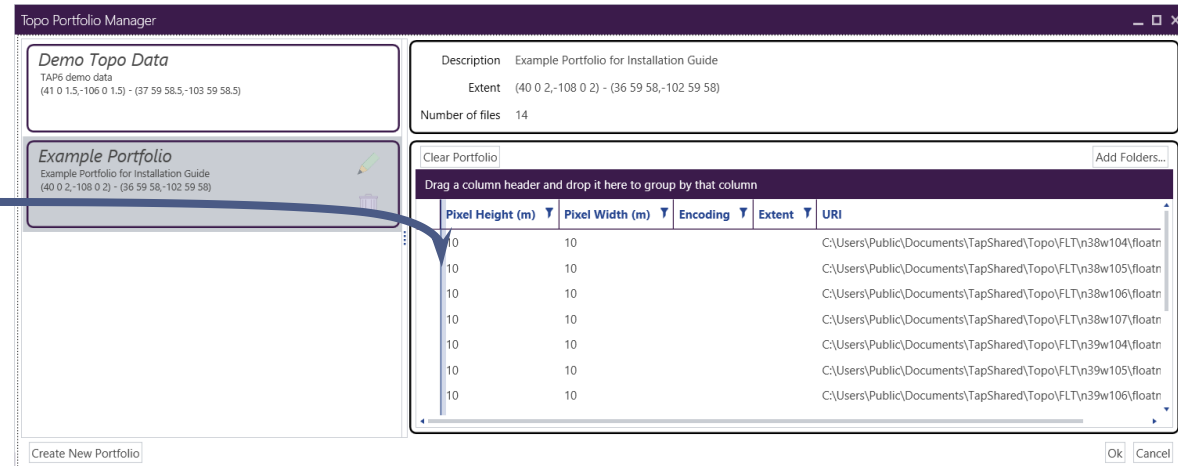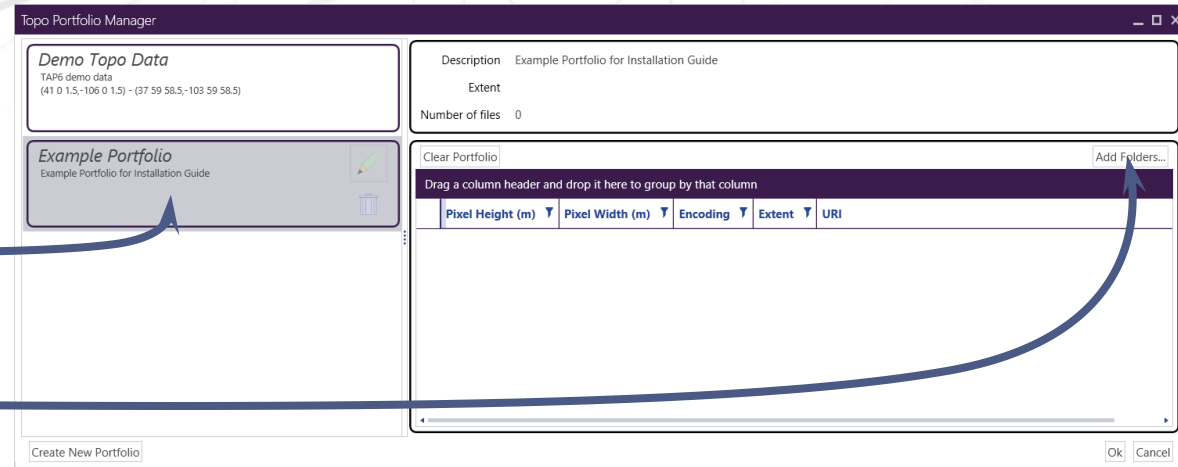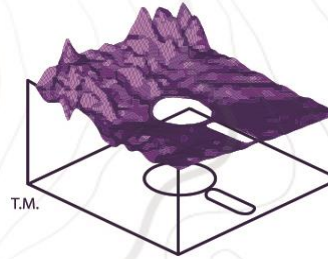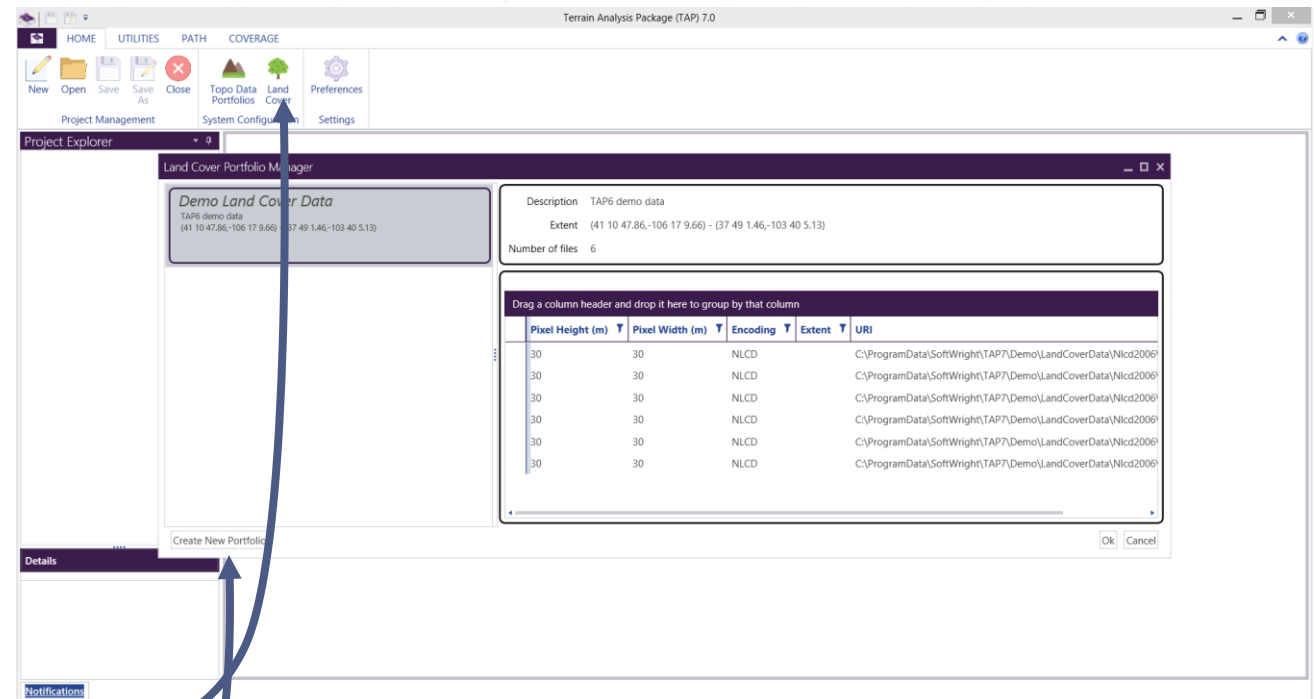
Land Cover Data Setup

Land Cover data describes the category of the land use at every location, e.g., Urban, Forested, Water, etc. Knowledge of the land cover category can make propagation calculations more accurate. In order to use Land Cover data in TAP 7, you must have purchased the Land Cover module and you must have land cover data for your area. Land Cover data is organized in Portfolios in the same manner as Topo Data.

- SoftWright delivers land cover data on external SSDs. You may either copy this data to your local drive (preferred location is C:\Users\Public\Documents\TapShared\LandCover) or leave it on the external drive in the Land Cover Data folder. SSDs provide the best performance.

- Click Land Cover. The Land Cover Portfolio Manager will appear.

- Click Create New Portfolio and follow the prompts to give the portfolio a name and description.
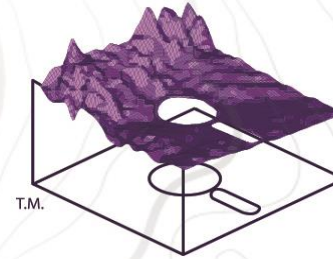
Land Cover Data Setup (cont'd)

- Click the Add Folders button and browse to the folder location of your Land Cover data and click Select Folder.

- The Land Cover Encoding Scheme dialog will appear.
  - MGLC is the Global Land Cover scheme for older MODIS land cover data that SoftWright provided for locations outside of the U.S.
  - WorldCover is the land cover scheme for newer 10m resolution data available for locations outside of the U.S.
  - NLCD is the land cover scheme for the U.S. land cover data provided by SoftWright.
  - TSB88.2 is a legacy scheme for LULC land cover data that is no longer provided by SoftWright, but it is still supported in TAP 7.

- Click Ok and the new land cover portfolio will be populated with data and ready for use in TAP 7 path and coverage studies.
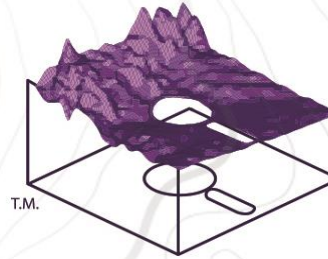
Choose Land Cover Encoding Scheme

MGLC
MODIS Global Land Cover International (450 m)

NLCD
US National Land Cover Data (30 m)

TSB88.2
TIA TSB 88.2

WorldCover
ESA WorldCover 2020 (10 m)

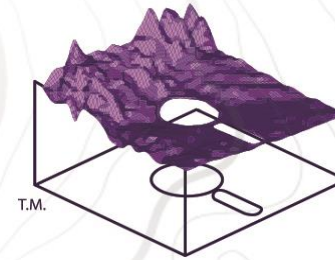Ok Cancel

Offline Basemap Shapefile Setup

TAP 7 and TAP Mapper can utilize web basemaps, such as Open Street Maps, Bing, and Mapquest to provide street views and satellite imagery. When there is no internet connection available, an alternative is to use shapefiles containing administrative boundaries, roads, water bodies, and more to construct basemaps.

- The basemap shapefiles provided by SoftWright will be in the SHAPEFILES folder of the external drive. They may optionally be copied to the local disk drive. The recommended location is C:\Users\Public\Documents\TapShared\OfflineMaps

- Click on Preferences to open the Settings Manager.

- Click on Offline Maps. Notice that the default folder location already appears in the list of paths. If your shapefiles are in one of these locations, just click Update Database. Otherwise, click the Add button to browse to the shapefile folder location, then Update.
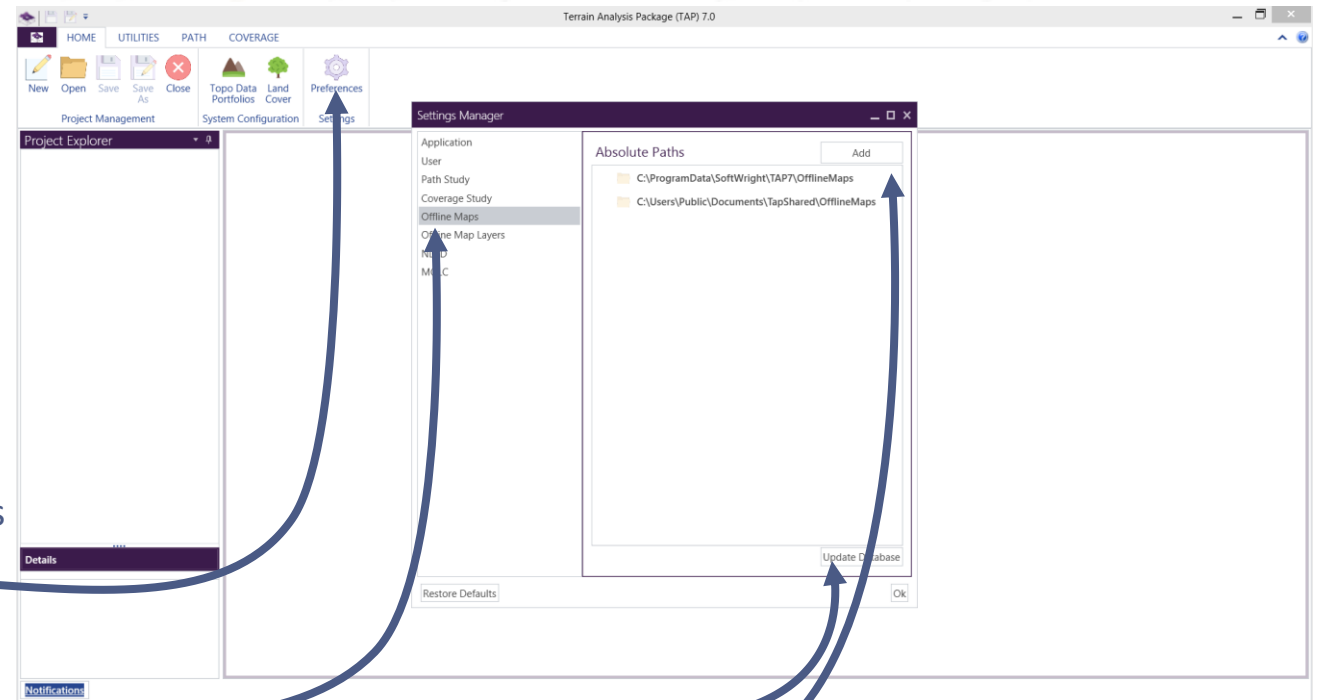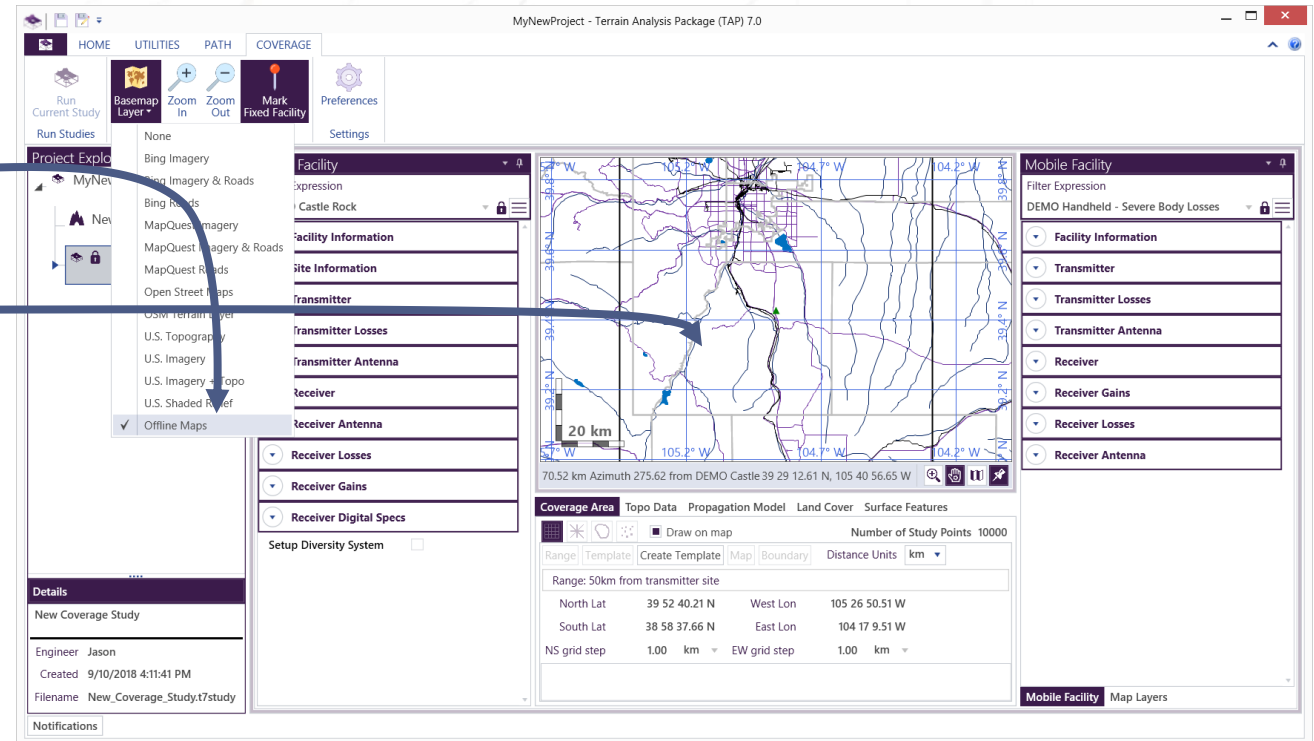

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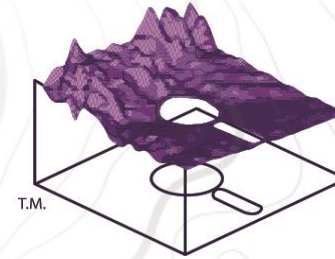# Offline Basemap Shapefile Setup (cont'd)

- In order to use the offline shapefile basemaps, open a coverage study and click the Basemap Layer dropdown menu. Choose Offline Maps.

- The map will be drawn using the roads, boundaries, etc., from the selected shapefiles.

- To change the offline map appearance, click on Preferences to open the Settings Manager. Select Offline Map Layers and update preferences related to the appearance and display of the offline maps.

- Due to the large file sizes, offline maps may take a few seconds to update and redraw when panning and zooming the map. Web basemaps are preferred when an internet connection is available.

Get Help!

- Extensive documentation is included with TAP 7 and TAP Mapper. Look the for the '?' icons located on the Main Window and throughout the applications. Click the icon for context-sensitive help. For help on a specific section, left-click on the section and press the 'F1' key.

- Visit the SoftWright website for searchable FAQs and, especially, video tutorials: https://www.softwright.com/knowledgeba se/faqs/video-tutorials-and-webinars/

- Email support@softwright.com.

- Contact sales@softwright.com for information on configuring and purchasing your TAP license.