USER GUIDE

Trimble Positions software suite: Trimble Positions Mobile Project Center extension

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Revision A
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Trimble

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Release Notice

This is the August 2014 release (Revision A) of the *Trimble Positions Mobile Project Center Extension User Guide*. It relates to version 10.2.0.2 of the Trimble Positions Mobile Project Center extension.

Introduction

The Trimble® Positions™ software suite adds support for Trimble high-accuracy GNSS receivers using Esri ArcGIS for Windows Mobile technology.

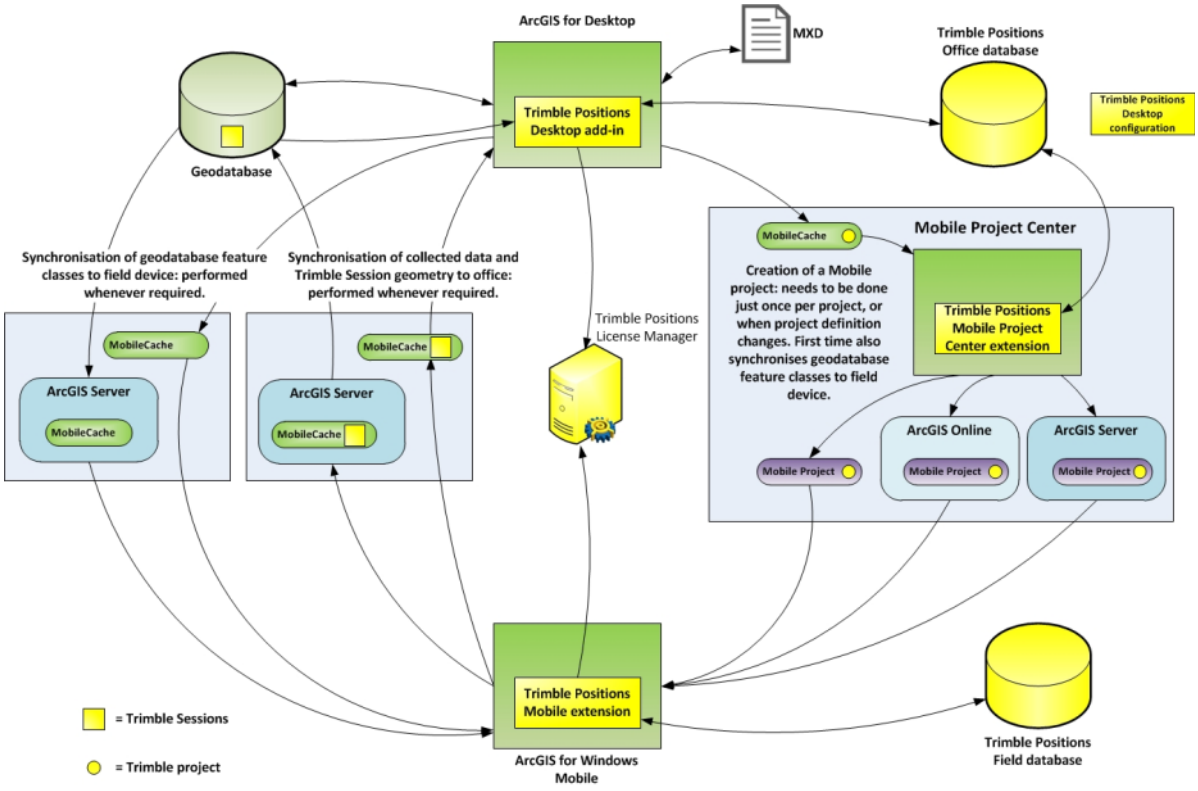
The Trimble Positions Mobile Project Center extension is an extension for the Esri ArcGIS Mobile Project Center application, and is used to set up the required high-accuracy projects.

This guide explains how to use the Trimble Positions Mobile Project Center extension.

Note – *Trimble Positions Mobile Project Center extension version 10.2.0.2 users are expected to have a basic knowledge of and training in Esri ArcGIS Mobile Project Center version 10.2.*

Overview of the Trimble Positions Mobile Project Center extension

The following illustrates the components of the Trimble Positions software and the Esri ArcGIS software and applications:

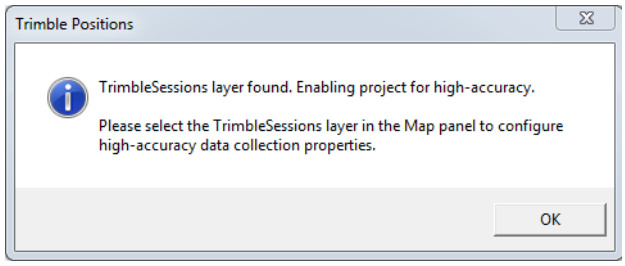


The Trimble Positions Mobile Project Center extension allows ArcGIS for Mobile projects to support Trimble Positions high-accuracy geometry collection using the Trimble Positions Mobile extension. For custom applications built using the Trimble Positions toolkit, projects should be defined from within the Trimble Positions Desktop add-in (for more information, refer to the *Trimble Positions Toolkit Developer's Guide*).

How the extension works

When the Trimble Positions Mobile Project Center extension is installed, it enables the Mobile Project Center to be adaptive to Trimble Positions by recognizing a TrimbleSessions-enabled mobile cache or service.

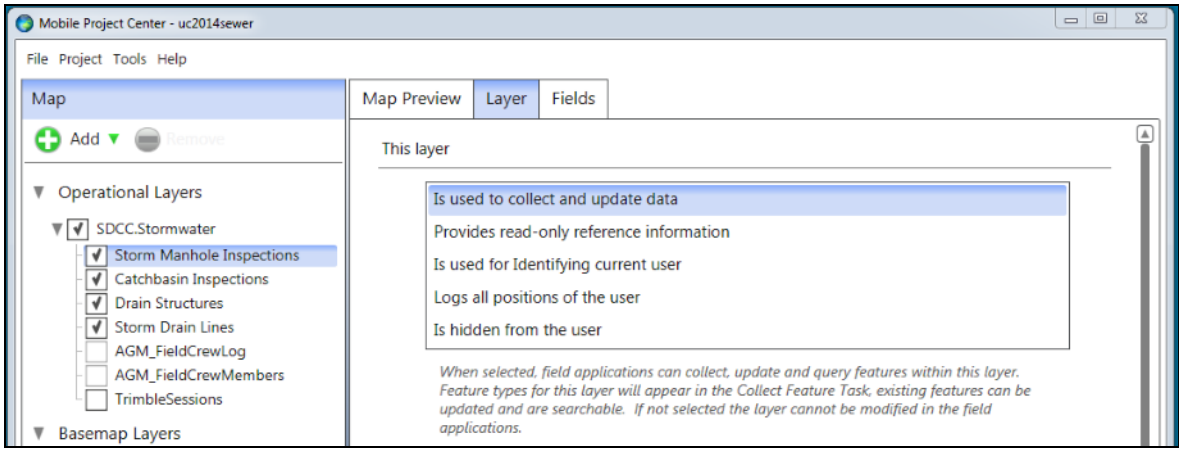
When a mobile cache or service is added as an Operational Layer, the Trimble Positions Mobile Project Center extension searches for the TrimbleSessions layer. If found, a dialog appears confirming that the project is enabled for high-accuracy..



Note – *Esri ArcGIS Mobile Project Center version 10.2 allows you to add a hosted feature service to your project. This is supported for real-time correction only workflows at this time.*

Layer behaviour

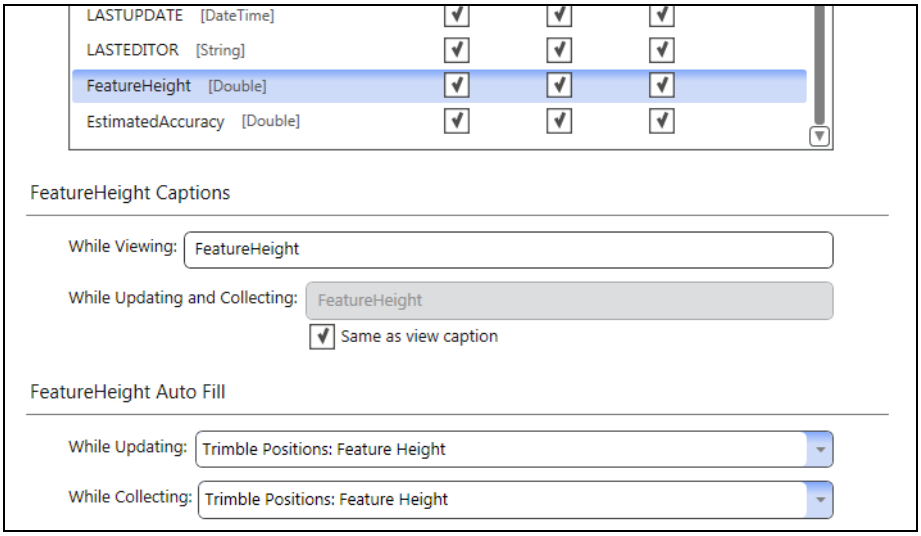
If you click on an operational layer, and then select the *Layer* tab, you can set that layer's behavior in the mobile application. To enable the layer for high-accuracy geometries, you must select *Is used to collect and update data.*



Auto-fill fields

If you click on the *Field* tab for a layer, you can adjust properties for each attribute (Visibility and Order, Description Captions, and Auto Fill).

The Auto Fill functionality can be used to automatically populate attributes with certain values. Esri provides a list of default values that can be used, and they differ by data type of the field (string versus numeric). Appended to the list of values for numeric field types you will find the Trimble Positions metadata entries for Feature Height and Horizontal Estimated Accuracy. You should set the same value for both the *While Updating* and *While Collecting* options and should use each of the two Trimble Positions metadata entries no more than once in a layer.

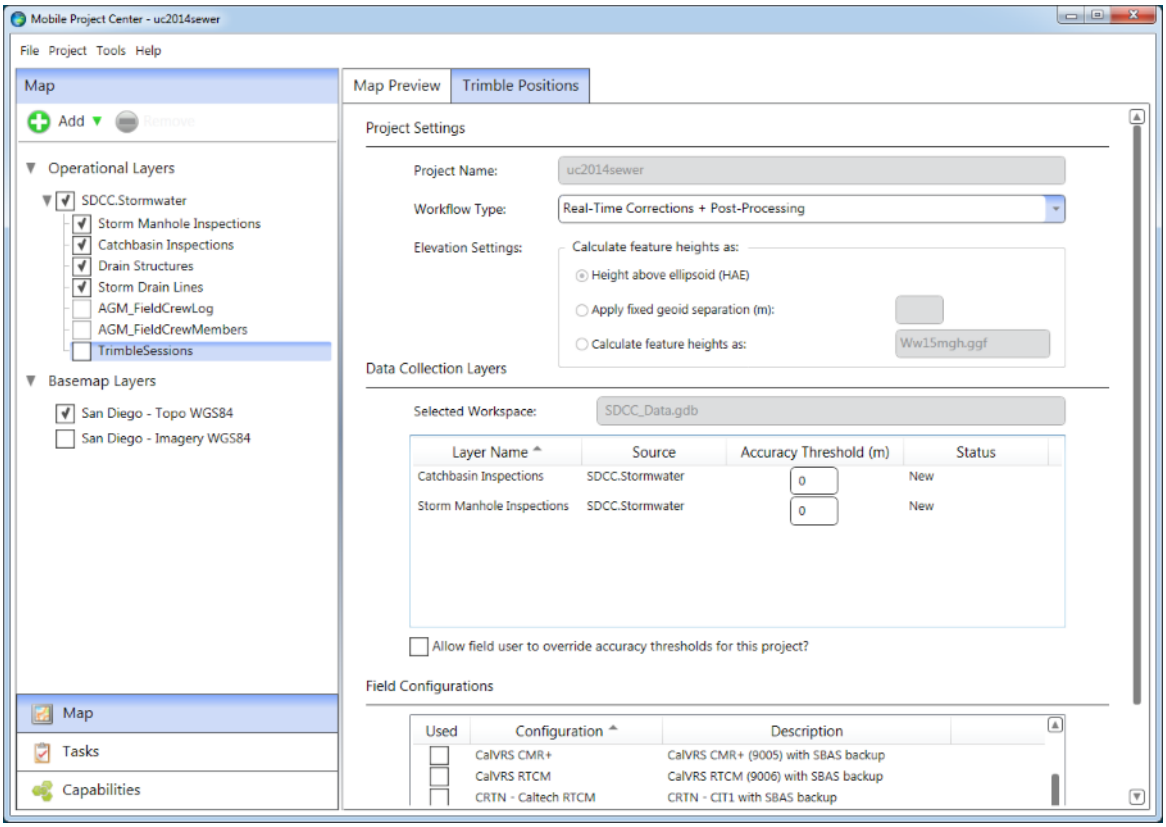


These values will be populated in the field and updated in the office (Trimble Positions Desktop add-in) after postprocessing and feature updating.

If you use the Esri-supplied GNSS options (Latitude, Longitude, Elevation, Speed, etc.), these will be populated in the field but will not be updated after postprocessing in the office.

Trimble Positions tab

The *TrimbleSessions* layer has a specific behavior, in that it reveals the *Trimble Positions* tab.

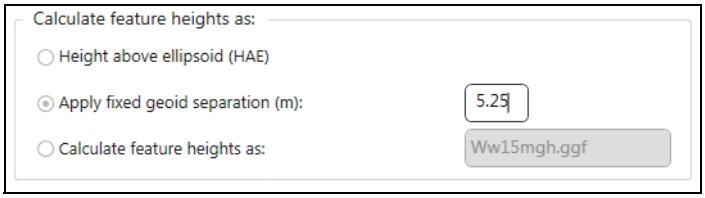


Click this tab to define the accuracy required for each of the operational layers selected for data collection, and the field configurations to be loaded within the project.

Project Settings

- *Project Name* displays the read-only name of the project. This will be blank if the project has not been saved.
- *Workflow Type* can be used to select the primary correction workflow for the project:
  - *Real-Time Corrections + Post-Processing*: this is the default option and will collect GNSS sessions so that postprocessing can be performed in the office. Real-time correction sources can also be used and during postprocessing, the best accuracy will be used.
  - *Real-Time Corrections Only*: select this option if sufficient accuracy can be achieved through real-time correction sources. GNSS sessions will not be collected in the field and postprocessing cannot be performed. This is the only workflow option when using hosted feature services as operational layers.

- *Elevation Settings* provides the ability to control how height above ellipsoid values are converted to mean sea level (MSL) elevations (or not) for both metadata and Z values (in the office).



  select *Height above ellipsoid (HAE)* to use height above ellipsoid values.

  – select *Apply fixed geoid separation* to compute elevations by applying the supplied fixed separation value in meters.

  – select *Calculate geoid separation from file* to compute elevations by applying the selected global geoid file. These GGF files are available for download from the Trimble website: http://www.trimble.com/globalTRLTAB.asp?Nav=Collection-71 and should be unzipped to C:\ProgramData\Trimble\Positions\10.1\GeoidFiles.

CAUTION – For an accurate elevation to be calculated in the field, the selected GGF file must be manually deployed to the mobile device in \My Documents\Positions. If the GGF file is not deployed to the device, feature heights will be HAE and postprocessing (and subsequent feature updating) will be required to properly calculate MSL elevations.

Data Collection Layers

The workspace selected in the ArGIS for Desktop map document and mobile cache is displayed in read-only format.

Each of the data layers that have been enabled for collection is listed in the table. For each layer, you can select the accuracy threshold required (in meters) by the GIS for that feature. If you do not have an accuracy threshold requirement, select 0.

If you want field users to have the ability to collect geometry that doesn't meet the required accuracy for the project, select the option *Allow field user to override accuracy thresholds for this project?* This will give the user the option of overriding the accuracy threshold for the current feature, but the user must perform this action for each new feature they collect.

Field Configurations

The field configurations defined in the Trimble Positions Desktop add-in and stored in the Trimble Positions database can be selected and associated with the project. None, one, or more than one field configuration may be selected.

Finding additional information

If you have a problem and cannot find the information you need in the product documentation, contact your Trimble reseller.

Documentation and downloads

- Trimble Positions Desktop Add-in Administrator's Guide
- Trimble Positions Desktop Add-in User Guide
- Trimble Positions Mobile Project Center Extension Administrator's Guide
- Trimble Positions Mobile Extension Administrator's Guide
- Trimble Positions Mobile Extension User Guide
- Trimble Positions Desktop Add-in Release Notes
- Trimble Positions Mobile Extension Release Notes
- Trimble Positions Mobile Project Center Extension Release Notes

Appendix A: Positions software suite workflow overview

The following table provides an overview of the steps required to install and use the Trimble Positions software suite. The steps in bold are covered in detail in this guide. For all other steps, refer to the other Trimble Positions software suite documentation, as listed above.

Initial administration tasks	Install and license ArcGIS for Desktop 10.2 on each office computer.
	Install ArcGIS for Windows Mobile 10.2 (this is to get the Mobile toolbox for ArcGIS for Desktop installed, and to install the ArcGIS Mobile Project Center utility) on each office computer and Windows Mobile device.
	Download Trimble Positions Desktop add-in 10.2.0.1.
	Optionally, install the Trimble Positions License Manager to a computer(s) that is/are accessible from the office computer (and field devices).
	On each office computer that has ArcGIS for Desktop 10.2 installed, install and license Trimble Positions Desktop add-in.
	Download Trimble Positions Mobile extension 10.2.0.1.
	On each mobile device that has ArcGIS for Windows Mobile 10.2 installed, install and license Trimble Positions Mobile extension 10.2.0.1.
	On office computers that have the Esri Mobile Project Center installed, install Trimble Positions Mobile Project Center extension 10.2.0.1.
	Optionally, create a new Microsoft SQL Server or Oracle database, if an enterprise database is required and not yet created.
	Configure Trimble Positions Desktop database (*Start* / *All Programs* / *Trimble* / *Trimble Positions Tools* / *Desktop Configuration*).
	Start ArcGIS for Desktop and enable Trimble Positions Desktop add-in.
	If not already done during a previous installation, add TrimbleSessions to each geodatabase using Trimble Positions Desktop add-in.
Desktop add-in tasks when enabling Map documents	Open map document.
	Add feature layers to Map from geodatabase.
	Add TrimbleSessions to Map using Trimble Positions Desktop add-in.
	Check Map for compatibility using Trimble Positions Desktop add-in.
	Create a Mobile Cache using Trimble Positions Desktop add-in.
	Create Field Configuration(s).
Mobile Project Center extension user tasks for each new or modified mobile project	Open Mobile Project Center (*Start* / *All Programs* / *ArcGIS* / *ArcGIS for Windows Mobile* / *Mobile Project Center*).
	Create a new Project.
	Import operational layers from Mobile Cache.
	Configure layer for data collection and metadata autofill fields.
	Configure TrimbleSessions Data Collection Layers' Accuracy-Based Logging thresholds, and Field Configurations.
	Configure Project extents.
	Save Project.
	In Trimble Positions Desktop add-in, associate Project and Map.

Regular transfer tasks between field and office	Transfer Project definition and Mobile Cache to Windows Mobile field device.
	Collect data using Trimble Positions Mobile extension 10.2.0.1 for ArcGIS for Windows Mobile 10.2.
	Transfer Mobile Cache to office computer.
Regular Desktop add-in user tasks	If not already created, in Trimble Positions Desktop add-in, create processing profile(s).
	If not using ArcGIS for Server, use Trimble Positions Desktop add-in to synchronize the mobile cache.
	In Trimble Positions Desktop add-in, Manage devices and optionally associate with a processing profile.
	In Trimble Positions Desktop add-in:
	• Check for new sessions
	• Postprocess against chosen processing profile
	• Verify against required accuracy thresholds
	• Modify geometry (unlink, exception)
	• Update GIS geodatabase
	Save and close Map document.