

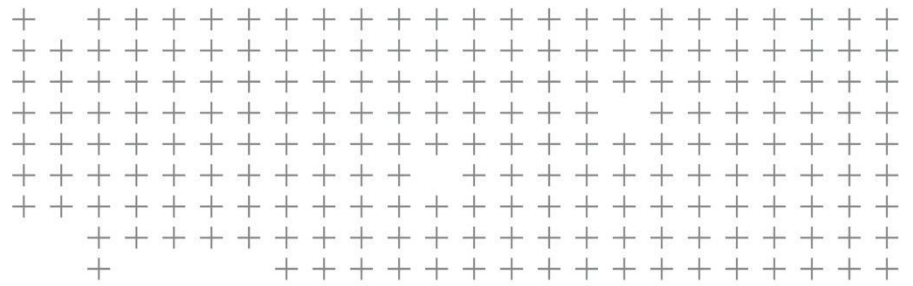
Updated: April 9, 2020

# TBC Resources

# Trimble Business Center



Complete Survey + Construction  
Office Software Enabling Field to  
Finish Workflows with Confidence

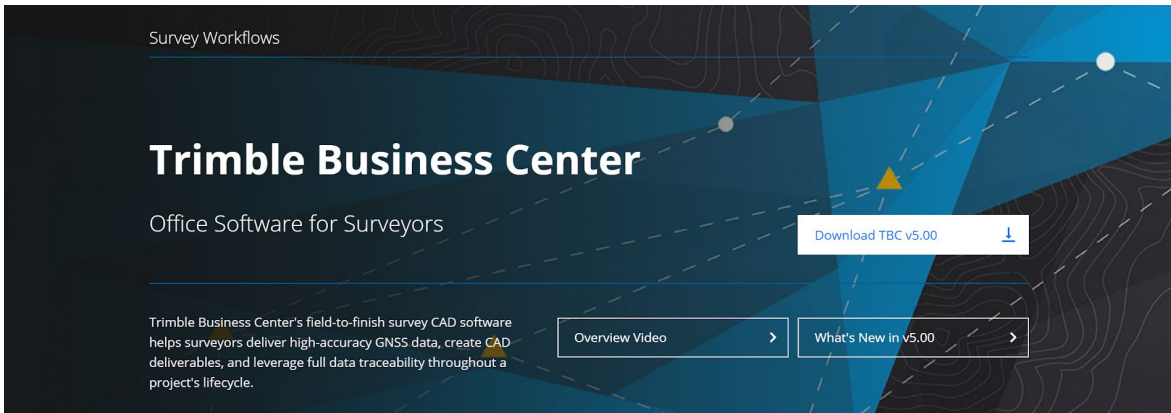


# TBC Resources - By Platform

# TBC Geospatial Webpage

<http://www.trimble.com/tbc>

- Focus on product information for prospective customers + educational resources for current customers.
- Use for:
  - latest version download
  - what's new in the latest version
  - bulletins + support notes
  - tutorials + links to webinars, YouTube
  - request TBC training
  - help for licensing + installation



## Product bulletins

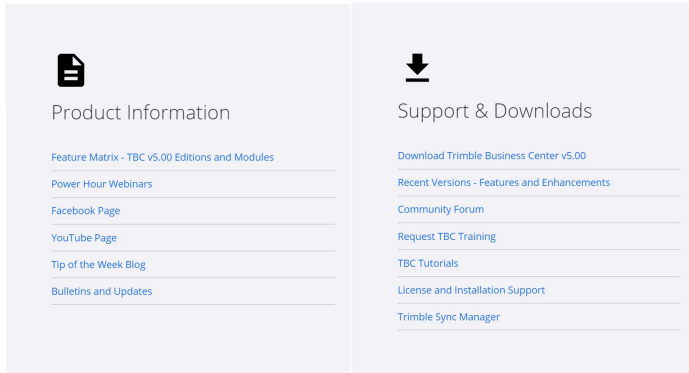
- **GPS Week Number Rollover - April 2019 (March 2019)** - This Support Bulletin describes the GPS Week Number Rollover (WNRO) event to occur on April 6, 2019. Trimble has released a comprehensive bulletin describing how the WNRO impacts Trimble products. [View Trimble-wide bulletin...](#)
- **Trimble Macro Language FAQ (November 2018)** - TBC v5.00 introduces the ability to write custom commands with IronPython scripting language. This document provides answers to some of the most common questions regarding the newly released Trimble Macro Language capabilities in TBC v5.00. [View...](#)
- **Modernized Approaches for GNSS Baseline Processing White Paper (September 2018)** - Launched with v4.00, TBC includes a new dedicated processor for static GNSS baseline processing. This white paper describes the new engine's improvements, from dynamically selecting processing modes based on the data, incorporating extended tropospheric modeling, optimizing the epoch processing interval, and more. [View...](#)

## Licensing utilities

- **Trimble HASP License Updater** - Use this utility to update TBC licenses without installing the TBC software package. Update dongle licenses and update or install network licenses with this new utility. The Trimble HASP License Updater replaces the Network License Update Utility. [Download here...](#)

## Support notes

- **Sentinel HASP License Introduction** — Trimble Business Center and Trimble RealWorks software use the Sentinel HASP licensing software and drivers to manage license information. There are two primary types of licenses: software and hardware. [View...](#)
- **Dongle Licenses** — A dongle license for Trimble Business Center and/or Trimble RealWorks software is a USB key that plugs directly into a workstation PC and provides a single-seat license to the local workstation PC. [View...](#)



# TBC Tutorials

<https://geospatial.trimble.com/trimble-business-center-tutorials>

 Trimble Business Center

Processing Feature Codes

## Trimble Business Center Tutorials

### Instructions:

Click the Download link for any of the tutorials below to download a ZIP file containing the tutorial package. When you extract the ZIP file to the location of your choice, a new tutorial folder is created containing tutorial instructions in a PDF document and, as applicable, a VCE project file, a project folder, and a data folder. Just open the PDF tutorial document and follow the instructions.

### Download all tutorials

- **All tutorials** — Download a single ZIP file containing all of the available tutorials. Note that the ZIP file is quite large and, depending on your Internet connection, may take a while to download. Alternatively, download any of the individual tutorial ZIP files listed below. [Download](#)

### Getting familiar with Trimble Business Center

- **Setting Up a New Project** — Set up a new project, select various project settings, and save the project as a template that can be used for other new projects. [Download](#)
- **Using Spreadsheets, Selection Sets, and COGO Controls** — View spreadsheets, create a selection set, and work with COGO controls. [Download](#)

- 40+ TBC tutorials are here
- Tutorials include PDF instructions + sample data
- Use for:
  - learning major survey + constructions TBC workflows
  - learning new TBC workflows - tutorials are constantly being added + updated!
  - use as sample workflow + data for training sessions

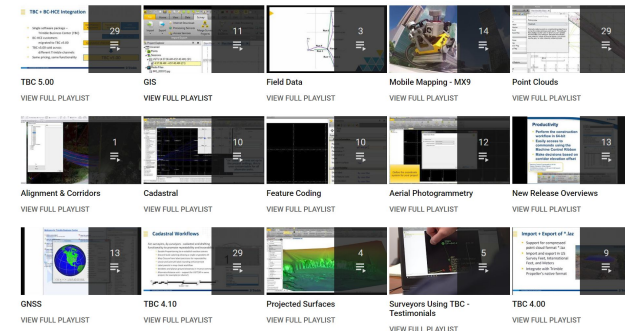
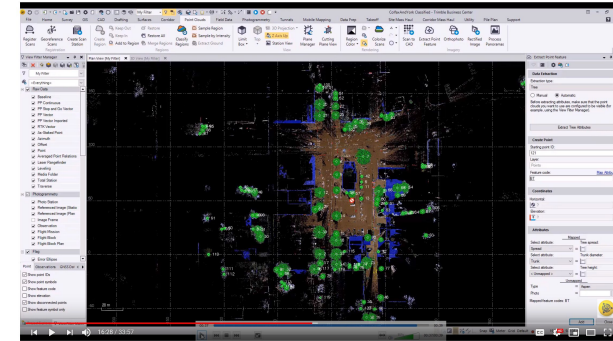
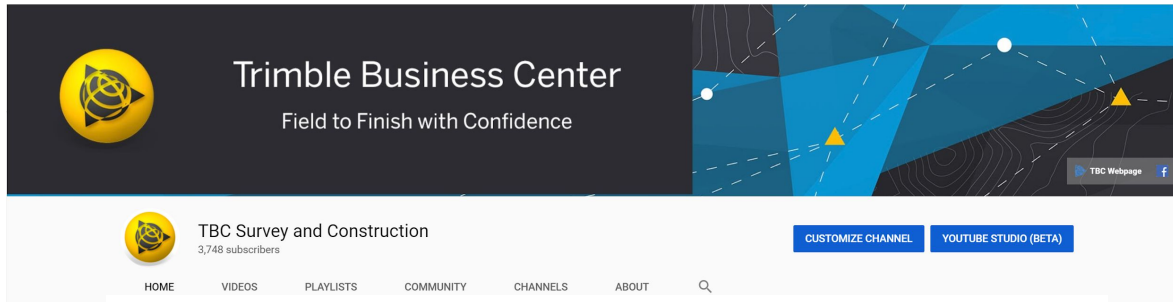
[www.trimble.com](https://www.trimble.com)  
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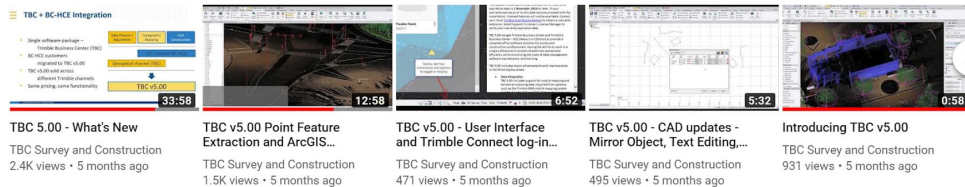
# TBC YouTube Channel

TBC Survey and Construction – <https://www.youtube.com/user/TBCSurvey>

- Use for:
  - learning commands or routines in TBC via short (3 - 7 minute) videos
  - explore 30+ Workflow-based playlists made up of 300+ videos



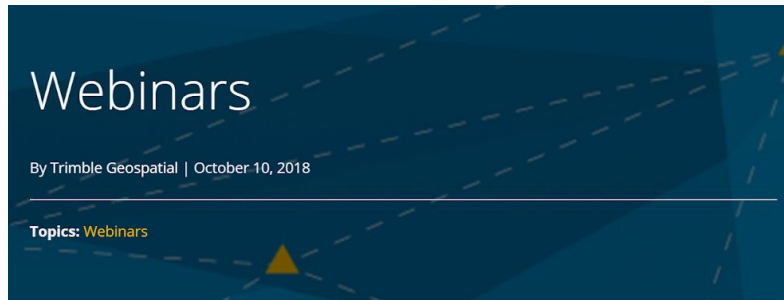
TBC 5.00 ▶ PLAY ALL



# TBC Monthly Power Hours

<http://infogeospatial.trimble.com/Trimble-Geospatial-Webinars.html>

- Free live demo or workflow in TBC from a Trimble or industry professional with a Q+A session
- New sessions typically every last Wednesday of the month
- All Sessions are archived + available on-demand for free on the Geospatial Webinar page or via [TBC Community's Power Hour Vault](#)
- Use for:
  - learning a complete TBC workflows
  - practical information on what others are doing in TBC
  - connecting with industry or Trimble leaders



## Upcoming

2019 | May | 29

**[TBC Power Hour: Relative Positional Precisions – TBC's Network Adjustment + NSPS/ALTA Allowable Relative Tolerance Report](#)**

## Recordings

2019

2019 | April | 30

**[The Future of Vegetation Analyses in Feeder Corridors with YellowScan & Trimble](#)**

2019 | April | 24

**[TBC Power Hour: Scanning Workflows in TBC for Street Topo and Structural Facades](#)**

2019 | March | 27

**[TBC Power Hour: Cutting Plane Workflows](#)**

2019 | March | 13

**[Working with Time-Series Image Data as Frames in eCognition](#)**

2019 | February | 27

**[TBC Power Hour: MX9 Mobile Mapping Workflows](#)**

2019 | February | 21

**[eCognition for License Administrators](#)**

2019 | March | 27

**[TBC Power Hour: Cutting Plane Workflows](#)**



# TBC Tips

<https://community.trimble.com/groups/trimble-business-center-group/blog/2019/01/17/tbc-tips-of-the-week-vault>

- Short tip, trick, or command demonstration + documentation
- Part of the TBC Geospatial Community page
- Organized by category + date, easy to find
- 100+ Tips + counting!
- Use for:
  - exposure to unique features + helpful commands that could be missed or unknown by beginners
  - efficiency gains within TBC
  - great way to learn tools quickly

## TBC Tips

Blog Post created by Joe Blecha on Jan 17, 2019

Like • 26 Comment • 2

Here you'll find all TBC Tips linked and accessible for viewing (and re-viewing):  
To download a PDF containing all below tips (as of April 1, 2019) [click here.](#)

### Field Data

- #4 - Spreadsheets - February 2017
- #5 - Process Panorama - March 2017
- #18 - Visualizing Survey Data in Google Earth - July 2017
- #19 - Investigating Data with Point Derivation Reports - August 2017
- #27 - "Sunny" Level Editing - February 2018
- #33 - Easy ".job" to ".jxl" File Conversion - March 2018
- #43 - New GNSS Planning Online Tool - June 2018
- #62 - Observation Vector Arrows - December 2018
- #82 - Lock Levelled Scan Data for Registration and Geo referencing Purposes - August 2019

### Adjustment & COGO

- #1 - Coordinate Controls - January 2017
- #9 - Bearing/Azimuth Angle Controls - May 2017
- #22 - Transform Survey Points - January 2018
- #29 - Sources of Default Standard Errors - February 2018
- #34 - The Power of the Comp Engine and Point Derivation Report - March 2018
- #47 - Network Adjustment North/East Components - June 2018
- #58 - Average Points vs Merge Points Command - September 2018
- #65 - OPUS Alternatives—Post Process Static Data from TBC - January 2019

### CAD & Drafting

- #2 - Layer Manager - January 2017
- #3 - Project Cleanup - February 2017
- #6 - Using View Filters - April 2017
- #15 - Using the Best-Fit Line Command to Draft Catenary Lines - June 2017
- #16 - Using Selection Sets for Time Saving - June 2017
- #24 - Label Style Previews - January 2018
- #25 - Hiding the Dynaview Frame - January 2018

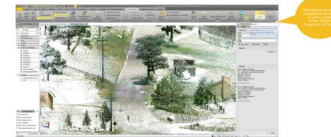
## Tip of the Week #10 – Measuring Clearances with Trimble SX10 data

Blog Post created by Foley Smith on May 17, 2017

Like • 1 Comment • 0

This week's topic is a very specific workflow but often required for many topographic and as-built surveys near power infrastructure. Whether it is to design future utilities and structures near power lines or checking clearance for traffic beneath and above, the everyday surveyor needs efficient tools to measure and extract this information.

There are several ways of doing this. To simply measure distances and angles for clearances, you can use the Measure Distance command. Pick two points and view information such as the slope/vertical/horizontal distance values as well as coordinates of the measured location. This command works with point cloud data as well making for a useful QA/QC tool. These measurements can be stored using the Save button.



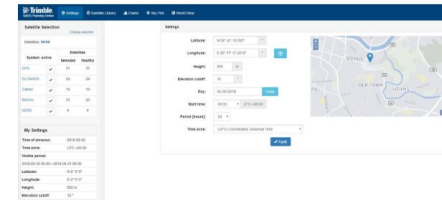
## Tip of the Week #43 - New GNSS Planning Online Tool

Blog Post created by Joe Blecha on May 30, 2018

Like • 5 Comment • 0

Believe it or not, Trimble is not just a provider of world-class field-to-finish survey CAD office software, we make industry-leading GNSS units too, among others! And, we've helped the broad geospatial community by publishing a new HTML JavaScript-based GNSS Planning Online Tool. Check it out at: <http://www.gpsplanonline.com/>

Set your position geographically or with Lat, Longs, enter height, elevation cutoff mask, day and time parameters, along with a constellation toggle to set the satellites you wish to use.





# TBC Community - Geospatial

<https://community.trimble.com/groups/trimble-business-center-group>

**Trimble Business Center Group**

Following Actions ⓘ ⚙️

Activity Content People Projects Reports Events

**RECENT ACTIVITY**

**Katie Byron** in Trimble Business Center Group  
3 days ago Show more

🔗 **Wondering if anyone has used TBC to check how plumb steel columns are from a point cloud?**

Hey looking for different ideas on extracting data using TBC, from point cloud scans of individual steel columns. I essentially want to check how plumb each individual column is at predefined heights above the base. My first thought is a thin cutting plane at the base elevation, find the center by averaging the points and using this as the...

Like (0) · Comment · Share

4 replies Show more activity

**Katie Byron** (to Robert Hoy) 1 day ago Show more

Looking for a report. A) Looking to see if they are within their specified tolerance and B) Looking to see roughly how much they have to adjust and which way, should the results turn out of tolerance.

Like (0) · Helpful Yes · No · Reply

**Justin Roman** in Trimble Business Center Group  
2 weeks ago Show more

🔗 **Change units without changing value?**

I have mistakenly gotten very deep into my project using meters instead of feet. But if I change the project units to feet it converts all my elevations from meters to feet. Is there any way to keep the numerical value locked while changing the units?

Like (0) · Comment · Share

2 replies Show more activity

**FEATURED CONTENT**

- TBC Power Hour Vault
- TBC Tips
- Trimble Business Center Group on Trimble Community

All content

**HELPFUL LINKS**

- TBC on YouTube
- TBC Webpage
- TBC on Facebook
- Trimble Geospatial Webinars
- Trimble Geospatial on YouTube
- TBC Tutorials
- TBC Construction Community
- TBC Macros Learning Community

**ASK TBC GROUP**

Type your question...

Submit

**POPULAR CONTENT**

- TBC Tips

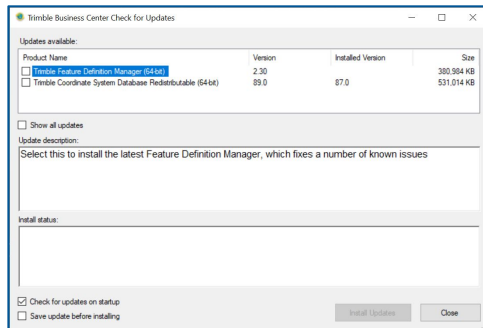
- Public blog for news, questions, + forum topics
- Monitored by TBC team, answers from TBC/Trimble + end users
- Use for:
  - Events + training session announcements
  - Connect with the TBC product team + other users
  - Ask a question or search for existing questions
  - TBC Tips + TBC Power Hour Vault pages

# TBC News + Notifications

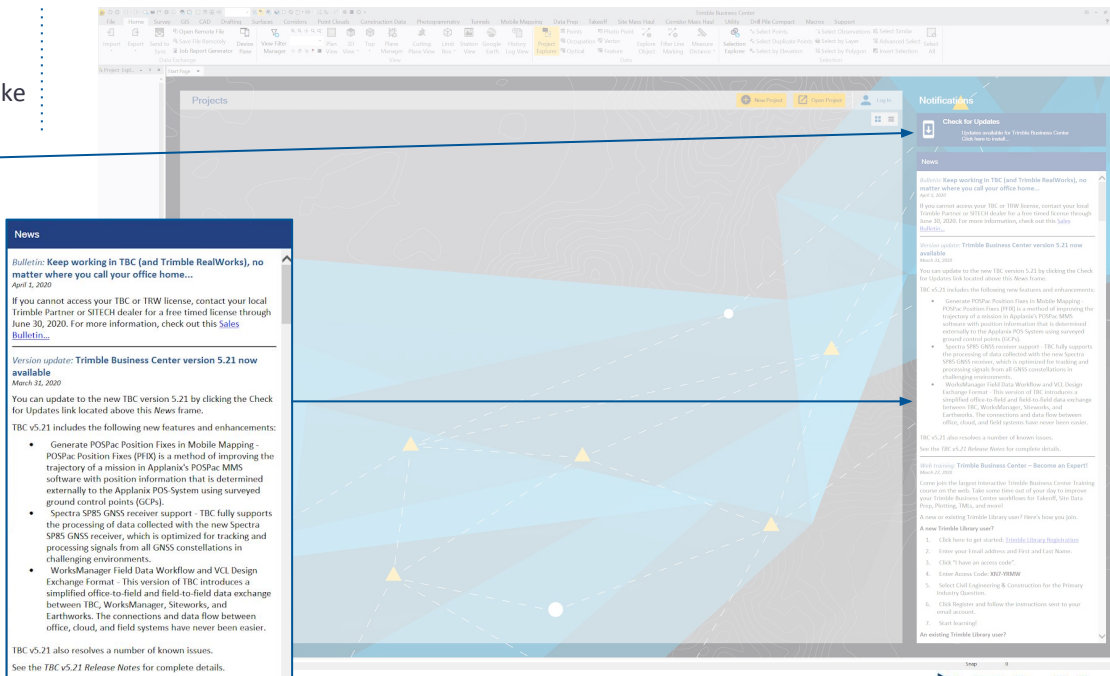
- Feed in the TBC Start Page with links to updates, announcements, webinars, + more

- Use for:

- the latest up-to-the minute product news
- download updates to TBC + supported utilities like Coordinate System Manager



*Note - internet connection required  
for TBC News + Check for Updates*

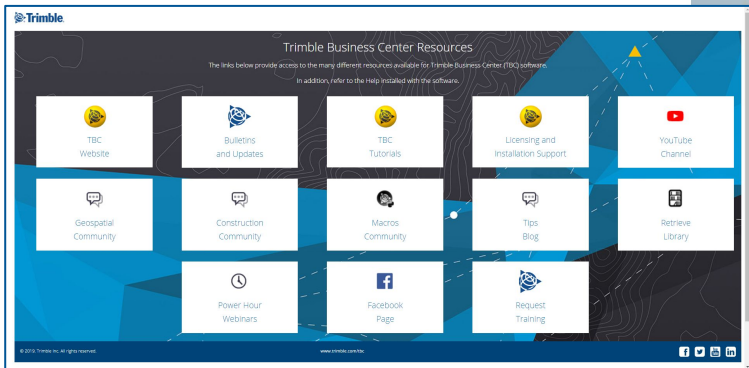
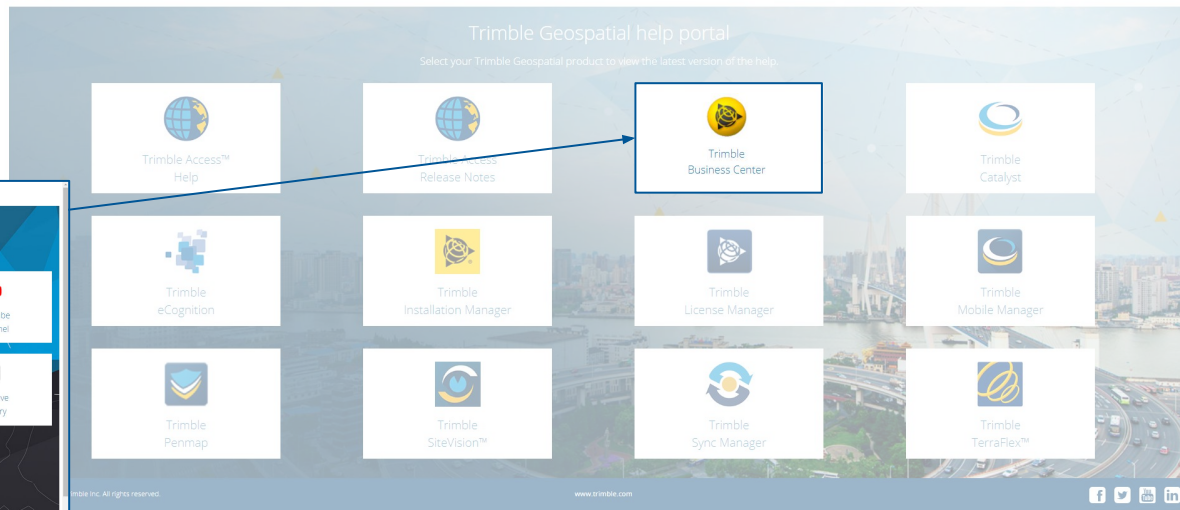


# Trimble Geospatial Help Portal

<https://help.trimblegeospatial.com/portal/>

- Gateway to a variety of Trimble Geospatial products - TBC, Trimble Access, Trimble Sync Manager, others
- Use for:
  - starting point for all TBC or other Trimble Geospatial product resources
  - perfect homepage or bookmark for Trimble Geospatial customers!

Trimble



# TBC Community - Construction

<https://community.trimble.com/community/find-answers/civil-engineering-and-construction/business-center-hce>

- Content, documentation, help, + videos posted for Construction-focused TBC workflows
- Monitored by TBC team, answers from TBC/Trimble + end users
- Use for:
  - Events + training sessions announcements
  - Corridor modeling, take-off, mass haul, drafting workflows questions + answers

All Places > Find Answers > Public - Civil Engineering and Construction Software  
Trimble Business Center for Construction

Follow Actions

Overview Content People Subspaces Events Reports

WELCOME TO THE TBC COMMUNITY!

**Latest product news:**

- **TBC v5.21 has been released!** This version can be downloaded through [this web form](#)® or through Support > Check for Updates on the ribbon within the program. There are many new features, enhancements, and bug fixes. See the [Release Notes](#) under Featured Content to the right.

**How to use the Community:**

- Search for the latest content, ask a question, see answers to other user questions, start a discussion, or post your own helpful content. This is your community, a place to engage your colleagues and share your wisdom.

**Things to direct to your Dealer/Support:**

- Report a TBC usability issue or defect (bug) by emailing a detailed description and the steps required to replicate it to your SITECH dealer.
- Suggest product enhancements to your SITECH dealer. They will forward your ideas to the TBC product development team.

UPCOMING EVENTS

Create a new event

ASK A QUESTION

Type your question

Ask It

FIND TBC CONTENT

Search

Search

TIPS

**Asking follow-up questions:**  
If you have a follow-up inquiry to a question that has been answered and marked as such, you should ask yours as a new question, not a reply in the original thread (but include a link back to the original question). Otherwise, the fact that you have a new inquiry in a 'closed thread' may cause your question to be missed.

**Following and bookmarking threads:**  
Using the **Actions menu** in the upper-right corner of the community, you can get alerts when there are new replies/comments on a topic using the **Follow** command. You can also save your favorite threads using the **Bookmark** command.

To organize your bookmarked threads, click **My Stuff > My Bookmarks** on the menu bar at the top of the community. Then click the gear icon on the right next to a thread that you want to tag and select **Edit bookmark**. Add consistent tags to related threads so you can find them with a search.

# TBC Macros Community Pages

<https://community.trimble.com/groups/trimble-business-center-hce>

- Community forum focused on building + using Macros in TBC
- Use for:
  - ask questions + learn how to write Macros in the Trimble Macro Language (TML)
  - post your macros for distribution + feedback
  - download sample macros from the TBC team + learn about the TBC objects + IronPython scripting

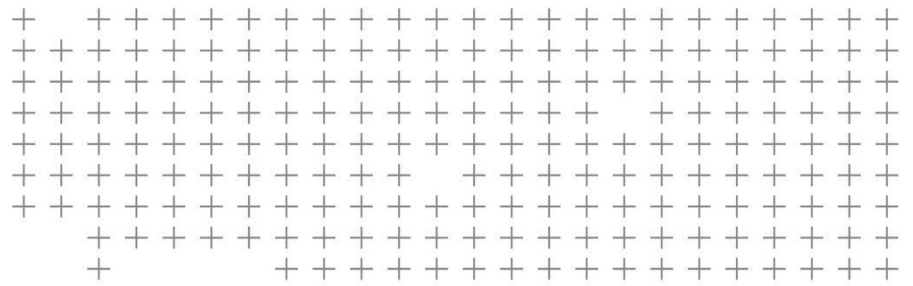


# TBC Retrieve

<https://trimble.retrieve.com>

- Online platform with videos, tutorials, + learning tiles available on-demand
- Available also via Trimble Library mobile app
- Use for:
  - ask questions, post comments
  - track your progress through the topics
  - learn about new features + workflows in topic-based playlists + tutorials
  - purchase + save video content

The screenshot displays the Trimble Retrieve web interface. On the left is a navigation sidebar with a tree view containing the following items: Introduction, Available Editions & Mo..., User Interface (Menus & ...), Macros, CAD Drafting - Labeling, Data Prep - Modeling, Corridor, and Scanning. The main content area shows a video player titled "Introduction - Introduction" with a video titled "Trimble Business Center v5.00?". The video player includes a play button, a progress bar at 00:22 / 01:35, and a settings icon. Below the video player is a grid of nine learning tiles, each with a yellow circular icon and a title. The tiles are: SITECH Dealer Sales Kit, Trimble Business Center v5.00 New Features, Trimble Business Center v5.00 Viewer, Trimble Business Center v5.00 Field Data Edition, Trimble Business Center v5.00 Surface Modeling Edition, Trimble Business Center v5.00 Survey Intermediate Edition, Trimble Business Center v5.00 Site Construction Edition, Trimble Business Center v5.00 Survey Advanced Edition, and Trimble Business Center v5.00 Site Modeling Edition. Each tile also features a play button icon and a settings icon.



# TBC Resources - Sorted By Topic



# TBC Resources - Sorted By Topic - Index

- [GNSS - Baseline](#)
- [Level](#)
- [Total Station - Traverse](#)
- [Network Adjustment](#)
- [Grid-Ground Relationships](#)
- [Feature Coding](#)
- [Sync Manager, SiteVision, + Clarity](#)
- Point Cloud
  - [General](#); [Registration](#); [Feature Extraction](#)
- [Surface - Volume](#)
- Corridor
  - [Data Transfer](#); [Design](#)
- [CAD + Drafting](#)
- [Aerial Photogrammetry + UASMaster](#)
- [Mobile Mapping](#)
- [GIS Workflows](#)
- [Custom Report](#)
- [Sonar](#)
- [Data Prep](#)
- [Tunneling](#)
- [Cadastral + COGO](#)
- [Construction](#)
- [TBC General / Platform](#)

# GNSS Data - RTK + Baselines

- **Tutorials:**

- [Importing GNSS Data](#)
- [Processing GNSS Baselines](#)

- **Power Hours:**

- [2015.10 - How to Integrate Total Station, Level, + GNSS Data](#)
- [2016.03 - Integrating RTK, Total Station, Level, + User-entered Data](#)
- [2016.09 - Baseline Processing Workflows](#)
- [2017.06 - Field to Finish with Confidence](#)
- + [2020.04 - TBC Recap - Field to Finish with Confidence](#)
- [2020.03 - Find and Correct Common Field Data Errors](#)

- **YouTube Videos:**

- [GNSS Playlist](#)

- **Tips:**

- [RTX-PP](#)
- [GNSS Planning Tool](#)
- [Import .zip](#)
- [Understanding the session editor](#)

- **Documentation:**

- [New GNSS Baseline Processor White Paper](#)
- [New Baseline Engine Product Bulletin](#)

# Level Data

- **Tutorials:**
  - [Importing Digital Level Data](#)
- **Power Hours:**
  - [2015.10 - How to Integrate Total Station, Level, + GNSS Data](#)
  - [2016.01 - Working with Level Data](#)
  - [2016.03 - Integrating RTK, Total Station, Level, + User-entered Data](#)
- **YouTube Videos:**
  - [Trimble DiNi Level Import + Process](#)
  - [Import Digital Level Data](#)
  - [Import Custom CSV Level Data to TBC](#)
  - [Leica GSI Level Data Import](#)
  - [Keying in Level Data](#)
- **Tips:**
  - ["Sunny" Level Editing](#)

# Total Station Data + Traverse Adjustment

- **Tutorials:**

- [Importing Total Station Data](#)
- [Adjusting Traverses](#)

- **Power Hours:**

- [2015.10 - How to Integrate Total Station, Level, + GNSS Data](#)
- [2016.03 - Integrating RTK, Total Station, Level, + User-entered Data](#)
- [2016.04 - Working with Total Station Data](#)
- [2017.06 - Field to Finish with Confidence + 2020.04 - TBC Recap - Field to Finish with Confidence](#)
- [2017.08 - Traverse Adjustment vs. Network Adjustment](#)
- [2020.03 - Find and Correct Common Field Data Errors](#)

- **YouTube Videos:**

- [Total Station Editor](#)
- [Changing Setup Type in TBC](#)
- [Create + Configure Optical Spreadsheet](#)

- **Tips:**

- [Vector Arrow](#)



# Network Adjustment



- **Tutorials:**
  - [Adjusting the Network](#)
- **Power Hours:**
  - [2016.05 - Network Adjustment Workflows](#)
  - [2017.08 - Traverse Adjustment vs. Network Adjustment](#)
  - [2019.05 - Relative Positional Precisions](#)
- **YouTube Videos:**
  - [Network Adjustments](#)
- **Tips:**
  - [Default Standard Errors](#)
  - [North/East Components](#)
  - [Investigating Data with Point Derivation Reports](#)
  - [Comp Engine and the Point Derivation Report](#)

# Grid-Ground Relationships

- **Tutorials:**
  - [Calibrating a Site](#)
- **Power Hours:**
  - [2017.06 - Field to Finish with Confidence](#) + [2020.04 - TBC Recap - Field to Finish with Confidence](#)
  - [2017.07 - Grid + Ground Coordinates](#)
  - [2017.11 - Site Calibrations + Local Site Settings](#)
  - [2020.03 - Find and Correct Common Field Data Errors](#)
- **YouTube Videos:**
  - [Snake Grid Projections](#)
  - [Ground Scale Factor + Ground Distances](#)
- **Tips:**
  - [Visualizing Survey Data in Google Earth](#)



# Feature Coding



- **Tutorials:**
  - [Working with Feature Definitions](#)
  - [Processing Feature Codes](#)
- **Power Hours:**
  - [2015.09 - Survey Feature Coding + Attribution](#)
  - [2018.10 - Autodesk Interoperability + Feature Coding](#)
- **YouTube Videos:**
  - [Feature Coding Playlist](#)
- **Tips:**
  - [Locking Manual Edits to Feature Coded Geometry](#)
  - [TBC Point Symbols in AutoCAD](#)



# Sync Manager, SiteVision, + Clarity

- **Tutorials:**

- [Exporting Data for Visualization in Trimble SiteVision](#)
- [Sharing 3D Data Using Trimble Clarity](#)

- **Power Hours:**

- [2018.09 - Office to Field Workflows using Trimble Sync Manager](#)
- [2019.11 - Visualizing Point Clouds Online with Trimble Clarity](#)
- [2020.02 - Augmented Reality Workflows with SiteVision](#)

- **YouTube Videos:**

- [Data Synchronization in TBC - Trimble Sync Manager](#)
- [Trimble Sync Manager in Two Minutes](#)
- [Trimble Sync Manager Introduction Webinar](#)

- **Documentation:**

- [Trimble Sync Manager website](#)
- [Trimble SiteVision website](#)
- [Trimble Clarity website](#)
- [Publish to Clarity Troubleshooting Bulletin](#)

- **Tips:**

- [Exporting to SiteVision from TBC](#)

# Point Cloud - General

- **Tutorials:**

- [Working with Point Clouds](#)
- [Working with Plans](#)
- [Extracting Point Features](#)
- [Working with Trimble X7 Data](#)

- **Power Hours:**

- [2016.10 - Topographic Map Creation Using Trimble SX10](#)
- [2016.11 - Trimble SX10 Roading + Corridor Workflows](#)
- [2018.01 - Working with Point Clouds in TBC](#)
- [2019.01 - Using SX10 + Sonarmite Data Together in TBC](#)
- [2019.04 - Scanning Workflows for Street Topo + Structural Facades](#)
- [2019.10 - Introducing the X7 Scanning Solution with TBC](#)
- [2019.11 - Visualizing Point Clouds Online with Trimble Clarity](#)

- **YouTube Videos:**

- [Point Clouds Playlist](#)

- **Tips:**

- [Maximize your PC's RAM for Improved Point Cloud Rendering](#)
- [Making CAD objects and points using Virtual DR](#)
- [Creating Scan Stations from Total Station scans](#)

- **Documentation:**

- [Product Bulletin - Working with Point Clouds](#)

# Point Cloud - Registration

## ● Tutorials:

- [Processing Trimble SX10 Data](#)
- [Performing a Plane-Based Registration](#)
- [Working with Trimble X7 Data](#)

## ● Power Hours:

- [2018.01 - Working with Point Clouds in TBC](#)
- [2019.04 - Scanning Workflows for Street Topo + Structural Facades](#)

## ● YouTube Videos:

- [Point Clouds Playlist](#)

## ● Tips:

- [Lock leveled scan data for registration and georeferencing purposes](#)
- [Maximize your PC's RAM for Improved Point Cloud Rendering](#)
- [Scan registration QA using cutting plane view](#)
- [Using 'measure point' tool to identify scans](#)
- [More efficiency with scan registration](#)
- [Creating Scan Stations from Total Station scans](#)

## ● Documentation:

- [Product Bulletin - Working with Point Clouds](#)

# Point Cloud - Feature Extraction

- **Tutorials:**

- [Extracting Point Features](#)
- [Working with Linestrings](#)

- **Power Hours:**

- [2016.10 - Topographic Map Creation Using Trimble SX10](#)
- [2016.11 - Trimble SX10 Roading + Corridor Workflows](#)
- [2018.01 - Working with Point Clouds in TBC](#)
- [2019.01 - Using SX10 + Sonarmite Data Together in TBC](#)
- [2019.04 - Scanning Workflows for Street Topo + Structural Facades](#)

- **YouTube Videos:**

- [Point Clouds Playlist](#)

- **Tips:**

- [Maximize your PC's RAM for Improved Point Cloud Rendering](#)
- [Point Cloud by Boundary](#)
- [See Inside Point Clouds](#)
- [Using 'measure point' tool to identify scans](#)
- [Making CAD objects and points using Virtual DR](#)

- **Documentation:**

- [Product Bulletin - Working with Point Clouds](#)

# Surfaces + Volumes

- **Tutorials:**

- [Working with Point Clouds](#)
- [Creating Projected Surfaces](#)

- **Power Hours:**

- [2018.06 - Going Vertical in TBC... with Projected Surfaces](#)

- **YouTube Videos:**

- [Surfaces Playlist](#)
- [Projected Surfaces Playlist](#)

- **Tips:**

- [Breakline Tolerances for Surfaces](#)
- ["Draping" Ortho Images on Surfaces](#)
- [Staking Cut/Fill Data](#)
- [Reproject Surface to a New Plane Definition](#)
- [Offsetting a Surface](#)
- [Vertical Exaggeration in 3D View](#)
- [Speed up Surface Volume Calculations](#)
- [Donut Surfaces \(Multiple Surface Boundaries\)](#)
- [Setting maximum edge length to trim surface edges](#)

# Corridor - Design

- **Tutorials:**

- [Working with Corridors](#)
- [Working with Superelevations](#)

- **Power Hours:**

- [2016.11 - SX10 Rooding Workflows in Trimble Access + TBC](#)
- [2018.04 - WYDOT Presents Rooding Workflows in TBC](#)
- [2019.07 - Corridor Modeling in TBC](#)

- **YouTube Videos:**

- [Multi-slice Cutting Plane](#)
- [v5.10 What's New for Construction Workflows](#)
- [Create a Corridor](#)
- [Create a 3D Alignment](#)

- **Tips:**

- [Using the Explore Object Command](#)
- [Re-using Road Corridor Templates](#)
- [Undefined in Corridor Template Instruction](#)



# Corridor - Data Transfer + Export

- **YouTube Videos:**
  - [Road Export](#)
- **Documentation:**
  - [Product Bulletin - Strings Export](#)



# CAD + Drafting

## ● Tutorials:

- [Working with Linestrings](#)
- [Creating Labels](#)
- [Working with Advanced Drafting](#)
- [Creating COGO Collections and Parcels](#)
- [Working with IFC Data](#)

## ● Power Hours:

- [2016.06 - Advanced Drafting Workflows](#)
- [2016.10 - Topographic Map Creation Using Trimble SX10](#)
- [2017.03 - Streamlining Workflows using Templates, Styles, + Libraries](#)

## ● YouTube Videos:

- [Advanced Drafting Overview](#)
- [Plotting Plan Sheets with Fixed Scale](#)
- [Create + Edit a Plotbox](#)

## ● Tips:

- [Label Style Previews](#)
- [Hiding the Dynaview Frame](#)
- [Customize Drafting Templates](#)
- [TBC Point Symbols in AutoCAD](#)
- [Smart Text in Plan Set Templates](#)
- [Consistent Drafted Deliverables](#)
- [Referencing to object attributes and creating smart text](#)
- [Naming Bounding Geometries using 'Name from Inside Text'](#)
- [Vector PDF to CAD](#)
- [Breaking apart objects using the explode command](#)
- [Understanding the horizontal and vertical components of a linestring](#)
- [Understanding '?' line elevations](#)
- [Making CAD objects and points using Virtual DR](#)

## ● Documentation:

- [Drafting Webinar Materials](#)

# Aerial Photogrammetry + UASMaster

- **Tutorials:**

- [Processing Aerial Survey Data](#)
- [Processing Trimble UX5 HP Aerial Survey Data](#)

- **Power Hours:**

- [2016.12 - UAS Processing using TBC/UASMaster Workflows](#)
- [2018.08 - Processing Delair UX11 Aerial Data in TBC](#)
- [2020.03 - Processing WingtraOne Drone Imagery](#)

- **YouTube Videos:**

- [Aerial Photogrammetry Playlist](#)

- **Tips:**

- [Creating Orthorectified Image for Facade Reconstruction - Using Multiple Stations](#)
- [Quick + Clean Facade Segmentation for Orthophotos](#)
- [Removing parallax from station view](#)

- **Documentation:**

- [UASMaster website](#)

# Mobile Mapping

- **Power Hours:**
  - [2019.02 - MX9 Mobile Mapping Workflows in TBC](#)
  - [2020.01 - New v5.20 Mobile Mapping Features](#)
- **YouTube Videos:**
  - [Mobile Mapping Playlist](#)
- **Documentation:**
  - [Product Bulletin - MX9 Best Practices](#)
  - [Mobile Mapping Solutions Website](#)
  - [Imaging Downloads](#)
- **Mobile Mapping Webinars:**
  - [2019.06 - Factors Influencing Data Accuracy and Best Practices](#)
  - [2019.09 - Trajectory Processing in POSPac - Part 1](#)
  - [2019.10 - Trajectory Processing in POSPac - Part 2](#)
  - [2019.11 - How to get data in Trimble MX software to perform efficient feature extraction](#)
  - [2020.03 - Databases in Trimble MX Software](#)
  - [2020.04 - Considerations When Evaluating Mobile Mapping Solutions](#)



# GIS Workflows



- **Tutorials:**
  - [Working with Feature Definitions](#)
  - [Processing Feature Codes](#)
  - [Integrating Survey + GIS Data](#)
  - [Processing TerraSync SSF Data](#)
- **Power Hours:**
  - [2015.11 - Seamlessly Integrate Survey Data with GIS Data](#)
- **YouTube:**
  - [GIS Playlist](#)



# Custom Reporting



- **Tutorials:**
  - [Creating Custom Reports](#)
- **Power Hours:**
  - [2017.02 - Data Traceability using Customized Reports](#)
- **YouTube Videos:**
  - [Job Report Generator](#)
  - [Adobe PDF Reports](#)
  - [Volumetric Reports](#)
  - [Area Count Length Report](#)
- **Tips:**
  - [Report Options](#)



# Sonar Workflows



- **Power Hours:**
  - [2019.01 - Using SX10 + Sonarmite Data Together in TBC](#)

# Data Prep

- **Tutorials:**
  - [Importing As-Staked Points](#)
  - [Performing Data Prep](#)
  - [Working with Field Data for SCS + GCS](#)
- **Power Hours:**
  - [Three Construction Survey Workflows in TBC](#)
  - [Site Modeling in TBC](#)
- **YouTube Videos:**
  - [Data Prep Workflows](#)
  - [IFC Models Prep for Stakeout](#)
- **Tips:**
  - [Auto-Advance](#)
  - [Doing Math in TBC](#)
  - [Image Georeferencing](#)
  - [Create Linestring by Station + Offset](#)
  - [Exporting to SiteVision from TBC](#)





# Tunneling



- **Tutorials:**
  - [Creating a Tunnel Design](#)
  - [Working with Tunnel As-Built Points](#)
- **Power Hours:**
  - [2018.05 - Going Underground in TBC... with Tunnels](#)
- **YouTube Videos:**
  - [Tunneling Playlist](#)



# Cadastral + COGO



- **Tutorials:**
  - [Using Spreadsheets, Selection Sets, + COGO Controls](#)
  - [Creating COGO Collections + Parcels](#)
- **Power Hours:**
  - [2017.10 - Legal Description Writer + Map Closures](#)
  - [2018.03 - COGO Routines](#)
  - [2018.07 - TBC Cadastral Workflows](#)
- **YouTube Videos:**
  - [Cadastral Playlist](#)
- **Tips:**
  - [Coordinate Controls](#)
  - [Bearing/Azimuth Angle Controls](#)
  - [Transform Survey Points](#)
  - [Average Points vs Merge Points Command](#)



# Construction



- **Tutorials:**
  - [Working with Field Data for SCS and GCS](#)
  - [Exporting Data for Visualization in Trimble SiteVision](#)
  - [Calculating Takeoff Volumes for a Simple Site](#)
  - [Analyzing Mass Haul for a Simple Site](#)
  
- **Power Hours:**
  - [2019.06 - Site Modeling](#)
  - [2019.09 - IFC Workflows between TBC + Trimble Access](#)
  - [2020.02 - Augmented Reality Workflows with SiteVision](#)

# TBC General + Platform

## Tutorials:

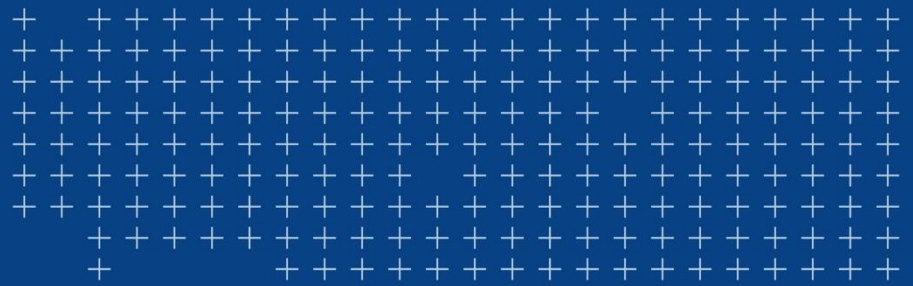
- [Setting Up a New Project](#)
- [Using Spreadsheets, Selection Sets, and COGO Controls](#)

## Tips:

- [Customized Keyboard Shortcuts, Ribbons, + the Quick Access Toolbar](#)
- [Tricks and Right-Clicks](#)
- [Tips and Zips \(Importing a .zip file\)](#)
- [TBC Help is Closer than You Think](#)
- [Where are all the TBC Report Settings at?](#)
- [Your New Home Page...](#)
- [Version Upgrade Eligibility](#)
- [Available License Servers](#)
- [Graphic Selection Methods](#)
- [Quick Zoom Extents](#)
- [Save Reminders](#)
- [Context Menu Customization](#)
- [Freehand \(Lasso\) Selection](#)
- [View Filter Manager Shortcuts](#)
- [Background Map to Verify Data](#)
- [Dock the Properties](#)

## Tips (continued):

- [Guided Workflows Directly from TBC Help](#)
- [Drag and Drop Data Import](#)
- [Selection Box in Commands](#)
- [Make Objects Unselectable](#)
- [Customizing the Ribbon Tabs](#)
- [Even More Granular Visibility with Selection Sets](#)
- [How the Geoid affects Height and Elevation computations](#)
- [Adding to layer using plan view](#)
- [Creating different viewpoints using the 'Defined Views' command](#)
- [Easy navigation to commands using the 'command pane'](#)
- [Presentation of your data using TBC](#)
- [Modify your selections using Advanced Select](#)
- [Help getting started with major workflows instructions](#)
- [Finding points in the graphical views](#)
- [Expanding functionality using TML's](#)



# TBC Resources