OnPoz®

Precision Positioning

Getting Started with the eXplorist Pro 10 For EZSurv™

This Getting Started is meant to help quickly get started, for detailed information, refer to EZSurv User Guide available with the software install.

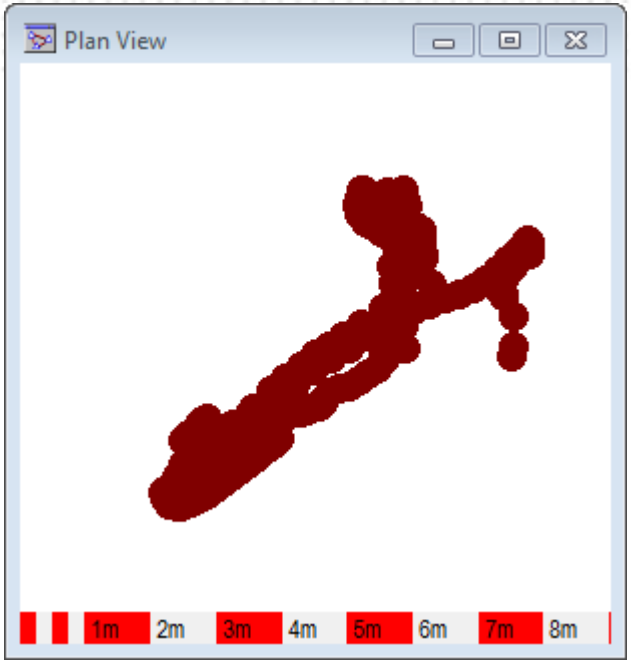
Summary

- Why post-processing ?
- Basic post-processing concepts
- Installing and starting EZSurv
- Using EZSurv
  - Basic configurations
    - ✓ Default settings
    - ✓ Mapping systems
    - ✓ Options
  - Post-Processing data
  - Analyze data
  - Export GIS features

Why post-processing ?

To enhance the GNSS receiver accuracy, reliability and consistency.

Both Plan View display 480 points recorded without moving the Pro10 (same position).



Before

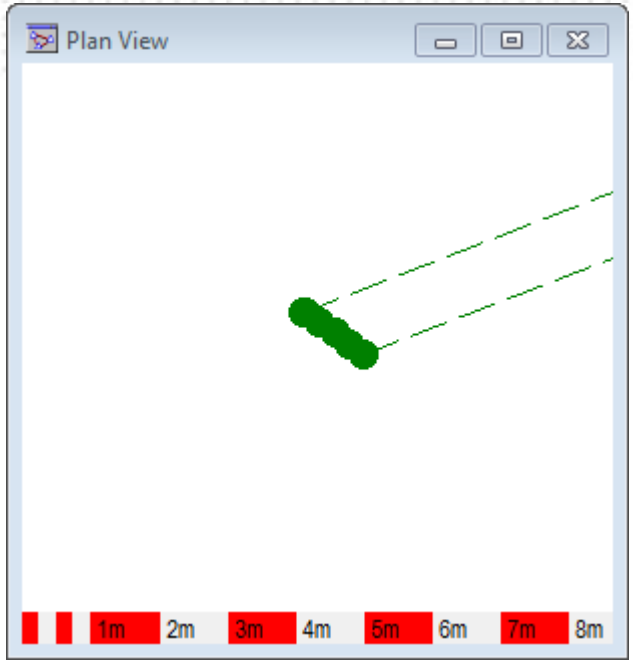
EZSurv™

Post-processing

After

EZSurv™

Post-processing



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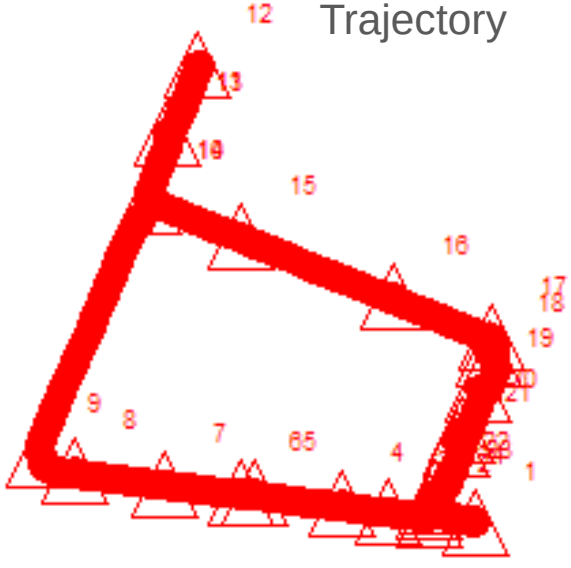
Basic post-processing concepts

- Differential post-processing is a relative positioning mode, the resulting positions are relative to a reference point called a **Base**, the relative accuracy of the positioning depends on the distance between the base and the quality of the field data. Data from many Base Station are available on the Internet.

- **EZ**Surv post-process **trajectories**.

  Trajectories are created when a rover file (with raw GNSS data) is combined with a Base Station data file (covering the rover file time span). Trajectory may or may not include features.

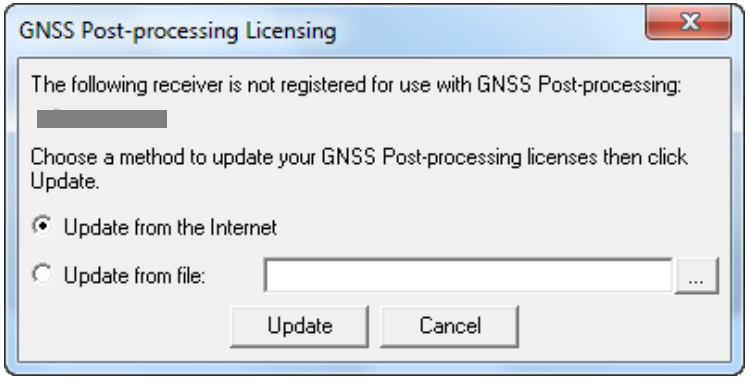


Installing, starting and licensing EZSurv

- Download your **EZSurv** installation package and run **Setup. exe** to install it. Follow the instructions and, if necessary, refer to the **User Guide** delivered with the install.

- Start **EZSurv** application from the Windows **Start** menu, select **All Programs**, then **Effigis > EZSurv**.

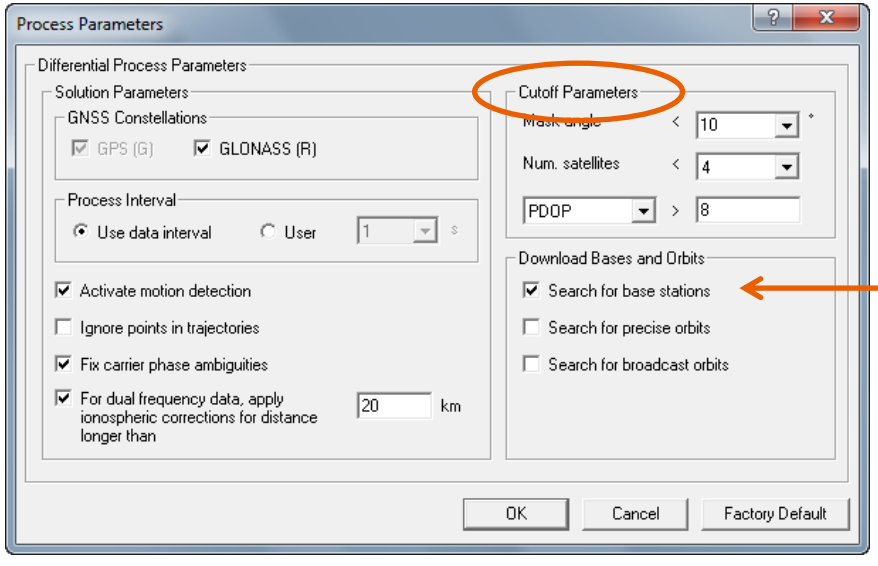
- When starting the application for the first time, your license file will be updated directly from the Internet, if you are not connected to the Internet, you will be asked to load your license file at data import to get it: OnPOZSupport@Effigis.com.



Using EZSurv - Configuring Default settings

When projects are closed, you can set defaults for all future projects.

- **Close** the current project from the **File** main menu.
- From the **Edit Default** main menu, set the default **Processing Mode** (Differential Positioning is the most accurate mode if you have access to base station data).
- From the **Edit Default** main menu, set the default **Process Parameters**, according to your specifications, set your own process parameters (such as cutoff parameters) and click **OK** to save your settings.
- Typically, default values should be correct for your needs

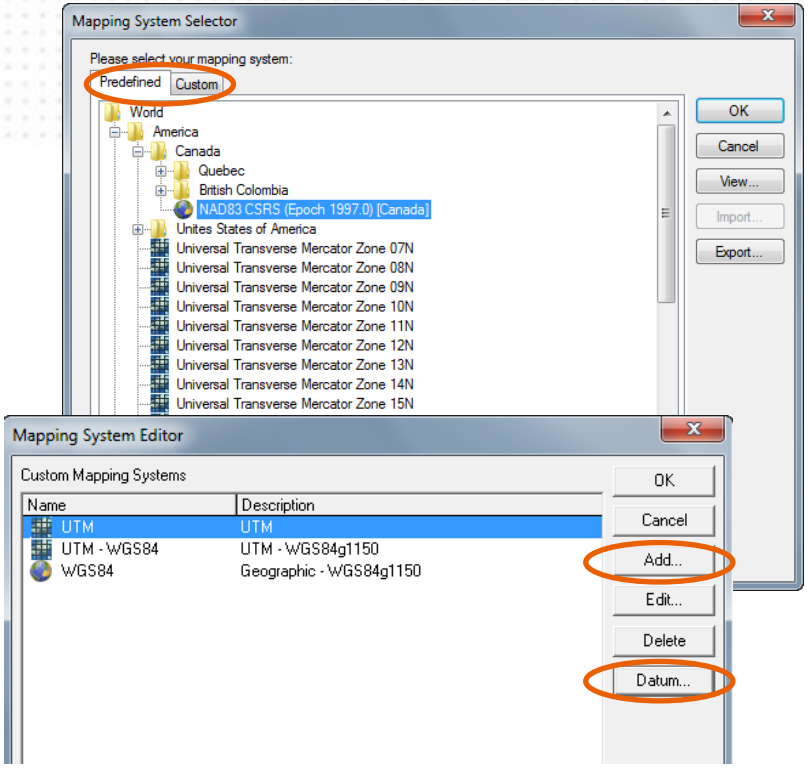


Activate the automatic «Base» search.

Using EZSurv - Configuring Mapping System

Users of **GNSS** Driver[for ArcPad] can use ESRI map projection kit instead of re-creating its projection in **EZSurv**. To use ESRI projection kit, select the **Format** tab found under **Tools > Options**, then in the Shapefiles section, **Set** your Options.

- Select a mapping system to display and export your results. You can select it from a list of **Predefined** mapping system found under **Tools > Mapping systems > Selector…**
- If your mapping system is not in the list, you can create a **Custom** one using **Tools > Mapping systems > Editor…** You may need to create a **Datum** prior to **Add** a mapping system. Once your mapping system is created, you can select it with **Tools > Mapping systems > Selector…** (on the **Custom** Tab).



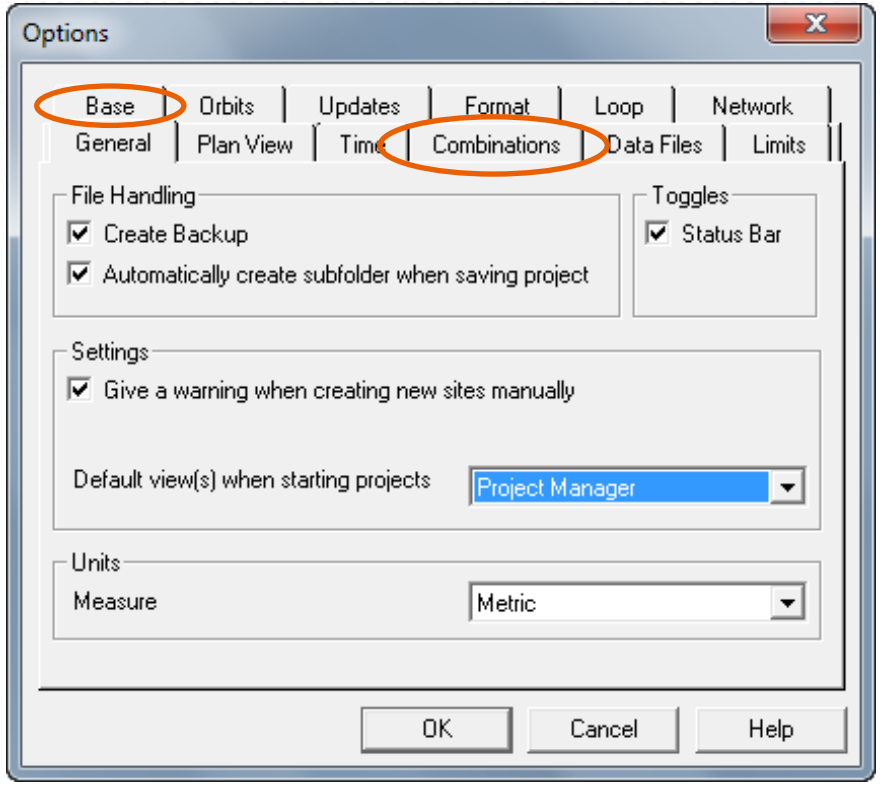
Using EZSurv - Configuring Options

Options are not part of default values as defined in slide «**Default Values**» , however, the post-processor saves options based on your last modifications.

You may visit the different tabs when using the software for the first time. The most important ones are :

- **Base** (for differential positioning)
- **Combination**

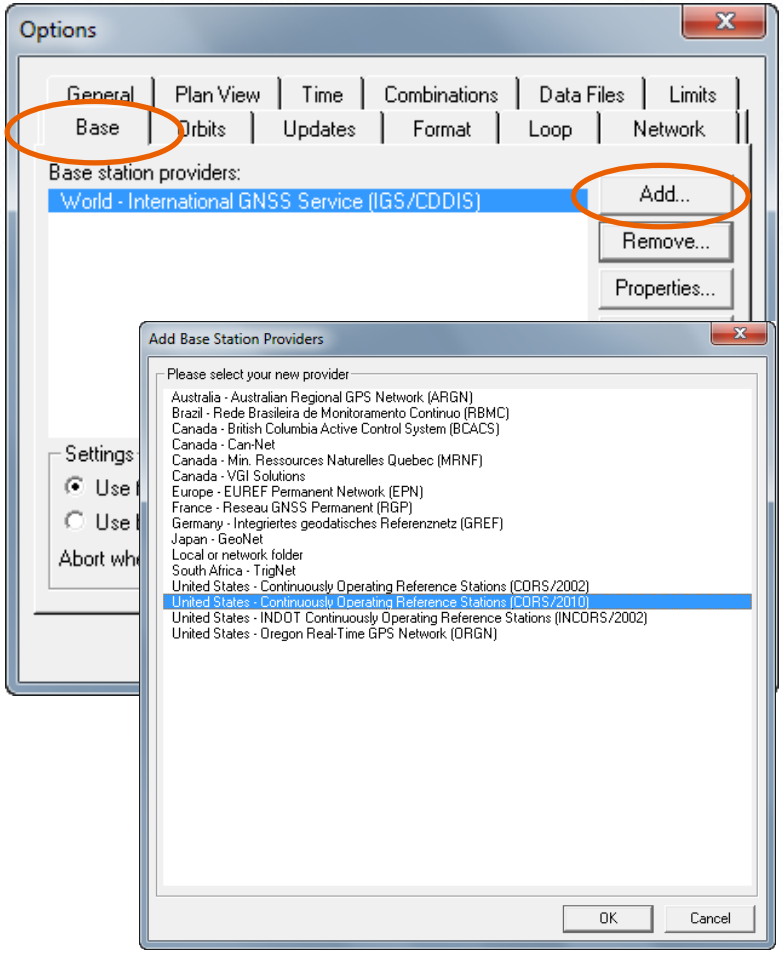
Other options are well explained in the User Guide.



Using EZSurv - Configuring Options

Differential post-processing is relative to a reference point called a **Base**.

- Base networks are located worldwide. They are operated by government agencies or private organizations *(may required a subscription user/password)*.
- **EZSurv** has an automatic access to a lot of networks. The software finds by itself which base station fits best your field data and transfers the necessary files on your PC via Internet.
- Users simply have to select which Base Providers fits the best their area with **Tools > Options… > Base** tab **> Add**. If you operate your own base, you can define a local network folder in order to use it automatically.



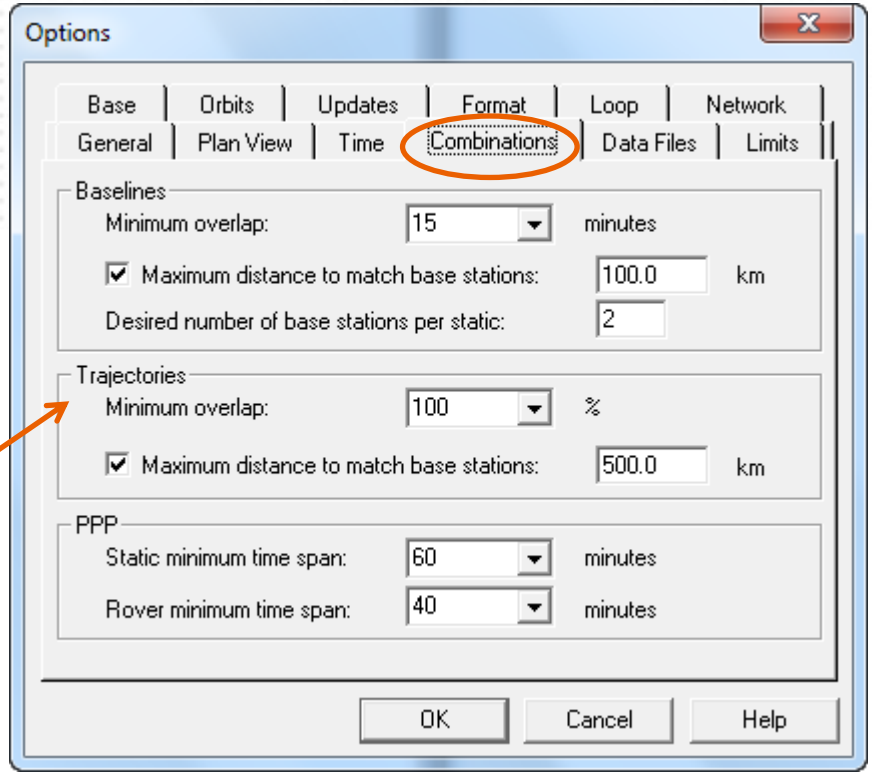
Using EZSurv – Configuring Options

The accuracy of the positioning depends on the distance between the base and the field data.

Using your field data, the processor generates automatically all possible trajectories (rover - base) combinations according to your configurations set under **Tools > Options… > Combinations**.

According to the accuracy needed, input a proper maximum base-rover distance to create Trajectories. Usually, a base should completely overlap the rover (otherwise some point will not be post-processed).

For GIS, maximum distance can be set between 300-500 km

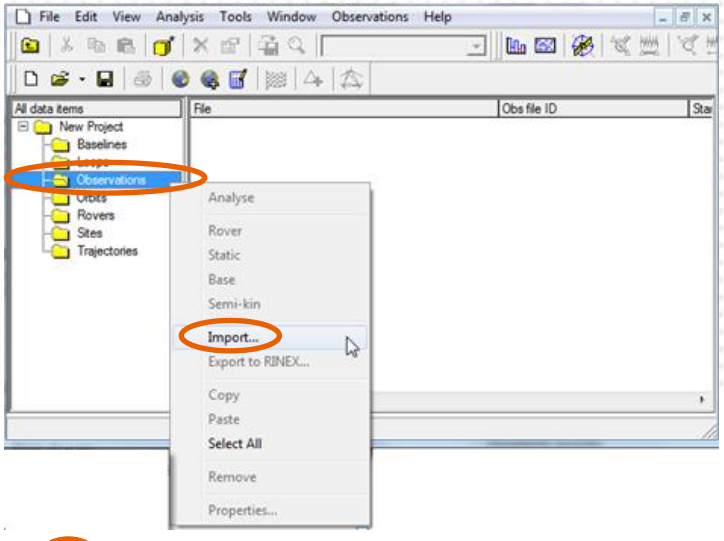


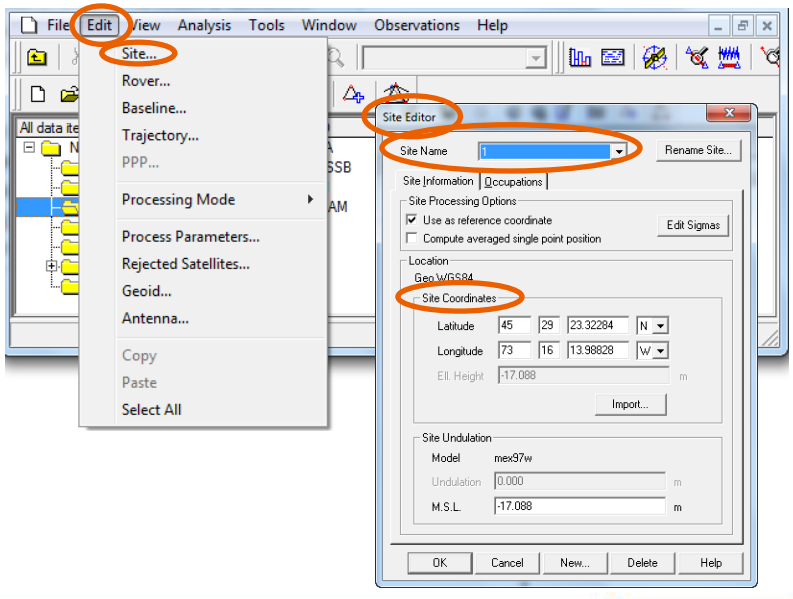
Post-processing data

- Transfer your data files to the PC.
- Start **EZ**Surv , select the **Observations** folder(in the Project Manager View), right click and **Import** your field files. You can also drag & drop your files into the observations folder.

If you operate your own base (local network provider), you need to enter its coordinates.

- Access the **Site Editor** with **Edit > Site**.
- From the **Site Editor** Windows, select the Base site with the **Site Name** drop down list.
- Check the **Use as reference coordinate** check box and input the proper coordinates for your base site (in the proper mapping system).



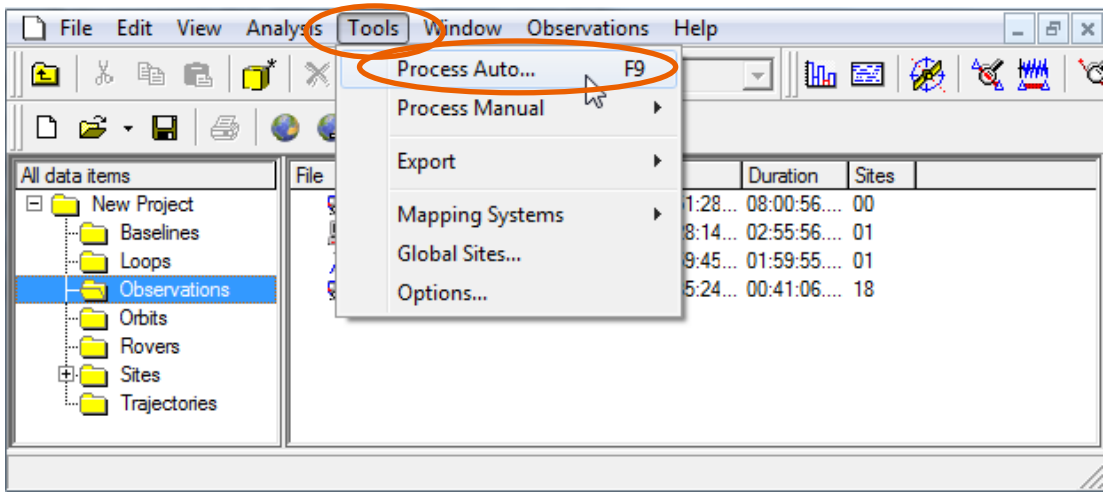


Post-processing data

Select **Process Auto…** from the **Tools** menu to start the GNSS post-processing. The following processes are performed automatically:

- Download Bases and Orbits (unless you imported your own base)
- Merge Bases (if required)
- Define Combinations (according to your Options configurations)
- Process the Data

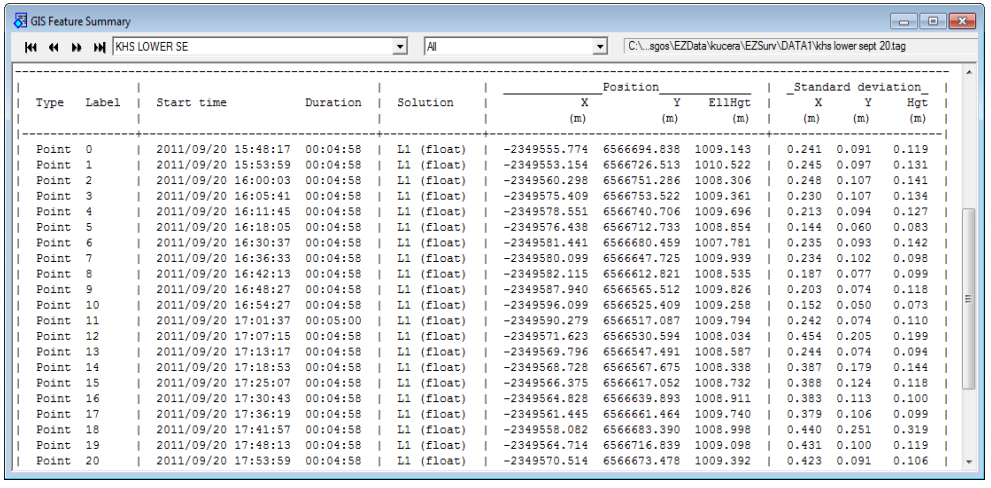
Once the post-processing is completed the **Process Summary** is displayed. Select **Save** from the **File** menu to update your data files with post-processed positions. Select **Archive project** from the **File** menu to save your post-processing project into one moveable file.



Analyze data

Analysis > GIS Feature Summary

You can view the features position along with their accuracy.



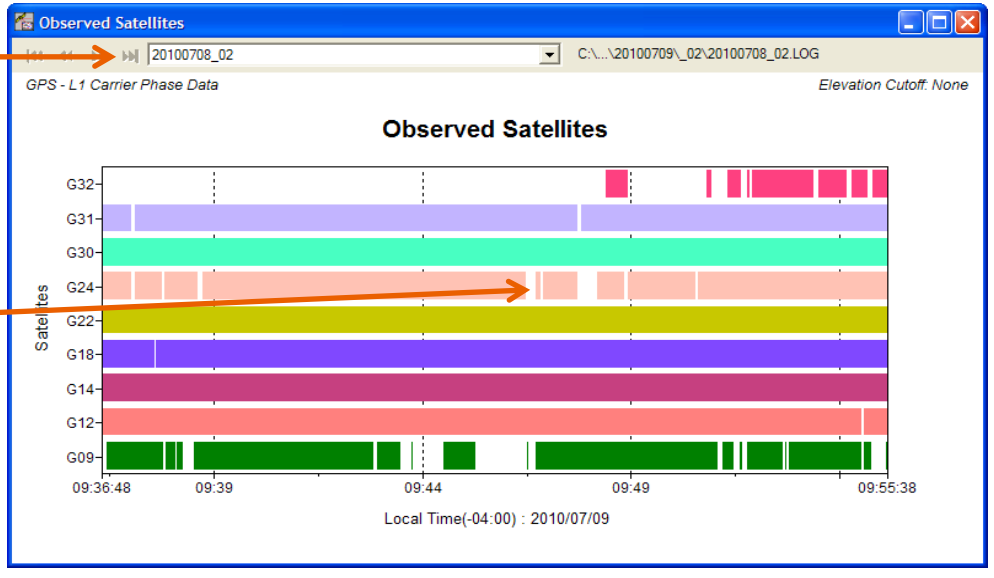
Type	Label	Start time	Duration	Solution	Position X (m)	Position Y (m)	Position EllHgt (m)	Standard deviation X (m)	Standard deviation Y (m)	Standard deviation Hgt (m)
Point	0	2011/09/20 15:48:17	00:04:58	L1 (float)	-2349555.774	6566694.838	1009.143	0.241	0.091	0.119
Point	1	2011/09/20 15:53:59	00:04:58	L1 (float)	-2349553.154	6566726.513	1010.522	0.245	0.097	0.131
Point	2	2011/09/20 16:00:03	00:04:58	L1 (float)	-2349560.298	6566751.286	1008.306	0.248	0.107	0.141
Point	3	2011/09/20 16:05:41	00:04:58	L1 (float)	-2349575.409	6566753.522	1009.361	0.230	0.107	0.134
Point	4	2011/09/20 16:11:45	00:04:58	L1 (float)	-2349578.551	6566740.706	1009.696	0.213	0.094	0.127
Point	5	2011/09/20 16:18:05	00:04:58	L1 (float)	-2349576.438	6566712.733	1008.854	0.144	0.060	0.083
Point	6	2011/09/20 16:30:37	00:04:58	L1 (float)	-2349581.441	6566680.459	1007.781	0.235	0.093	0.142
Point	7	2011/09/20 16:36:33	00:04:58	L1 (float)	-2349580.099	6566647.725	1009.939	0.234	0.102	0.098
Point	8	2011/09/20 16:42:13	00:04:58	L1 (float)	-2349582.115	6566612.821	1008.535	0.187	0.077	0.099
Point	9	2011/09/20 16:48:27	00:04:58	L1 (float)	-2349587.940	6566565.512	1009.826	0.203	0.074	0.118
Point	10	2011/09/20 16:54:27	00:04:58	L1 (float)	-2349596.099	6566525.409	1009.258	0.152	0.050	0.073
Point	11	2011/09/20 17:01:37	00:05:00	L1 (float)	-2349590.279	6566517.087	1009.794	0.242	0.074	0.110
Point	12	2011/09/20 17:07:15	00:04:58	L1 (float)	-2349571.623	6566530.594	1008.034	0.454	0.205	0.199
Point	13	2011/09/20 17:13:17	00:04:58	L1 (float)	-2349569.796	6566547.491	1008.587	0.244	0.074	0.094
Point	14	2011/09/20 17:18:53	00:04:58	L1 (float)	-2349568.728	6566567.675	1008.338	0.387	0.179	0.144
Point	15	2011/09/20 17:25:07	00:04:58	L1 (float)	-2349566.375	6566617.052	1008.732	0.388	0.124	0.118
Point	16	2011/09/20 17:30:43	00:04:58	L1 (float)	-2349564.828	6566639.893	1008.911	0.383	0.113	0.100
Point	17	2011/09/20 17:36:19	00:04:58	L1 (float)	-2349561.445	6566661.464	1009.740	0.379	0.106	0.099
Point	18	2011/09/20 17:41:57	00:04:58	L1 (float)	-2349558.082	6566683.390	1008.998	0.440	0.251	0.319
Point	19	2011/09/20 17:48:13	00:04:58	L1 (float)	-2349564.714	6566716.839	1009.098	0.431	0.100	0.119
Point	20	2011/09/20 17:53:59	00:04:58	L1 (float)	-2349570.514	6566673.478	1009.392	0.423	0.091	0.106

Analysis > Raw Observations

If data was recorded in a difficult environment, the resulting accuracy will be affected.

Navigate through each files.

A discontinuity on a channel means a signal obstruction. A lot of discontinuities means a data set recorded in an obstructed environment (that will not provide optimum results).



Export GIS features

If you are using the GNSS Driver for ArcPad, when saving the post-processing project, EZSurv has updated your SHP files, so you can use them directly within your ArcGIS (or other) data flow.

For EZTagCE users, export your post-processed positions using a specific format with **Tools > Export > Features**.

Select the files to export

Select the Output folder

Configure export options

Export your data