

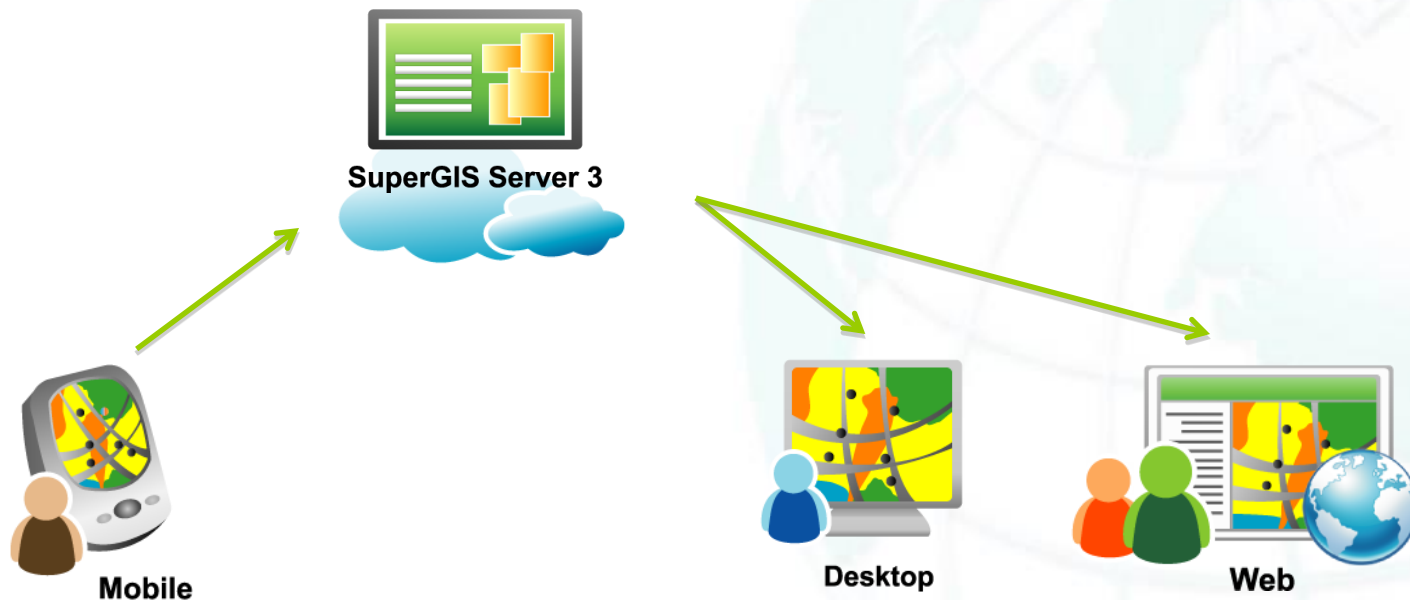
Undergoing a Mobile GIS Change to Make Field Tasks More Productive

**George Wang,
Product Specialist of Product Department**

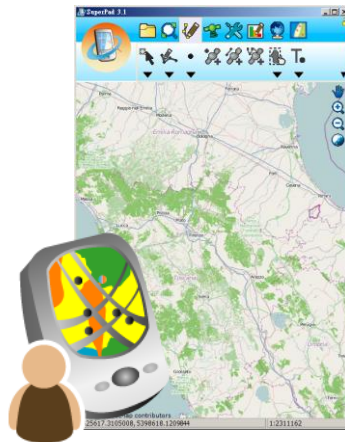


Mobile GIS

- A GIS system on you mobile devices.
- Helpful for **field works**.

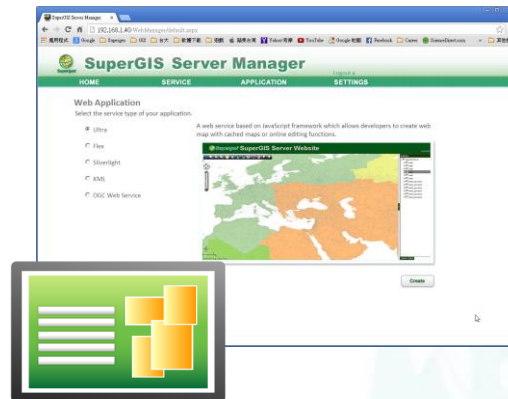


Products



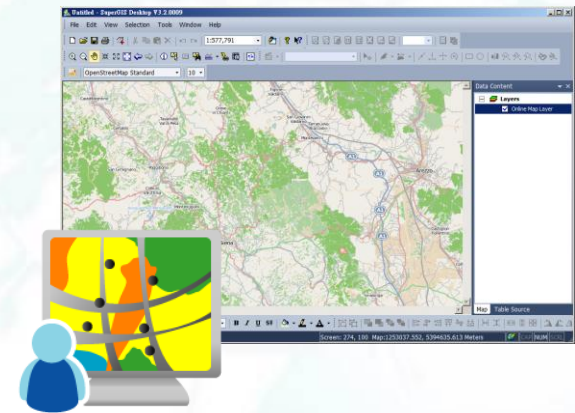
Mobile

SuperPad



SuperGIS Server 3

SuperGIS
Server



Desktop

SuperGIS
Desktop

The story begins...

A natural disaster just hit a natural park, and the manager of the natural park wants to know where are the affected areas:

- **Damaged Building.**
- **Damaged Roads/Trails.**
- **Damaged Areas**
(i.e. Flooded Areas, Landslides...)



Things to do...

- Preparation works:

- Upload data for field works.
- Download the data and add a base map.



- Field works:

- Data collecting and synchronizing.



- Back to office:

- Data post processing.





Desktop

- Prepare the data
- Symbology design
- Save as .sgd file



Upload



SuperGIS Server 3

- Create a new service
- Configure as a feature service

Upload data for field works

PREPARATION WORKS

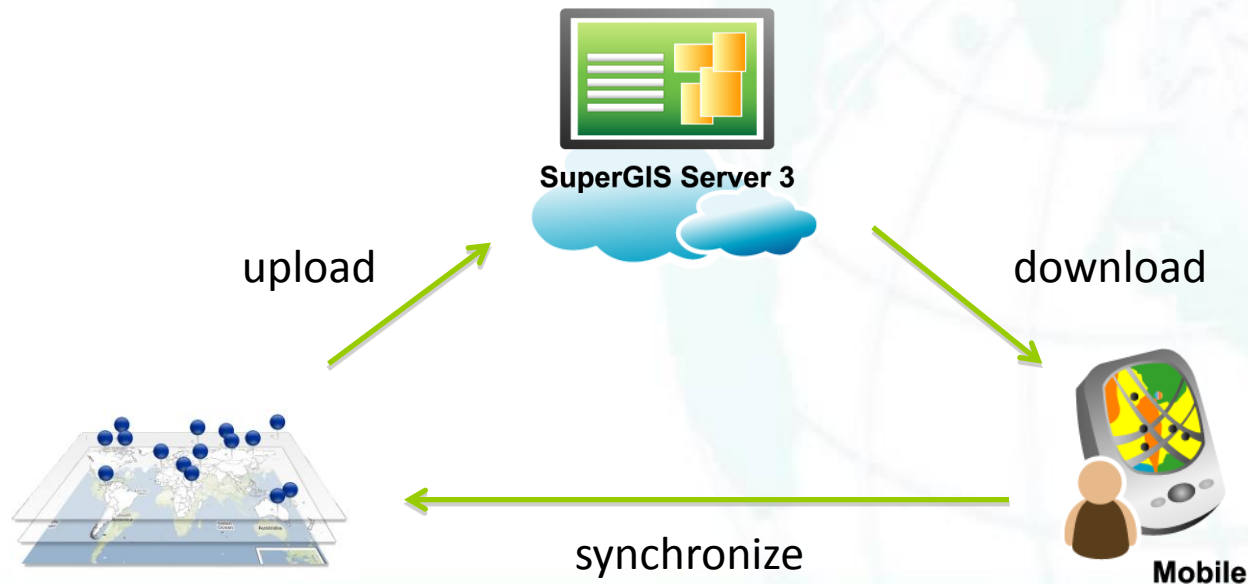
Create Layers for Field Works

- To record the affected areas, the following layers are needed:

- | | |
|-------------------------|-----------------------------|
| ➤ Point Layer: | Damaged Buildings |
| ➤ Line Layer: | Damaged Roads/Trails |
| ➤ Polygon Layer: | Damaged Areas |

Upload Layers

- Publish the map layers to **SuperGIS Server** so that the data collected from the field works can be synchronized to the server.



Key Concepts

- In SuperGIS Desktop
 - Prepare your data, including necessary layers and their attributes.
- In SuperGIS Server
 - Publish the data to the SuperGIS Server as a **feature service**.

Reviews



Desktop

- Prepare the data
- Symbology design
- Save as .sgd file

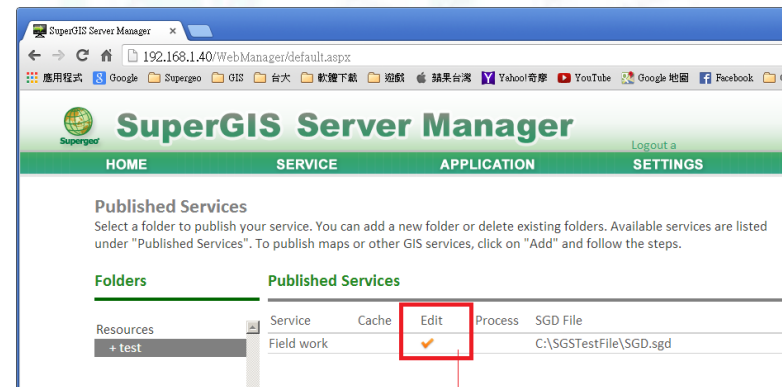
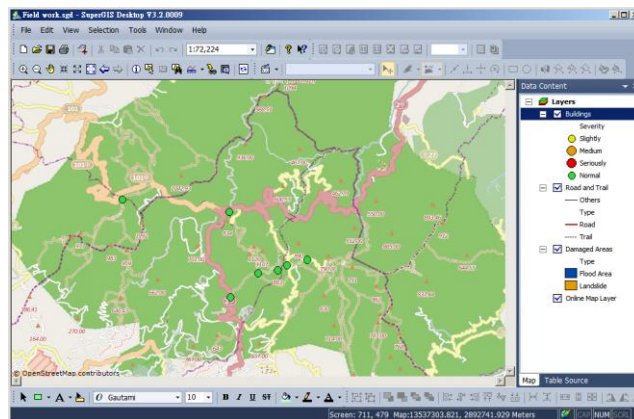


Upload

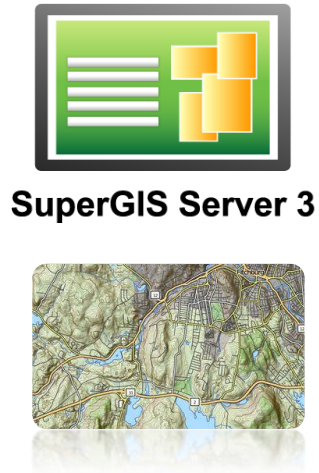


SuperGIS Server 3

- Create a new service
- Configure as a feature service



Create an editable service



SuperGIS Server 3



Download



Mobile

Download data from

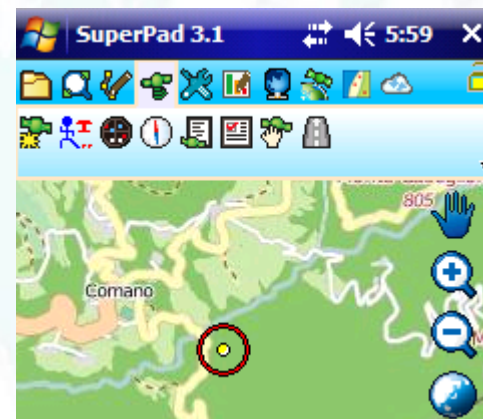
- SuperGIS Server
- OpenStreetMap

Download data and add a base map

PREPARATION WORKS

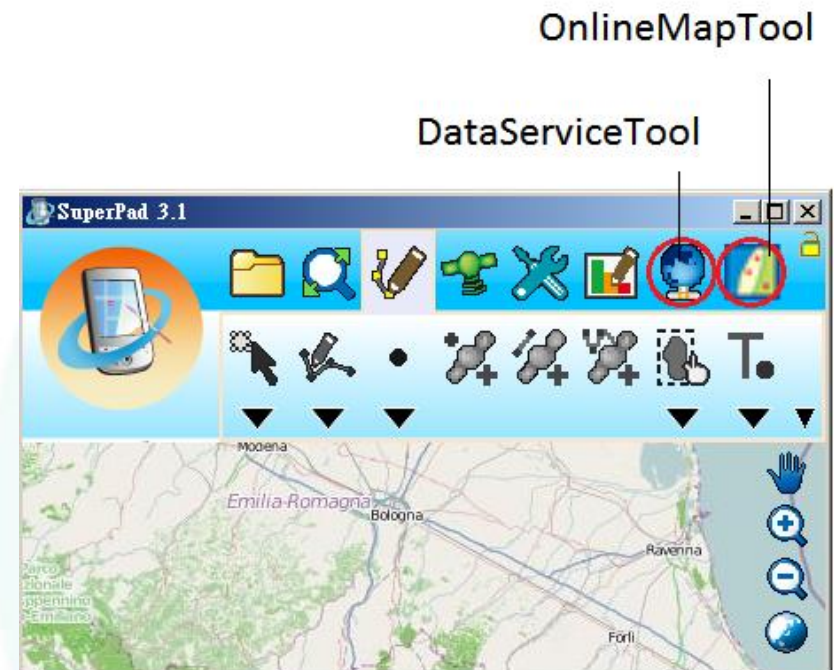
Add Base Map

- Greatly help the field workers see their current location and also the location of the affected areas, thus making the field works more productive.



Key Concepts

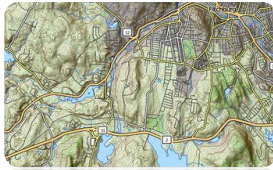
- In SuperPad
 - Activate and use **“OnlineMapTool”** to add OpenStreetMap.
 - Activate and use **“Data Service Tool”** to add the layers from the SuperGIS Server.



Reviews



SuperGIS Server 3



Download



Mobile

Download data from

- SuperGIS Server
- OpenStreetMap



Activate extensions



Add map layers from SuperGIS Server



Add OpenStreetMap



Mobile

Collect data using

- Edit tools
- GPS tools
- Advanced attribute editing



Synchronize



SuperGIS Server 3

View data in real time using:

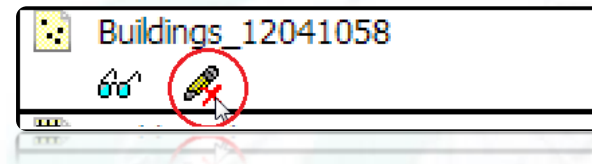
- SuperGIS Desktop
- Web browsers

Data collecting and synchronizing

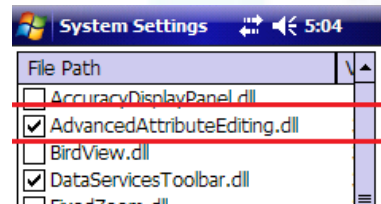
FIELD WORKS

Data Collecting

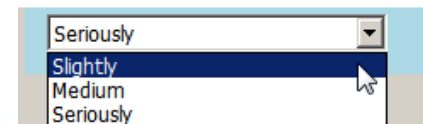
- To collect data, you have to add the map layers from the server to your mobile device, and **enable editing**.



- You can also use the '**Advanced Attribute Editing**' extension to help you collect the data easier.

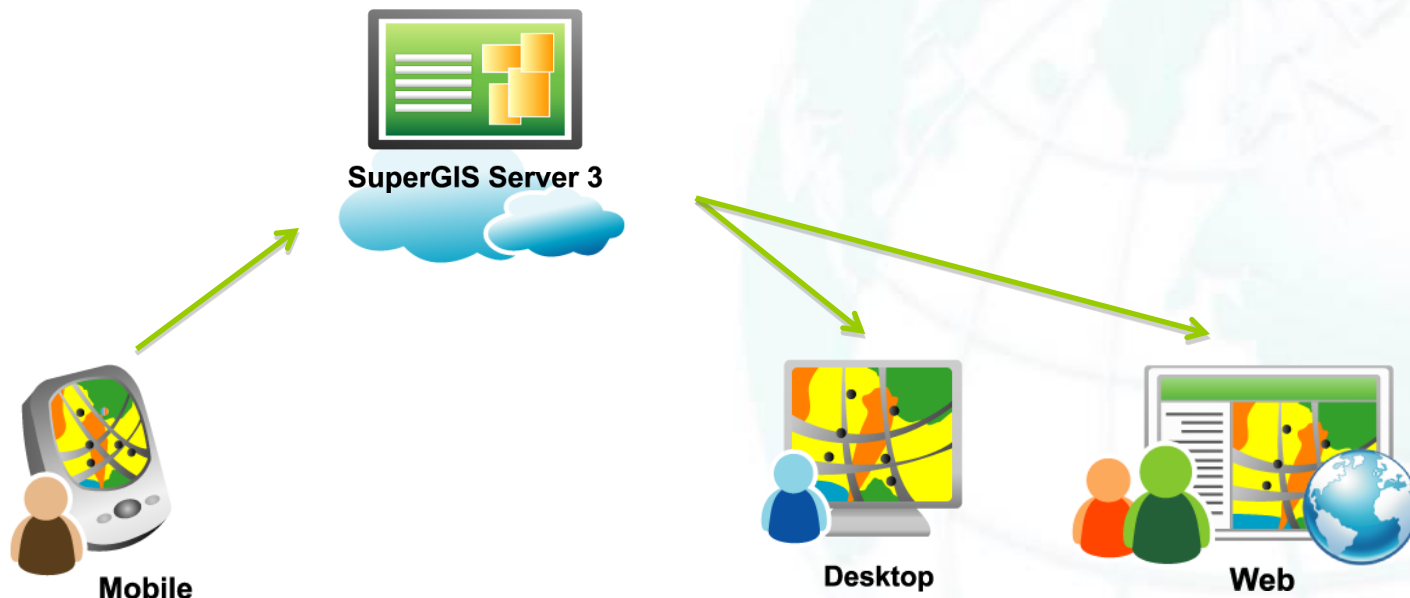


Quick Form



Data Synchronizing

- After a new data is collected, it can be synchronized to the server and displayed in real time.



Key Concepts

- In SuperPad
 - Edit the layers from SuperGIS Server.
 - Activate and use “**Advanced Attribute Editing**” to make data collecting easier.
 - **Synchronizing** the data to SuperGIS Server.
- In SuperGIS Desktop and browser
 - View the data in real time

Reviews



Mobile

Collect data using

- Edit tools
- GPS tools
- Advanced attribute editing



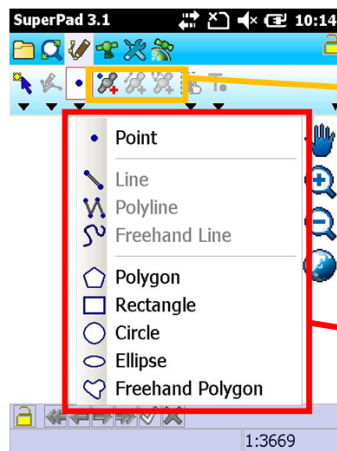
Synchronize



SuperGIS Server 3

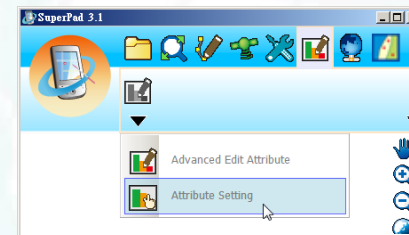
View data in real time using:

- SuperGIS Desktop
- Web browsers

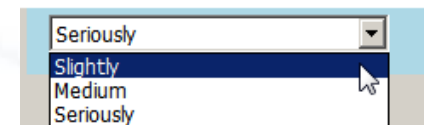


- (Left) Add a point with GPS signal
- (Middle) Add one vertex at a time, manually, with GPS signal
- (Right) Add vertices with GPS signal continuously

- Select the format/type you want to edit: Point, Line, or Polygon...etc.



Quick Form

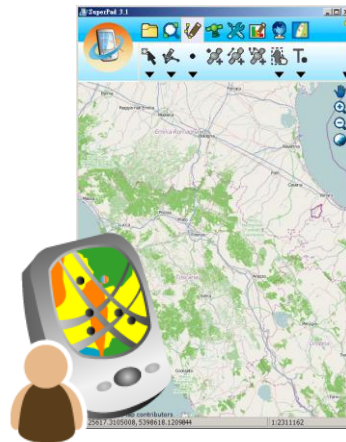




Data Post Processing

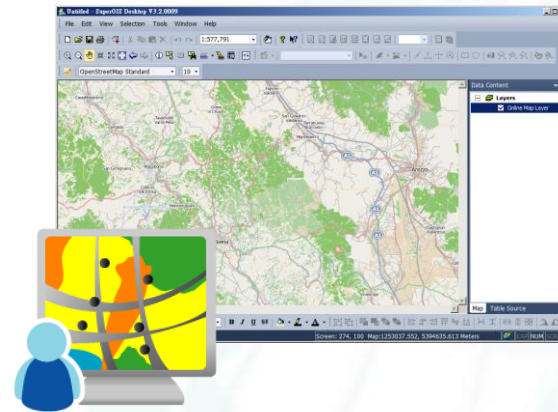
Increase the accuracy of the original data

Products



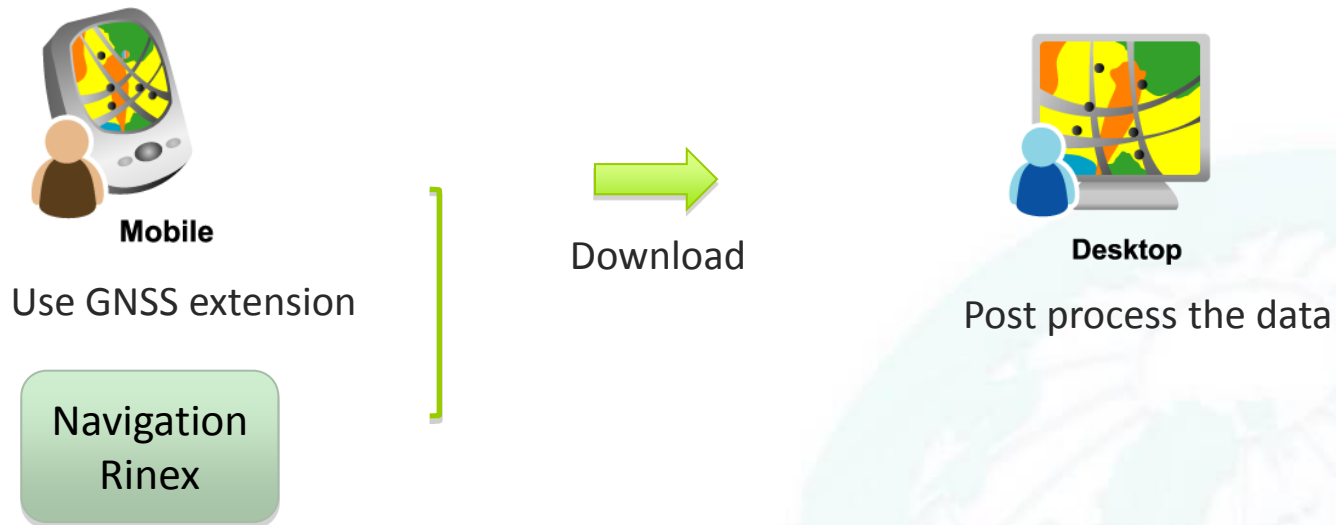
Mobile

SuperPad



Desktop

SuperGIS
Desktop



Data post processing

Back to Office...

Data Post Processing

- To increase the accuracy of the data, you can apply post process function to your data.



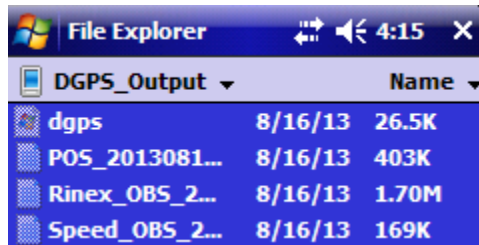
Data Post Processing

- To increase the accuracy of the data, you can apply post process function to your data.

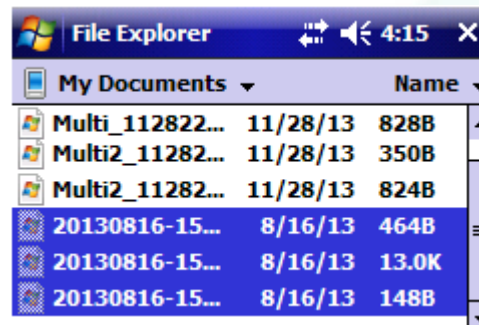


Before Post Processing...

- Use GNSS extension
- Copy the raw data from SuperPad:



	Name	
dgps	8/16/13	26.5K
POS_2013081...	8/16/13	403K
Rinex_OBS_2...	8/16/13	1.70M
Speed_OBS_2...	8/16/13	169K



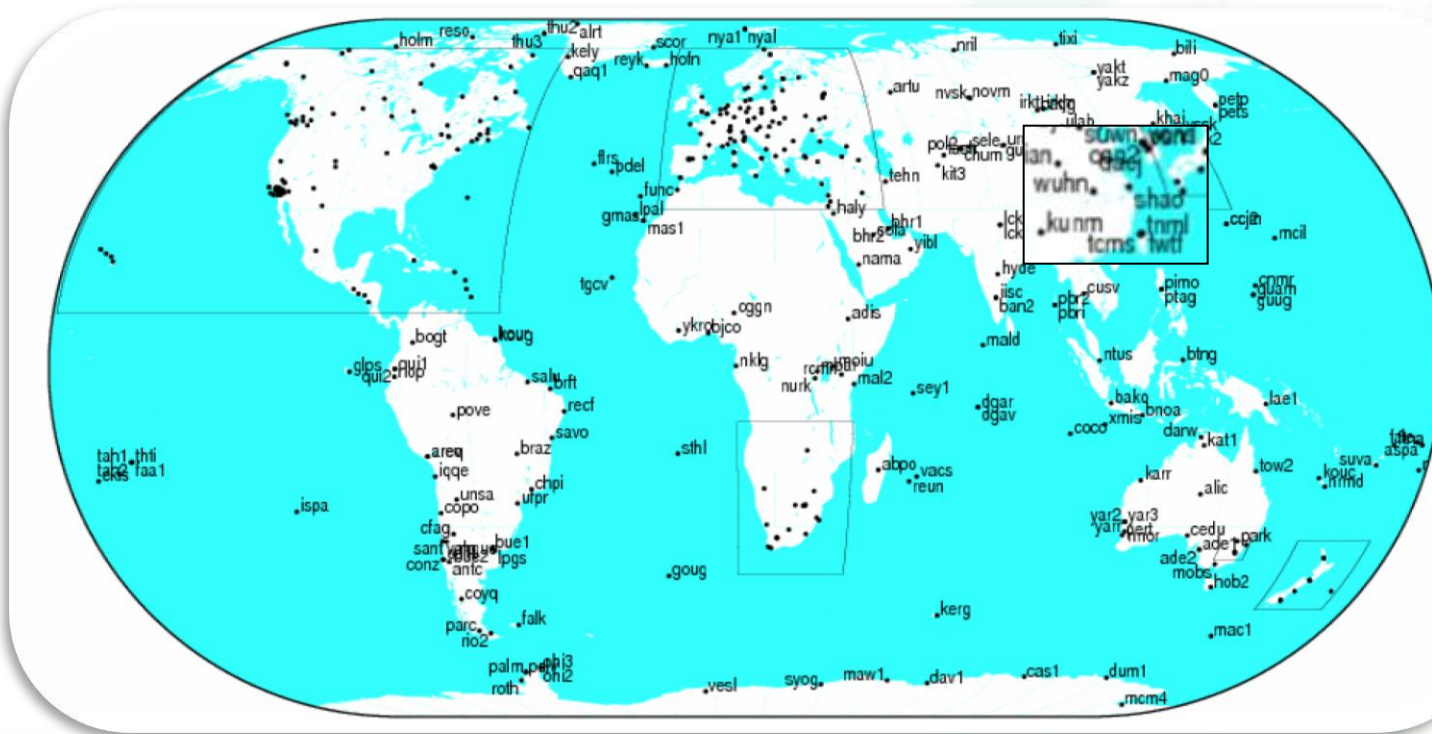
	Name	
Multi_112822...	11/28/13	828B
Multi2_11282...	11/28/13	350B
Multi2_11282...	11/28/13	824B
20130816-15...	8/16/13	464B
20130816-15...	8/16/13	13.0K
20130816-15...	8/16/13	148B

- Download navigation and RINEX data:
 - Navigation: <ftp://garner.ucsd.edu/pub/nav/>
 - RINEX: <ftp://garner.ucsd.edu/pub/rinex/>

IGS-International GNSS Service

- Find the nearest base station first:

<http://igscb.jpl.nasa.gov/network/complete.html>

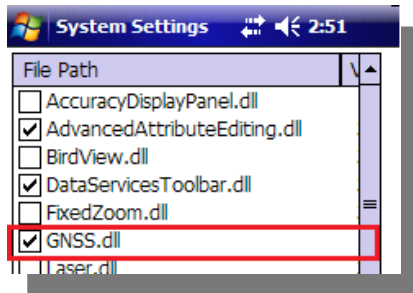


1990/	306/	13/11/9	sumk3330.13n.Z	27.0 kB	13/11/29
1991/	307/	13/11/9	suth3330.13n.Z	33.0 kB	13/11/29
1992/	308/	13/11/10	sutv3330.13n.Z	33.7 kB	13/11/29
1993/	309/	13/11/12	suwn3330.13n.Z	29.9 kB	13/11/30
1994/	310/	13/11/13	svtl3330.13n.Z	32.8 kB	13/11/29
1995/	311/	13/11/13	syog3330.13n.Z	36.8 kB	13/11/29
1996/	312/	13/11/13	tah13330.13n.Z	29.1 kB	13/11/29
1997/	313/	13/11/13	tah23330.13n.Z	29.0 kB	13/11/29
1998/	314/	13/11/17	tcms3330.13n.Z	34.3 kB	13/11/29
1999/	315/	13/11/17	tehn3330.13n.Z	32.6 kB	13/11/30
2000/	316/	13/11/17	tfno3330.13n.Z	25.1 kB	13/11/29
2001/	317/	13/11/17	thio3330.13n.Z	31.0 kB	13/11/29
2002/	318/	13/11/25	tid13330.13n.Z	32.3 kB	13/11/29
2003/	319/	13/11/25	tidb3330.13n.Z	30.0 kB	13/11/29
2004/	320/	13/11/26	titz3330.13n.Z	38.0 kB	13/11/29
2005/	321/	13/11/25	tixi3330.13n.Z	39.2 kB	13/11/29
2006/	322/	13/11/25	tlse3330.13n.Z	34.2 kB	13/11/29
2007/	323/	13/11/25	tnml3330.13n.Z	30.3 kB	13/11/29
2008/	324/	13/11/25	tong3330.13n.Z	34.8 kB	13/11/29
2009/	325/	13/11/25	tori3330.13n.Z	34.2 kB	13/11/29
2010/	326/	13/11/25	torp3330.13n.Z	33.9 kB	13/11/29
2011/	327/	13/12/6	tow23330.13n.Z	38.1 kB	13/11/29
2012/	328/	13/12/6	tro13330.13n.Z	456 kB	13/11/29
2013/	329/	13/12/6	tsk3330.13n.Z	31.9 kB	13/11/29
2019/	330/	13/12/6	tskb3330.13n.Z	31.8 kB	13/11/29
ck_filenum.ks	331/	13/12/6	ttta3330.13n.Z	33.2 kB	13/11/29
dir_list	332/	13/12/6	tubi3330.13n.Z	28.6 kB	13/11/29
old_nav/	333/	13/12/6	tuc23330.13n.Z	37.1 kB	13/11/29
robots.txt	334/	13/12/6	tukt3330.13n.Z	38.8 kB	13/11/29
	335/	13/12/5	twtf3330.13n.Z	30.3 kB	13/11/30
	336/	13/12/5	uaco3330.13n.Z	49.9 kB	13/11/29
	337/	13/12/6	uclp3330.13n.Z	32.3 kB	13/11/29
	338/	13/12/6	uclu3330.13n.Z	31.3 kB	13/11/29
	339/	13/12/6	unh3330.13n.Z	50.9 kB	13/11/29
	340/	13/12/6	unh3330.13n.Z	35.4 kB	13/11/29

Select the year and the Julian day Find the station name

Key Concepts

- In SuperPad
 - Activate and use “**GNSS**” extension on SuperPad.



- In SuperGIS Desktop
 - Use **Differential GPS** add-on
 - Perform post process.

Reviews



Mobile

Use GNSS extension

Navigation
Rinex



Download



Desktop

Post process the data

Index of /gps/data/daily/2013/241/

Year/ Julian Day

Name	Size	Date Modified
[parent directory]		
13d/		8/5/13 2:15:00 AM
13g/		8/5/13 2:15:00 AM
13h/		8/5/13 2:15:00 AM
13n/		8/5/13 2:15:00 AM
13o/		8/5/13 2:15:00 AM
13p/		8/5/13 2:15:00 AM

File Explorer

DGPS_Output

Name	Size	Date Modified
dgps	26.5K	8/16/13
POS_2013081...	403K	8/16/13
Rinex_OBS_2...	1.70M	8/16/13
Speed_OBS_2...	169K	8/16/13

File Explorer

My Documents

Name	Size	Date Modified
Multi_112822...	828B	11/28/13
Multi2_11282...	350B	11/28/13
Multi2_11282...	824B	11/28/13
20130816-15...	464B	8/16/13
20130816-15...	13.0K	8/16/13
20130816-15...	148B	8/16/13

Reviews



Mobile

Use GNSS extension

Navigation
Rinex



Download



Desktop

Post process the data

Start Post-processing

Reference Station


EFCF Coordinate


X:

Y:

Z:

If these fields are blank, the program will use the coordinate defined in the RINEX file.

RINEX File: 


Navigation File: 


Data downloaded from ftp website


.13o file


.13n file


Observation Data


GNSS File: 

RINEX File: 

Navigation File: ☒ Same as Reference Station's 

NMEA Position File: 

Velocity File: 

Target Feature Files: 

Data downloaded from mobile device

.gnss file

RINEX file

.13n file

POS file

SPEED file

Any questions are welcomed!

THANK YOU FOR YOUR ATTENTION

Contact us:

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