OPUS Projects Manager Training

Step 2 : Uploading Data

ngs.opus.projects@noaa.gov

I've advanced to the second slide and I'm reading it.

- Can you read this slide and hear me as I read it?
- Can you access the web?
- Is everyone comfortable?
- Does anyone have any questions before we begin?

Outline

- Introduction
- Step 1 : Creating a Project
- ➢ **Step 2 : Uploading Data**
- Step 3 : Session Processing
- Step 4 : Network Adjustment

A few words before beginning.

OPUS Projects is a web-based utility implying that access to the internet and use of a web browser are required. JavaScript must be enabled in your browser and pop-up blocking may have to be turned off. If you have difficulty configuring your browser, contact your instructor or the OPUS Projects team.

The OPUS Projects look and feel.

The overall layout and appearance of OPUS Projects will be very similar to that shown here regardless of the browser you use. For this reason, the browser window's frame is not shown in the figures.

What's in this training?

This presentation shows how to upload data to a project. The format is as a series of steps like a cookbook. Like most cookbooks, the justification for and discussion of variations in those steps will be minimal. The intent is to get you started quickly, then leave you free to explore OPUS Projects on your own.

We assume familiarity with OPUS so some steps will be quite terse. If you are unfamiliar with OPUS, mention this your instructor during a break.

OPUS: Online Positioning User Service

National Geodetic Survey

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Upload your data file.

Tie your GPS observation to the National Spatial Reference System.
What is OPUS? FAQs

Choose File No file chosen
* Data file of dual-frequency GPS observations. sample

NONE no antenna selected
Antenna type - choosing wrong may degrade your accuracy.

Sample Solutions

0.00 meters above your mark.
Antenna height of your antenna's reference point.

* Email address - your solution will be sent here.

Options to customize your solution.

Upload to Rapid-Static | Upload to Static
for data > 15 min, < 2 hrs for data > 2 hrs, < 48 hrs

We'll start at the OPUS upload web page:
http://geodesy.noaa.gov/OPUS/

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Sample Solutions

0.00 meters above your mark.
Antenna height of your antenna's reference point.

* Email address - your solution will be sent here.

Options to customize your solution.

Upload to Rapid-Static | Upload to Static

for data > 15 min, < 2 hrs for data > 2 hrs, < 48 hrs

At this time, only OPUS Static is allowed to upload to a project. The conventional OPUS Static rules apply.

Website Owner: National Geodetic Survey / Last modified by NGS.OPUS Wednesday, 22-Aug-2012 10:42:26 EST

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Antenna type - choosing wrong may degrade your accuracy.

Sample Solutions

0.00 meters above your mark.
Antenna height of your antenna's reference point.

* Email address - your solution will be sent here.

Options to customize your solution.

Upload to Rapid-Static | Upload to Static
for data > 15 min. < 2 hrs. for data > 2 hrs. < 48 hrs.

Let's upload the RINEX file 2126274w.06o from the training data set. The antenna type and height appropriate for this and all the other files are given in the associated readme.txt file.

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Upload your data file.

Tie your GPS observation to the National Spatial Reference System.
What is OPUS? FAQs

Choose File 2126274w.06o
* Data file of dual-frequency GPS observations. sample

TRM41249.00 NONE Zephyr 4-point feed antenna - Stealth Gr
Antenna type - choosing wrong may degrade your accuracy.

Sample Solutions

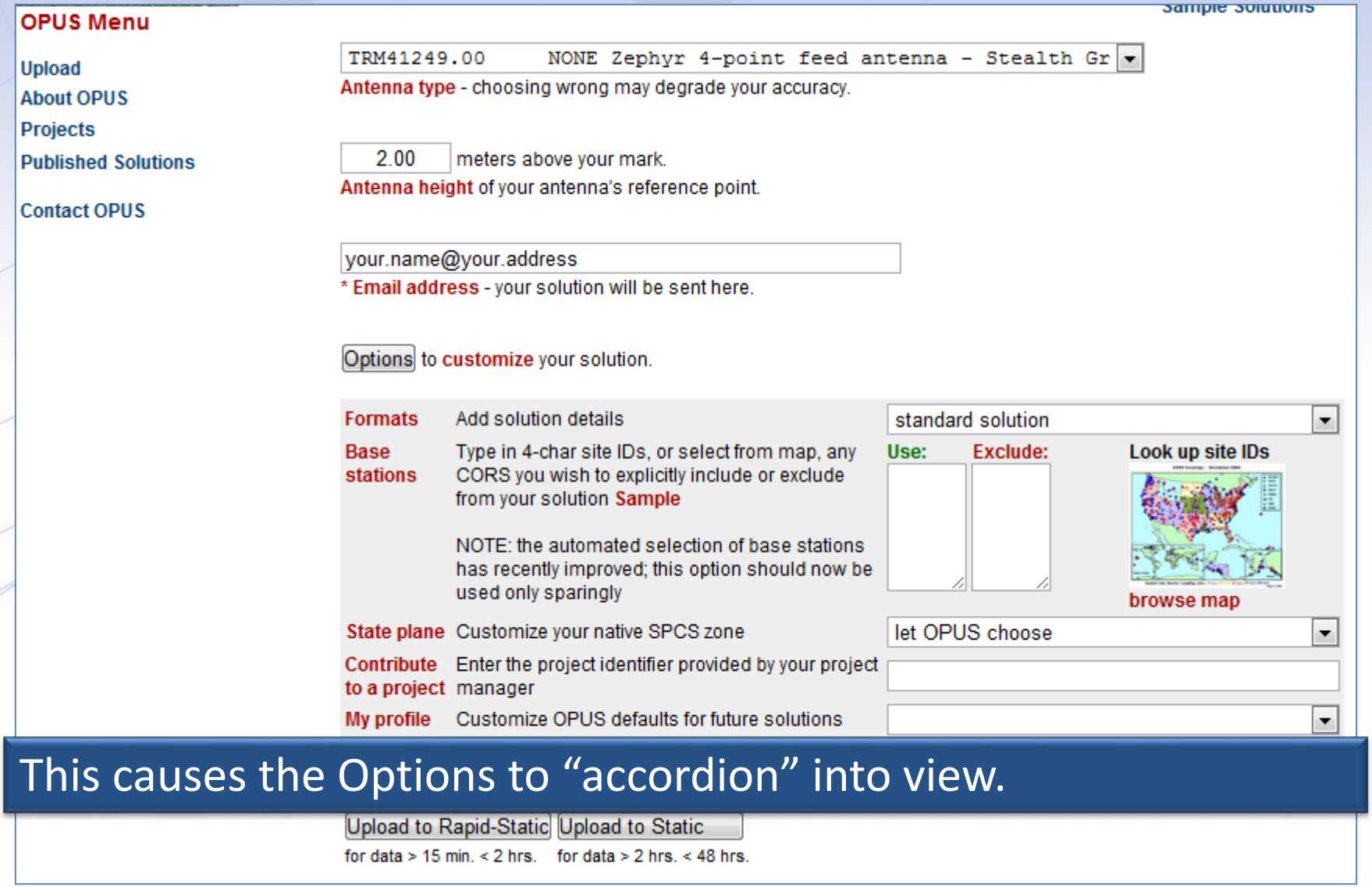
2.00 meters above your mark.
Antenna height of your antenna's reference point.

your.name@your.address
* Email address - your solution will be sent here.

Options to customize your solution.

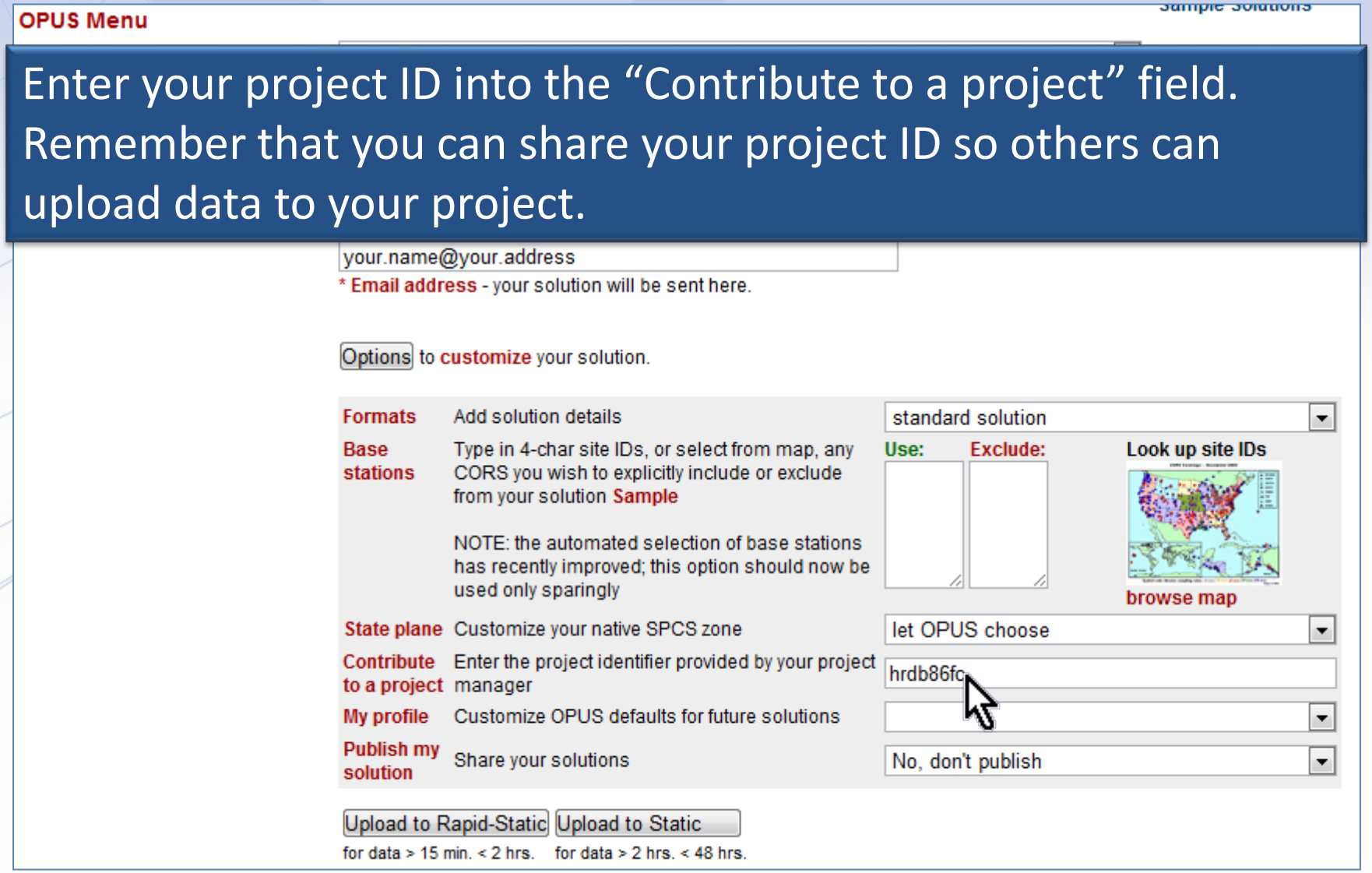
Upload to Rapid-Static | Upload to Static
for data > 15 min. < 2 hrs. for data > 2 hrs. < 48 hrs.

Complete the OPUS upload form normally, but before clicking the "Upload to Static" button, click the "Options" button.

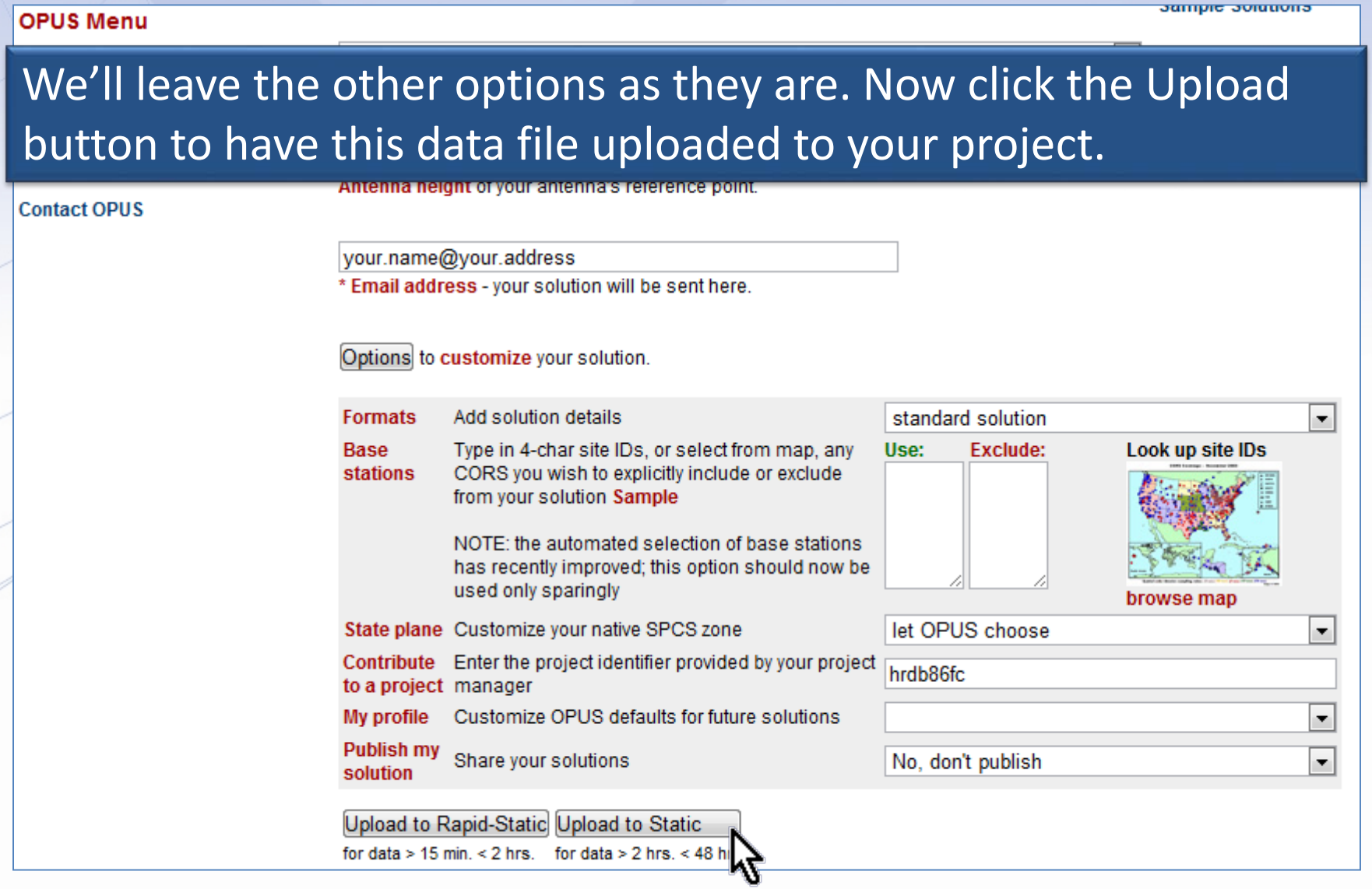


This causes the Options to "accordion" into view.

Enter your project ID into the "Contribute to a project" field. Remember that you can share your project ID so others can upload data to your project.



We'll leave the other options as they are. Now click the Upload button to have this data file uploaded to your project.



After clicking the upload button, the upload confirmation window will appear, but with some differences from "normal".

1. upload √ | 2. identify your mark | 3. describe ... | 4. publish ...

choose one: mark has a PID | mark is NEW to NGS | skip description

mark has a PID? Search the NGS database to find out.

Upload successful!
You will receive an email when processing is complete.

uploaded:		Solving with:	
data file	2126274w.06o	solution format	Extended
converted to	2126274w.06o (RINEX format)	base sta. used	--
antenna type	TRM41249.00 NONE	base sta. excluded	--
antenna height	2.00 meters	state plane zone	AUTO
email address	your.name@your.address		
processor	Static	project ID	hrdb86fc

You project ID will be listed (and should be visually confirmed) …

1. upload √ | 2. identify your mark | 3. describe ... | 4. publish ...

choose one: mark has a PID | mark is NEW to NGS | skip description

mark has a PID? Search the NGS database to find out.

Upload successful!
You will receive an email when processing is complete.

uploaded:		Solving with:	
data file	2126274w.06o	solution format	Extended
converted to	2126274w.06o (RINEX format)	base sta. used	--
antenna type	TRM41249.00 NONE	base sta. excluded	--
antenna height	2.00 meters	state plane zone	AUTO
email address	your.name@your.address		
processor	Static	project ID	hrdb86fc

… and you'll be able to provide a mark description.

1. upload √ | 2. identify your mark | 3. describe ... | 4. publish ...

choose one: mark has a PID | mark is NEW to NGS | skip description

mark has a PID? Search the NGS database to find out.

Upload successful!
You will receive an email when processing is complete.

uploaded:		Solving with:	
data file	2126274w.06o	solution format	Extended
converted to	2126274w.06o (RINEX format)	base sta. used	--
antenna type	TRM41249.00 NONE	base sta. excluded	--
antenna height	2.00 meters	state plane zone	AUTO
email address	your.name@your.address		
processor	Static	project ID	hrdb86fc

The data files included in the training are all from published marks; however, we encourage you to use them to try all three of these options during the training: PID, NEW and skip.

1. upload √ | 2. identify your mark | 3. describe ... | 4. publish ...

choose one: mark has a PID | mark is NEW to NGS | skip description

mark has a PID? Search the NGS database to find out.

Upload successful!
You will receive an email when processing is complete.

uploaded:		Solving with:	
data file	2126274w.06o	solution format	Extended
converted to	2126274w.06o (RINEX format)	base sta. used	--
antenna type	TRM41249.00 NONE	base sta. excluded	--
antenna height	2.00 meters	state plane zone	AUTO
email address	your.name@your.address		
processor	Static	project ID	hrdb86fc

Because it's a little more interesting, let's start by pretending this is a NEW mark. Click the "mark is NEW to NGS" button.

1. upload √ | 2. identify your mark | 3. describe ... | 4. publish ...

choose one: mark has a PID | mark is NEW to NGS | skip description

mark has a PID? Search the NGS database to find out.

Upload successful!
You will receive an email when processing is complete.

uploaded:		Solving with:	
data file	2126274w.06o	solution format	Extended
converted to	2126274w.06o (RINEX format)	base sta. used	--
antenna type	TRM41249.00 NONE	base sta. excluded	--
antenna height	2.00 meters	state plane zone	AUTO
email address	your.name@your.address		
processor	Static	project ID	hrdb86fc

Step 3 of 4: Describe new mark.

for data file: 2126274w.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Stamping

* Designation

* Type — Choose Type

* Setting — Select Setting Code

Specific setting *(optional)*:

* Description — (describe the mark, witness ties, etc., to enable future recoveries. Max. characters=500)

Application — Choose Special Application

Antenna S/N — Receiver S/N

In a moment, the "Describe new mark" form will appear. Through this form, the minimal information needed to identify a mark, and describe its location and condition can be uploaded.

Step 3 of 4: Describe new mark.

for data file: 2126274w.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Stamping

* Designation

* Type — Choose Type

* Setting — Select Setting Code

Specific setting *(optional)*:

* Description — (describe the mark, witness ties, etc., to enable future recoveries. Max. characters=500)

Although simpler, the description is no less important. Consider reviewing "Help File: Mark Description" before submitting a new mark. http://geodesy.noaa.gov/marks/descriptors.shtml

Step 3 of 4: Describe new mark.
for data file: 2126274w.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Stamping
* Designation
* Type — Choose Type
* Setting — Select Setting Code

Specific setting *(optional)*:

* Description — (describe the mark, witness ties, etc., to enable future recoveries. Max. characters=500)

The description for 2126274a.06o and all the marks used in the training materials can be found in the readme.txt file. The form is too large for a single slide, so we'll focus on the top half first.

Step 3 of 4: Describe new mark.

for data file: 2126274w.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Stamping: H 393 2006

* Designation: H 393 2006

* Type: Choose Type

* Setting: Select Setting Code

Specific setting *(optional)*:

* Description (describe the mark, witness ties, etc., to enable future recoveries. Max. characters=500)

If the mark is a disk, the stamping should be copied exactly as it appears on the mark. In other cases, the designation may come from historical or other documentation. Usually stamping and designation will be the same.

Step 3 of 4: Describe new mark.
for data file: 2126274w.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Stamping: H 393 2006

* Designation: H 393 2006

* Type: R = Rod | F = Flange-encased rod

Rod Depth 31.7 Sleeve Depth 0.9 ft m

* Setting: Select Setting Code

Specific setting *(optional)*:

* Description (describe the mark, witness ties, etc., to enable future recoveries. Max. characters=500)

2126 is a flange-encased rod, so we select the type appropriately. Remember to enter the rod and sleeve depths in these cases.

Step 3 of 4: Describe new mark.

for data file: 2126274w.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Stamping: H 393 2006

* Designation: H 393 2006

* Type: R = Rod | F = Flange-encased rod

Rod Depth 31.7 Sleeve Depth 0.9 ft m

* Setting: 59 = Stainless steel rod in sleeve (10FT+ or 3.048M+)

Specific setting *(optional)*:

* Description (describe the mark, witness ties, etc., to enable future recoveries. Max. characters=500)

A variety of settings for the mark are provided via the pull-down menu. Use the "Specific setting" field for unique information.

Step 3 of 4: Describe new mark.

for data file: 2126274w.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Stamping: H 393 2006

* Designation: H 393 2006

* Type: R = Rod | F = Flange-encased rod

Rod Depth 31.7 Sleeve Depth 0.9 ft m

* Setting: 59 = Stainless steel rod in sleeve (10FT+ or 3.048M+)

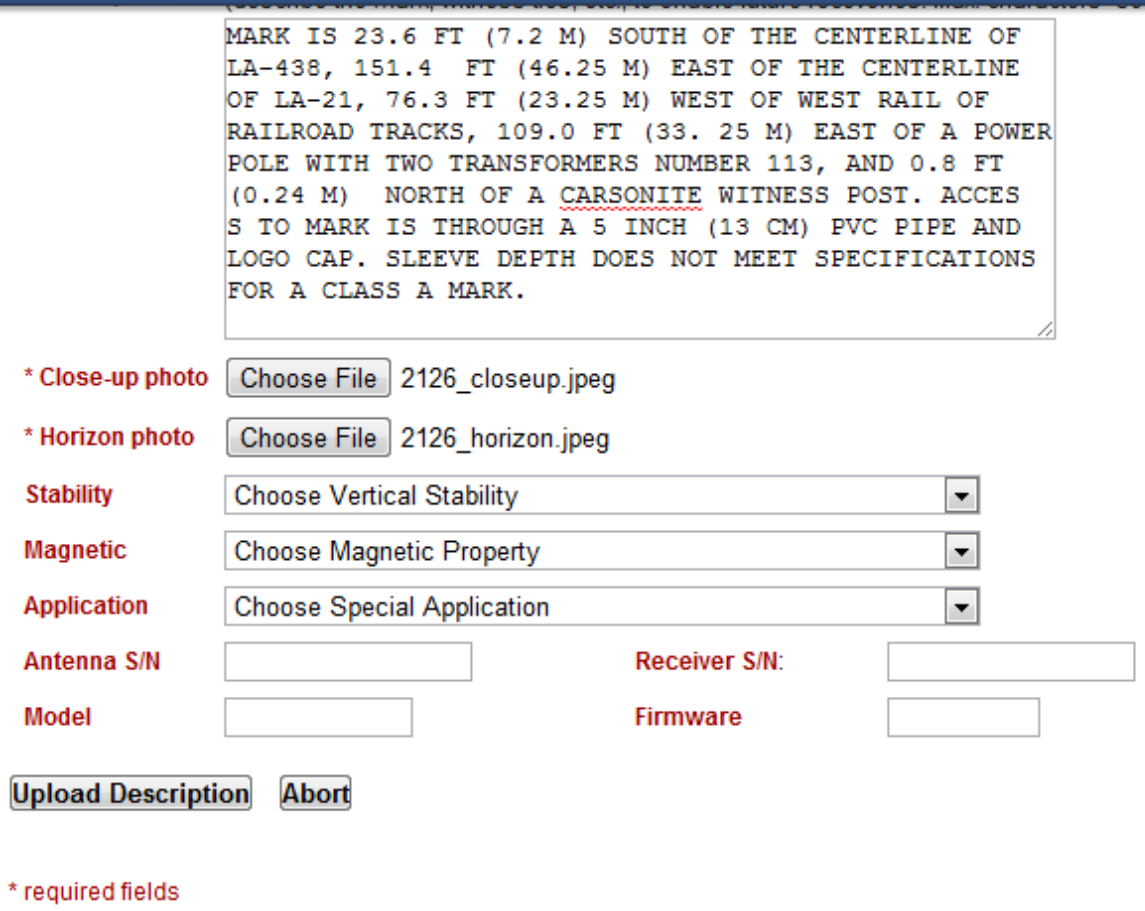
Specific setting *(optional)*:

* Description (describe the mark, witness ties, etc., to enable future recoveries. Max. characters=500) 428

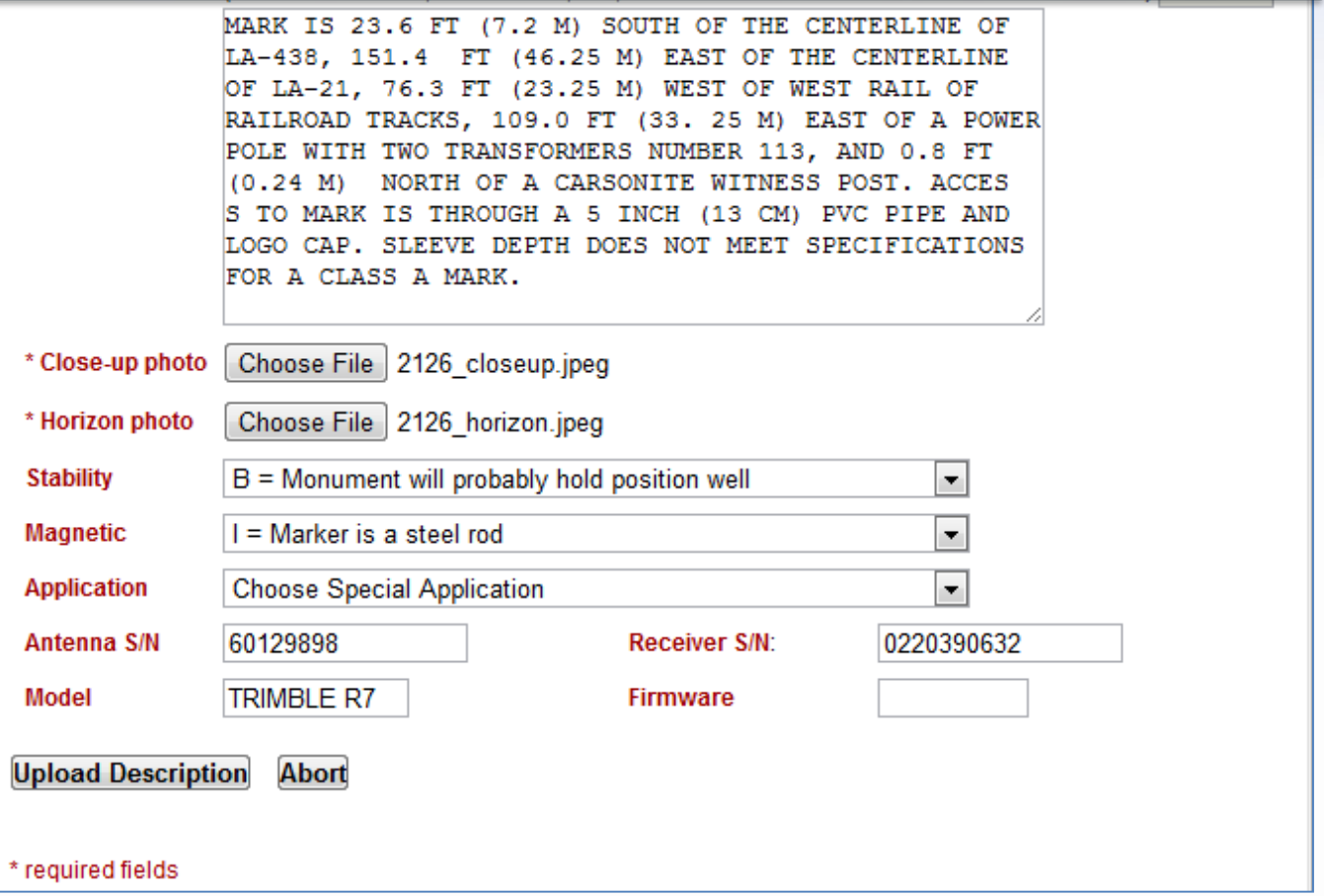
```
MARK IS 23.6 FT (7.2 M) SOUTH OF THE CENTERLINE OF
LA-438, 151.4  FT (46.25 M) EAST OF THE CENTERLINE
OF LA-21, 76.3 FT (23.25 M) WEST OF WEST RAIL OF
RAILROAD TRACKS, 109.0 FT (33. 25 M) EAST OF A POWER
POLE WITH TWO TRANSFORMERS NUMBER 113, AND 0.8 FT
```

Next, describe how to find the mark. The description is limited to 500 characters, but that's OK. Assume the next person will be able to get close to the mark using their handheld GNSS, and include just the last few critical steps needed to find the mark.

Only one close-up and one horizon photo are required. Make sure any stampings or other identifying marks are clearly visible in the close-up photo and the horizon photo adequately represents the surroundings.



Stability, Magnetic, Application, Antenna S/N, and Receiver Model, S/N and Firmware fields aren't required, but still important to the description of the mark and traceability of the work. Complete these if possible.



* Stamping H 393 2006

Once the form is complete, click the “Upload Description” button. This makes the description and photos available to the project. The project manager can edit these or add information at a later time.

MARK IS 23.6 FT (7.2 M) SOUTH OF THE CENTERLINE OF LA-438, 151.4 FT (46.25 M) EAST OF THE CENTERLINE OF LA-21, 76.3 FT (23.25 M) WEST OF WEST RAIL OF RAILROAD TRACKS, 109.0 FT (33. 25 M) EAST OF A POWER POLE WITH TWO TRANSFORMERS NUMBER 113, AND 0.8 FT (0.24 M) NORTH OF A CARSONITE WITNESS POST. ACCES S TO MARK IS THROUGH A 5 INCH (13 CM) PVC PIPE AND LOGO CAP. SLEEVE DEPTH DOES NOT MEET SPECIFICATIONS FOR A CLASS A MARK.

* Close-up photo Choose File 2126_closeup.jpeg

* Horizon photo Choose File 2126_horizon.jpeg

Stability B = Monument will probably hold position well

Magnetic I = Marker is a steel rod

Application Choose Special Application

Antenna S/N 60129898 Receiver S/N: 0220390632

Model TRIMBLE R7 Firmware

Upload Description Abort

* required fields

OPUS Menu

Description entry successful! APPROVAL PENDING

You should soon receive a normal "solution report" email from OPUS.
If successful, it and your mark description will be forwarded for approval:

- for option **"publish my solution" you are ALMOST done.**
  -- You will receive a second email with final publishing instructions.
- for option **"contribute to a project" you are done!**
  -- This second email will go to the manager for your project.

Thank you for using OPUS!

After another moment, the description upload confirmation appears. Uploading this data file and description are complete (and probably in the project by now).

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What is OPUS? FAQs

Choose File 2137274u.06o
* Data file of dual-frequency GPS observations. sample

TRM41249.00 NONE Zephyr 4-point feed antenna - Stealth Gr
Antenna type - choosing wrong may degrade your accuracy.

Sample Solutions

2.00 meters above your mark.
Antenna height of your antenna's reference point.

your.name@your.address
* Email address - your solution will be sent here.

Options to customize your solution.

Formats — Add solution details — standard solution

Base stations — Type in 4-char site IDs, or select from map, any CORS you wish to explicitly include or exclude from your solution Sample

NOTE: the automated selection of base stations has recently improved; this option should now be used only sparingly

Use: Exclude:

Look up site IDs

Let's upload another file, 2137274u.06o, but follow a slightly different path. Complete the upload form normally …

Choose File 2137274u.06o

* Data file of dual-frequency GPS observations sample

… once again, make sure the project ID is provided and click the upload button …

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Antenna height of your antenna's reference point.

your.name@your.address

* **Email address** - your solution will be sent here.

Options to **customize** your solution.

Formats	Add solution details	standard solution	
Base stations	Type in 4-char site IDs, or select from map, any CORS you wish to explicitly include or exclude from your solution **Sample** NOTE: the automated selection of base stations has recently improved; this option should now be used only sparingly	**Use:**	**Exclude:**
State plane	Customize your native SPCS zone	let OPUS choose	
Contribute to a project	Enter the project identifier provided by your project manager	hrdb86fc	
My profile	Customize OPUS defaults for future solutions		
Publish my solution	Share your solutions	No, don't publish	

Look up site IDs

browse map

Upload to Rapid-Static
for data > 15 min. < 2 hrs.

Upload to Static
for data > 2 hrs. < 48 hrs.

* required fields

We may use your data for internal evaluations of OPUS use, accuracy, or related research.

1. upload √ | 2. identify your mark | 3. describe ... | 4. publish ...

choose one: mark has a PID | mark is NEW to NGS | skip description

mark has a PID? Search the NGS database to find out.

Upload successful!
You will receive an email when processing is complete.

uploaded:		Solving with:	
data file	2137274u.06o	solution format	Extended
converted to	2137274u.06o (RINEX format)	base sta. used	--
antenna type	TRM41249.00 NONE	base sta. excluded	--
antenna height	2.00 meters	state plane zone	AUTO
email address	your.name@your.address		
processor	Static	project ID	hrdb86fc

… but this time, let's follow the "mark has a PID" path.

Step 3 of 4: Describe recovered mark.

for data file: 2137274u.06o

1. upload √ | 2. identify | 3. describe your mark | 4. publish

* Enter the mark's **PID**
Find PID BJ1784

* Close-up **photo** Choose File 2137_closeup.jpeg

* Horizon **photo** Choose File 2137_horizon.jpeg

Mark **condition** (•) Good condition ( ) Poor, disturbed, mutilated, requires maintenance

Description (Amend existing description, if necessary. Max. characters=500) 41

RECOVERED AS DESCRIBED IN GOOD CONDITION.

The description for a recovered mark is simpler still. Provide the PID, new photos, the mark's condition and additional descriptive text.

What a field member would see.

Let's review the emails that would be sent to a person uploading data to your project.

```
 FILE: 2126274w.06o OP1369236601254

                         NGS OPUS SOLUTION REPORT
                         ========================

All computed coordinate accuracies are listed as peak-to-peak values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy

      USER: your.name@your.address                    DATE: May 22, 2013
RINEX FILE: 2126274w.06o                              TIME: 15:33:11 UTC


  SOFTWARE: page5  1209.04 master12.pl 082112      START: 2006/10/01  22:07:00
 EPHEMERIS: igs13950.eph [precise]                  STOP: 2006/10/02  01:45:00
  NAV FILE: brdc2740.06n                       OBS USED:  8062 /  8267   :  98%
  ANT NAME: TRM41249.00     NONE              # FIXED AMB:    39 /    41   :  95%
ARP HEIGHT: 2.00                             OVERALL RMS: 0.013(m)


 REF FRAME: NAD_83(2011)(EPOCH:2010.0000)          IGS08 (EPOCH:2006.7507)

         X:         18197.041(m)    0.005(m)          18196.361(m)    0.005(m)
         Y:      -5473864.221(m)    0.007(m)       -5473862.729(m)    0.007(m)
```

The project team member uploading the data files will still get the OPUS solution report. The report will also be available to you, the project manager.

```
The RINEX file listed below did not meet all the currrent threshold limits
for submission to ...

PROJECT:     hrdb86fc
RINEX FILE:  2137275u.06o
ANTENNA:     OK      TRM55971.00     NONE
ARP HGT:     OK      1.500 m

RMS:         OK      0.016 m
EPHEMERIS:   OK      igs13951.eph
OBS USED:    OK      91.6%
FIXED AMB:   WARNING 76.1% < 80% fixed ambiguities threshold.
LAT RANGE:   OK      0.012 m
LON RANGE:   OK      0.013 m
HGT RANGE:   OK      0.013 m
```

However, the project team member might also receive a second email if the OPUS solution doesn't meet the project's solution quality threshold preferences. The highlighting is mine.

```
The RINEX file listed below did not meet all the currrent threshold limits
for submission to ...

PROJECT:     hrdb86fc
RINEX FILE:  2137275u.06o
ANTENNA:     OK      TRM55971.00     NONE
ARP HGT:     OK      1.500 m

RMS:         OK      0.016 m
EPHEMERIS:   OK      igs13951.eph
OBS USED:    OK      91.6%
FIXED AMB:   WARNING 76.1% < 80% fixed ambiguities threshold.
LAT RANGE:   OK      0.012 m
LON RANGE:   OK      0.013 m
HGT RANGE:   OK      0.013 m
```

Part of your job as project manager, is to prepare your field teams for this eventuality. This does not mean this data was omitted from the project. It simply means that this solution will be flagged for easier identification.

Let's look at what we've got so far.

Before we upload any more data, let's look at what we've got so far with the understanding that this mimics what you might see after the first day of an active project.

OPUS Projects

National Geodetic Survey

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OPUS Projects gives users web-based access to simple management and processing tools for projects involving multiple sites and multiple occupations. The advantages of OPUS-Projects are:

- Data uploading through OPUS.
- Customizable data processing via the PAGES software suite.
- Visualization and management aids.

Create a new project.

Create **RESTRICTED** to trained project managers. If you have completed OPUS Projects training, you are registered and may create a new project. All others, see the Training Schedule.

Configure, edit, and process individual network sessions.

Session Project Identifier:

Session Keyword:

Your Email:

Manage, edit, process, and publish the project.

Manage Project Identifier: hrdb86fc

Manager Keyword: ff5d3zmu

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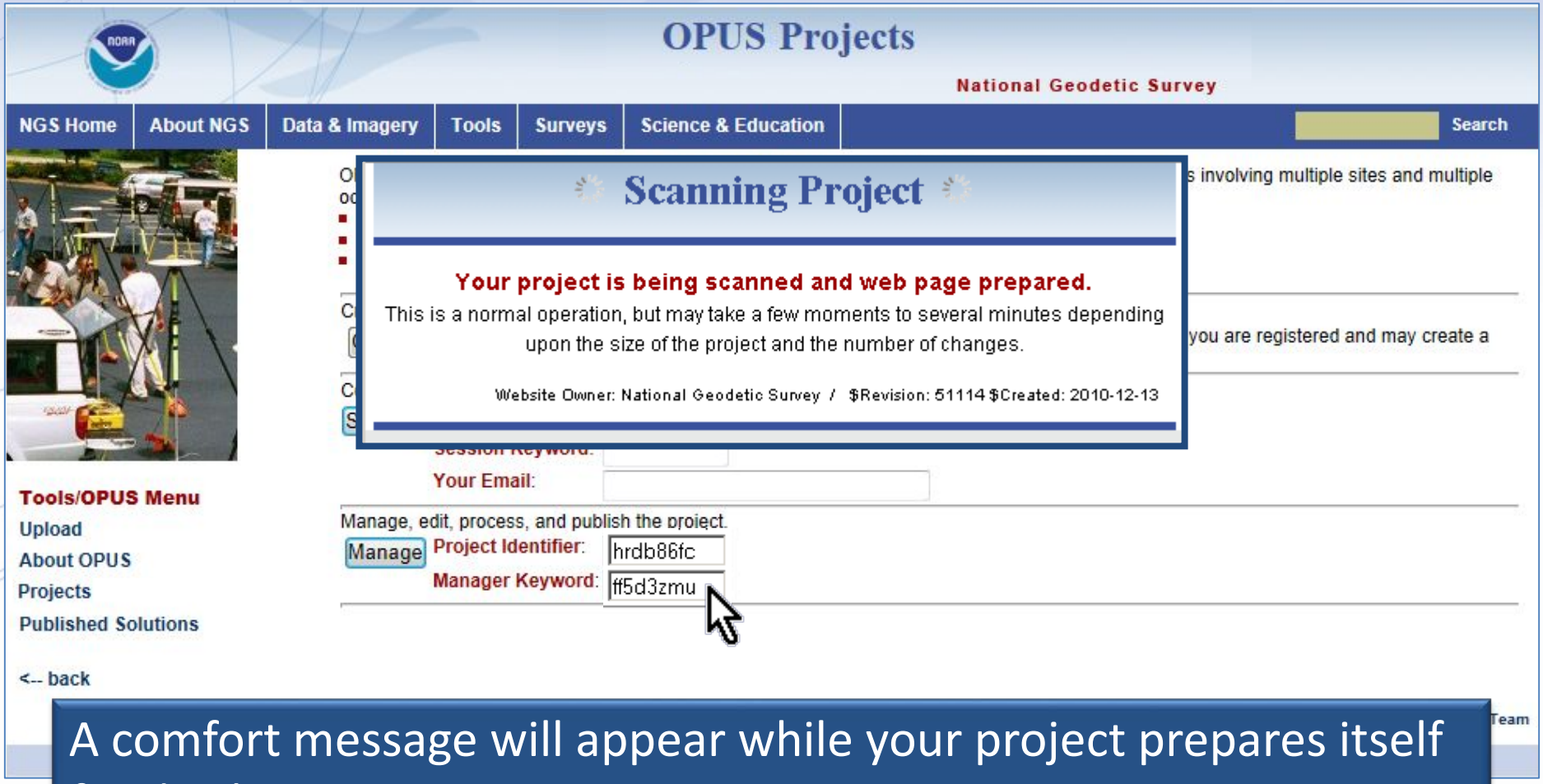
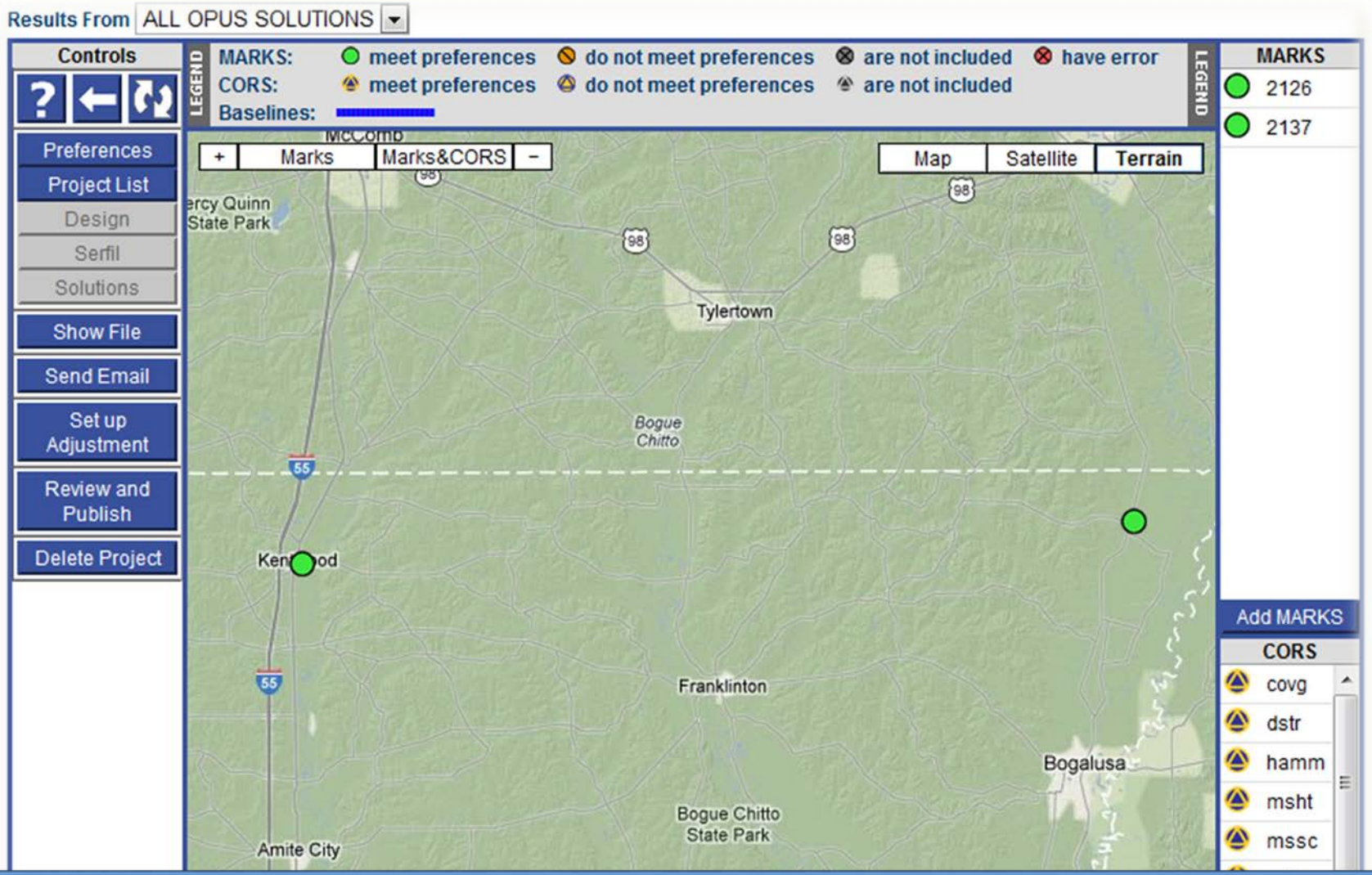
Returning to the OPUS-Project gateway:
http://geodesy.noaa.gov/OPUSI/OpusProjects.html

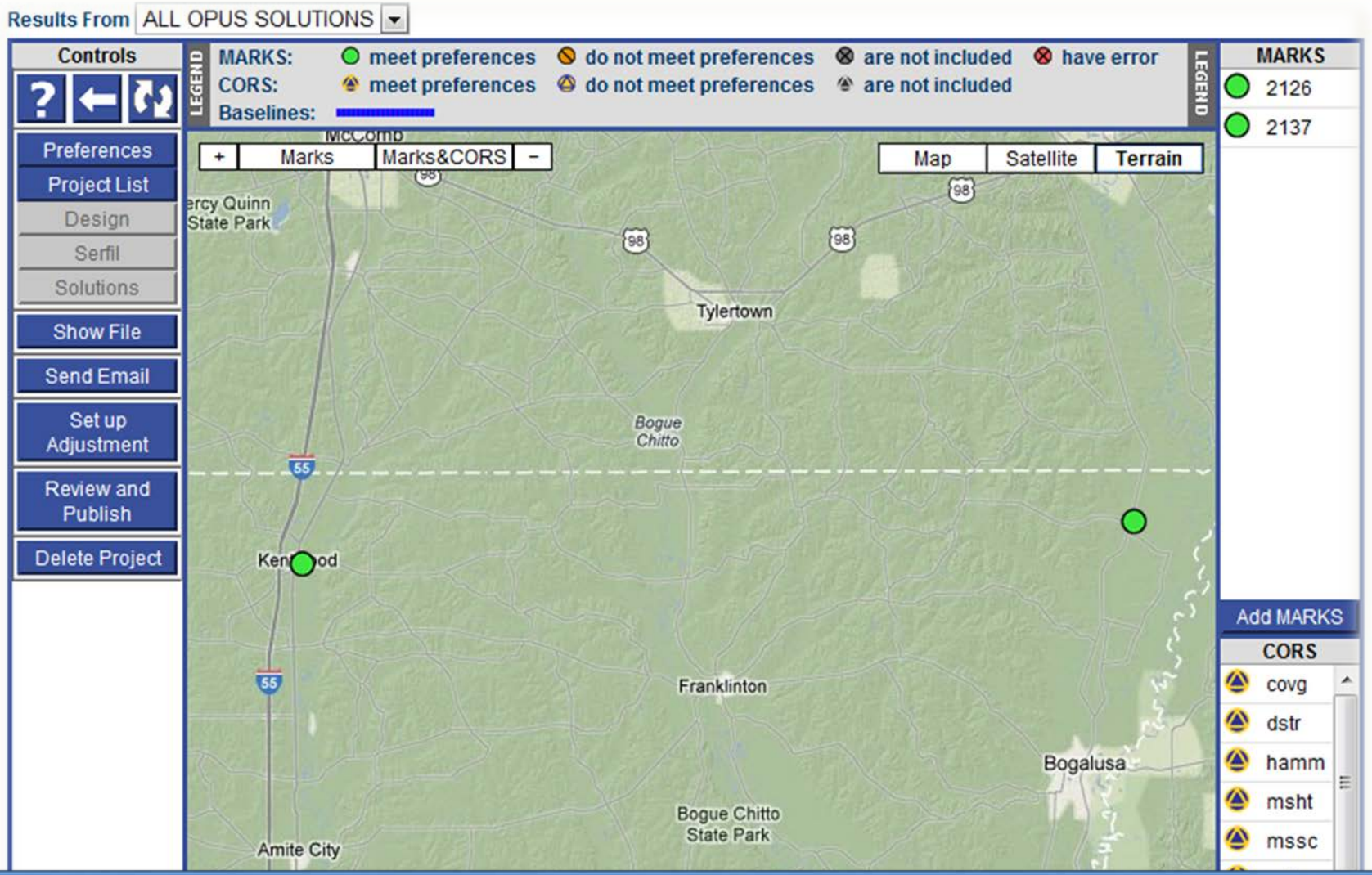
Enter the project ID and manager keyword, the click Manage.



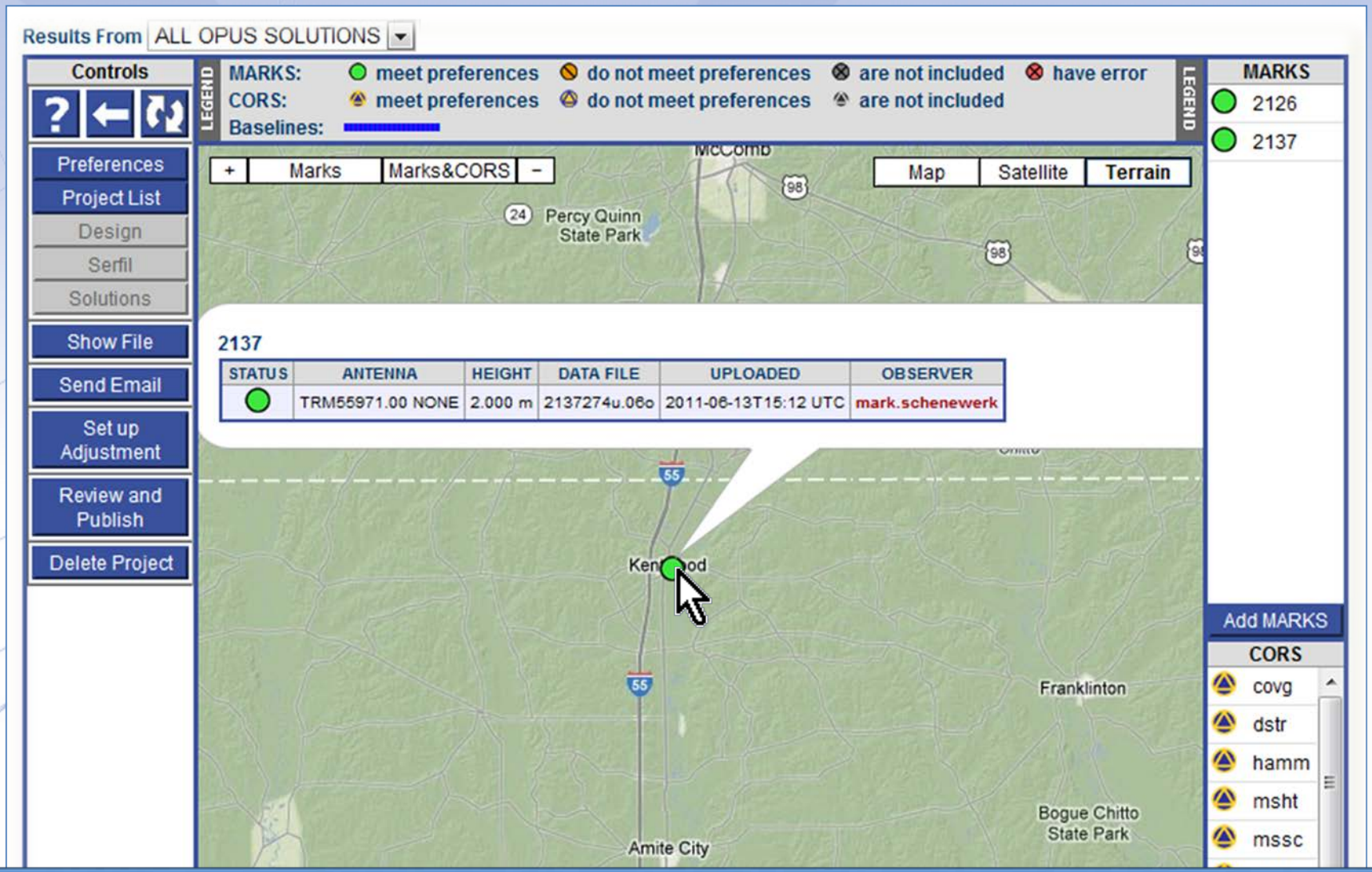
A comfort message will appear while your project prepares itself for display.



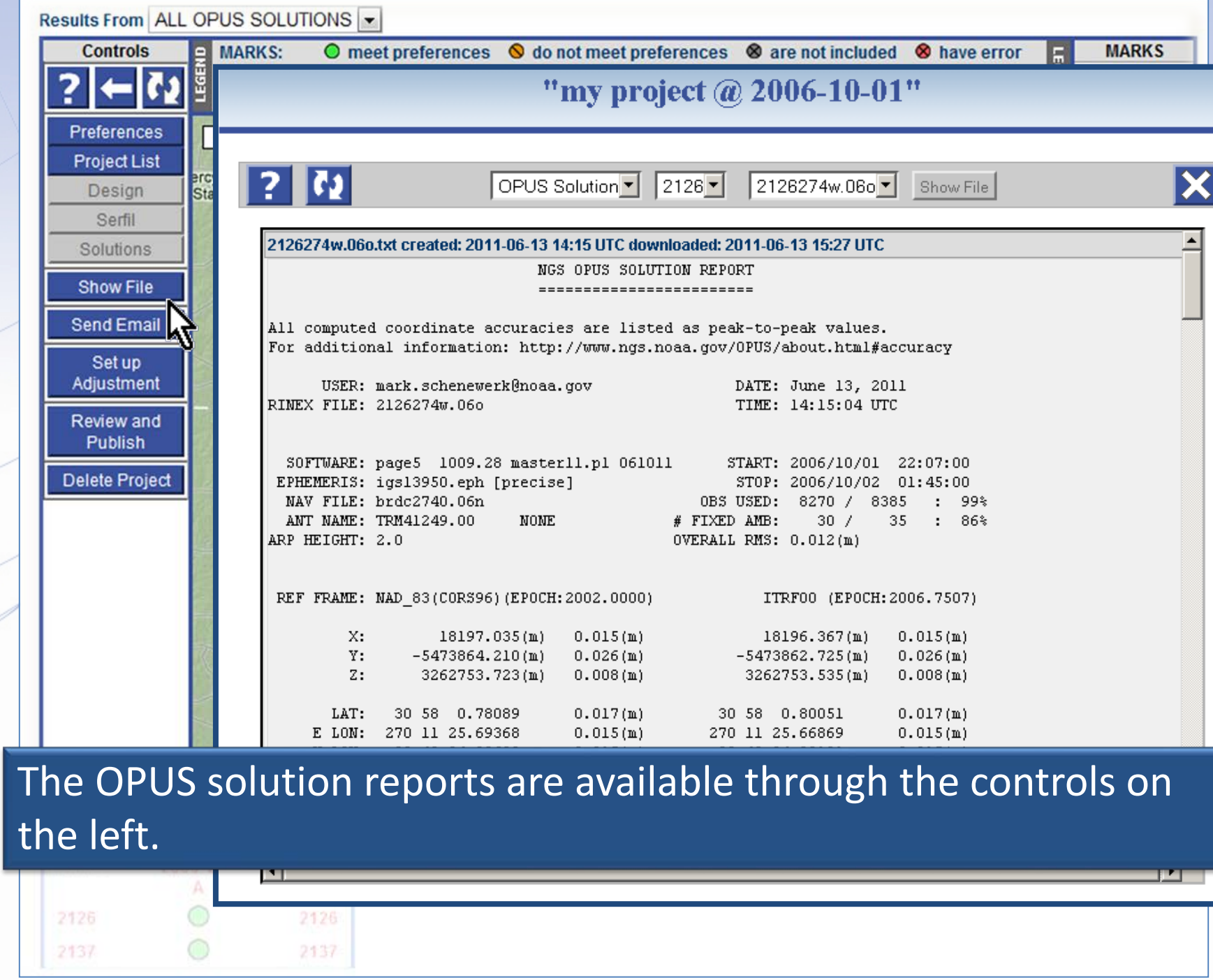
In a few moments, the project manager page will appear. We're broadly familiar with the page, but let's look at how this page has changed now that some data has been uploaded.



The marks represented by the two data files we've upload now appear on the map and in the table to the right. The CORS used in the OPUS solutions are included too.

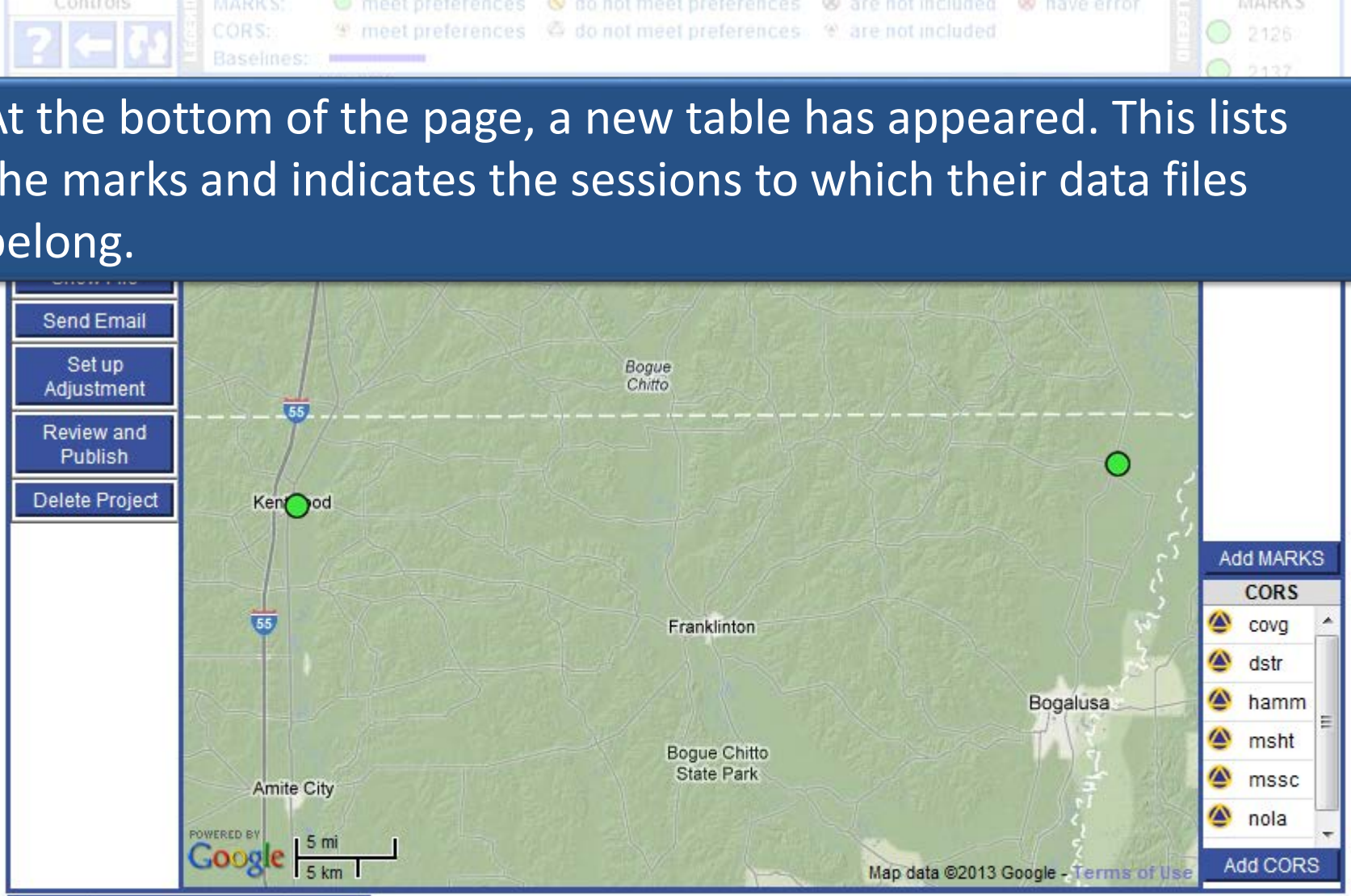


Clicking on a map icon or a table entry causes a short summary of the data files for that mark to appear. The observer's name is also a convenience link to send that person an email.



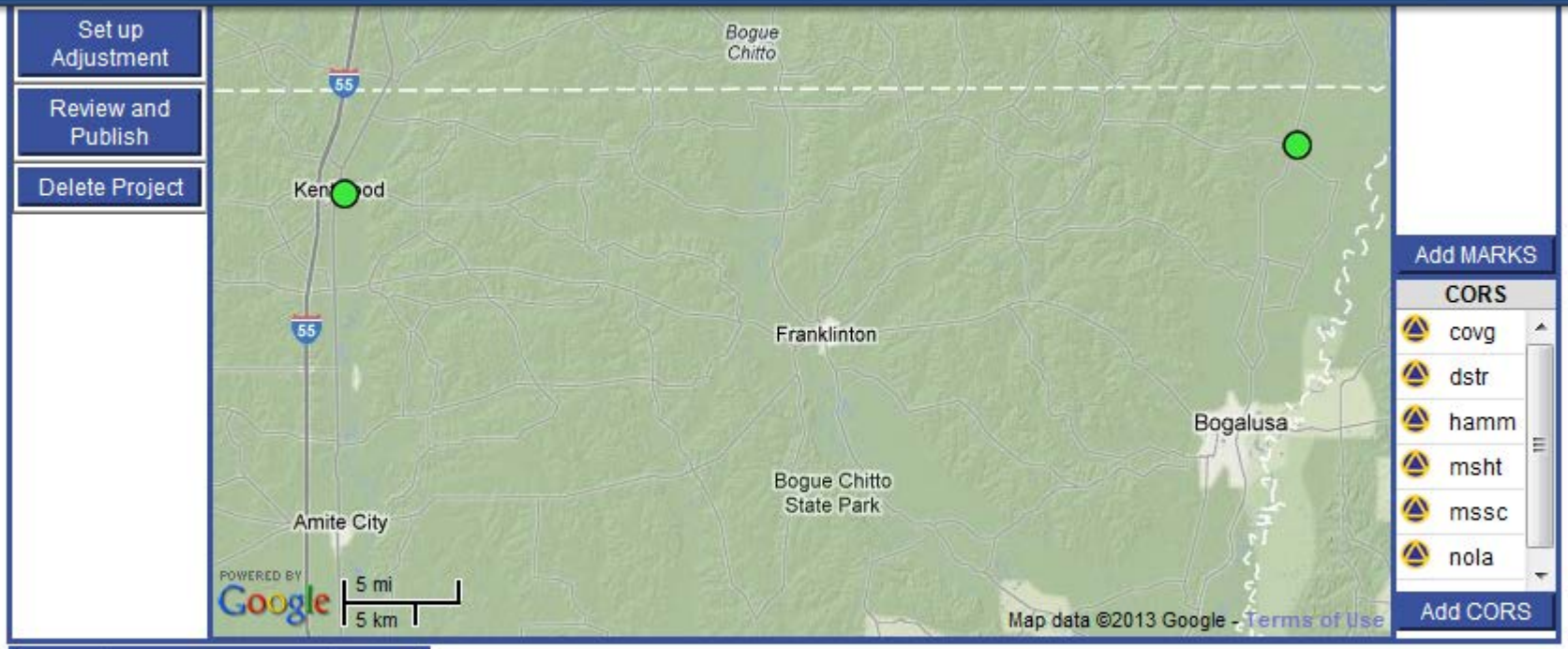
The OPUS solution reports are available through the controls on the left.

At the bottom of the page, a new table has appeared. This lists the marks and indicates the sessions to which their data files belong.



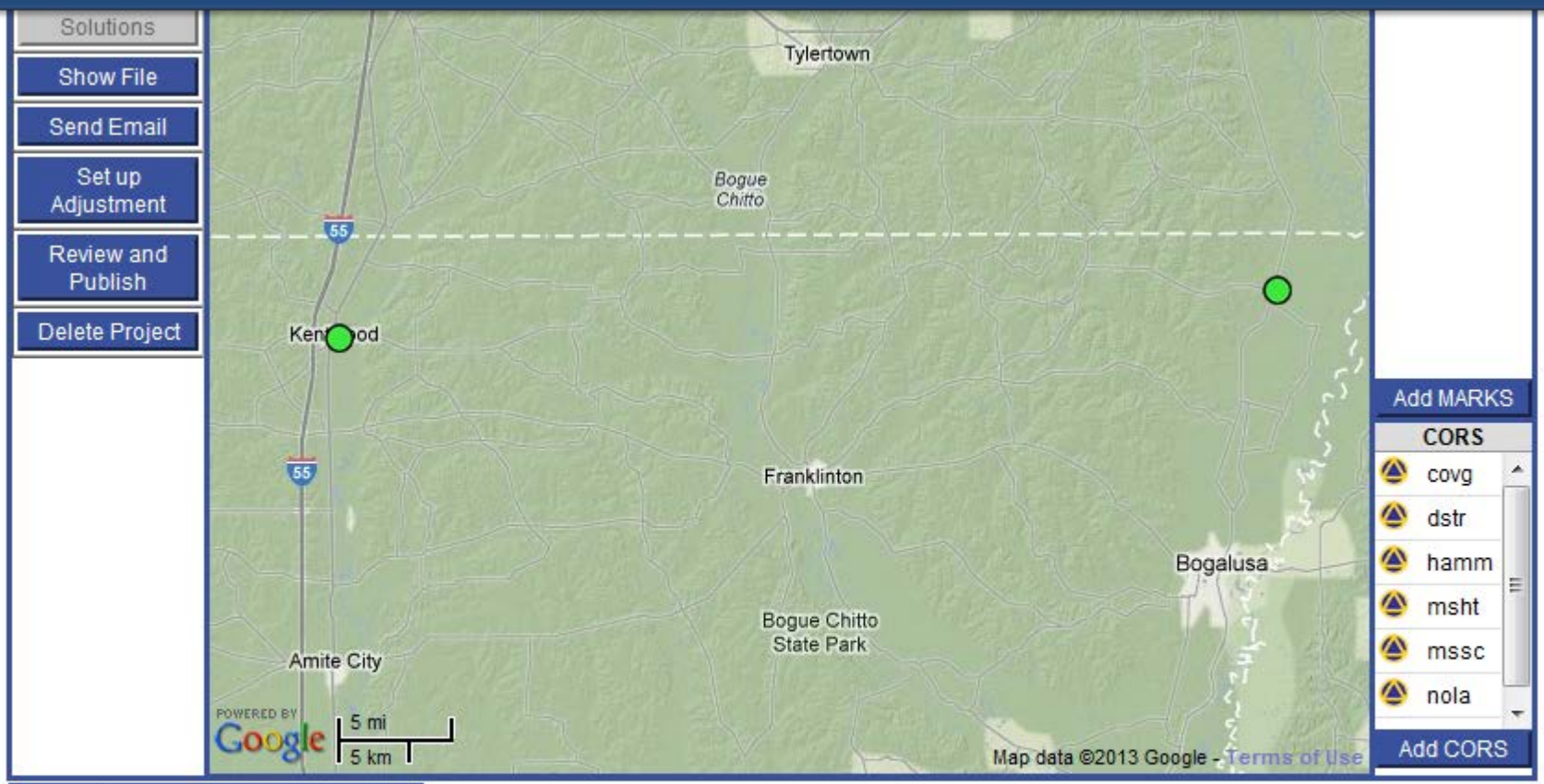
MARKS	Sessions & Solutions 2006-274 A	MARKS
2126	●	2126
2137	●	2137

The column and row headers are more convenience links. The mark names on the left and right take you to the project's page for that mark. The session names across the top take you to the project page for that session.

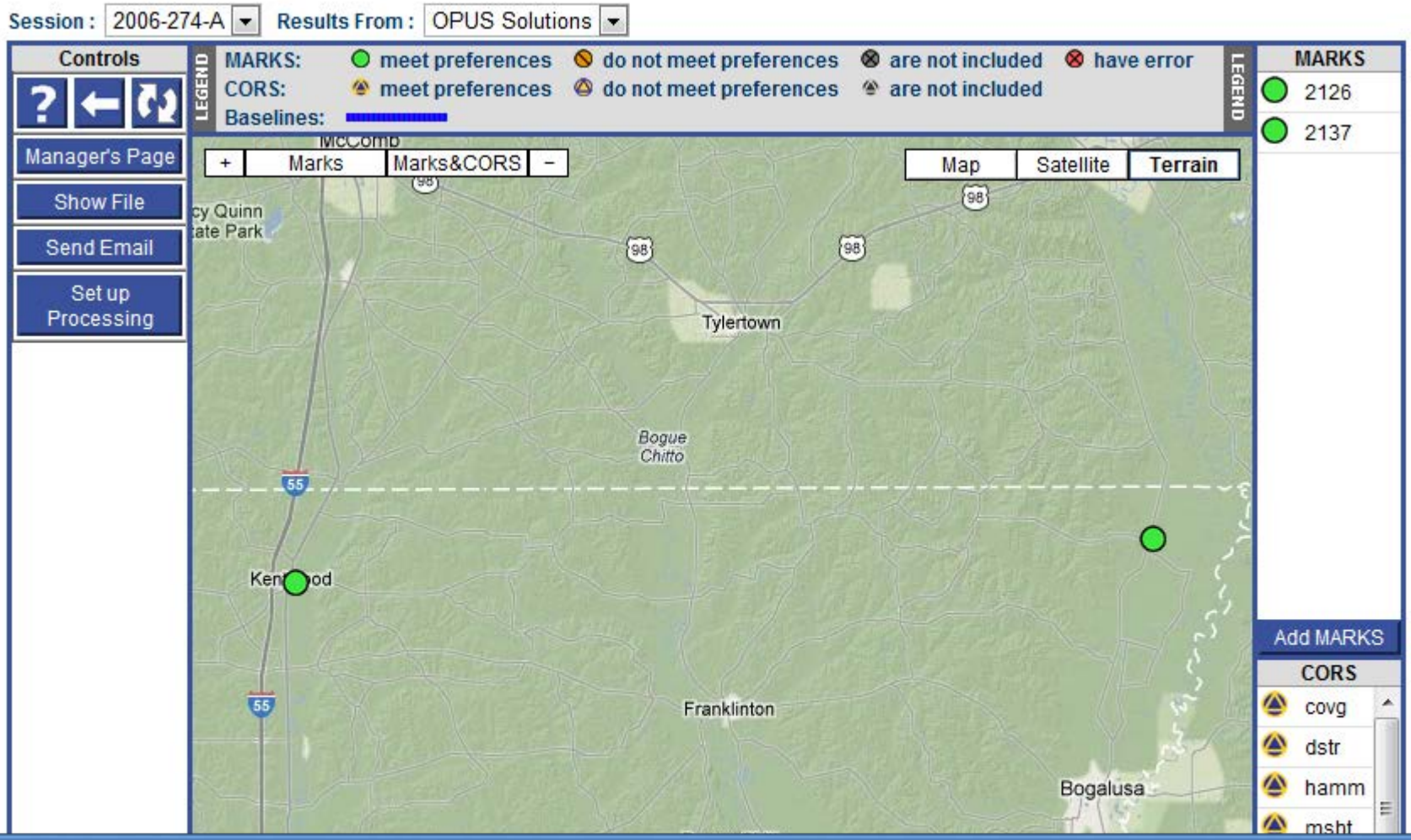


MARKS	Sessions & Solutions 2006-274 A	MARKS
2126		2126
2137		2137

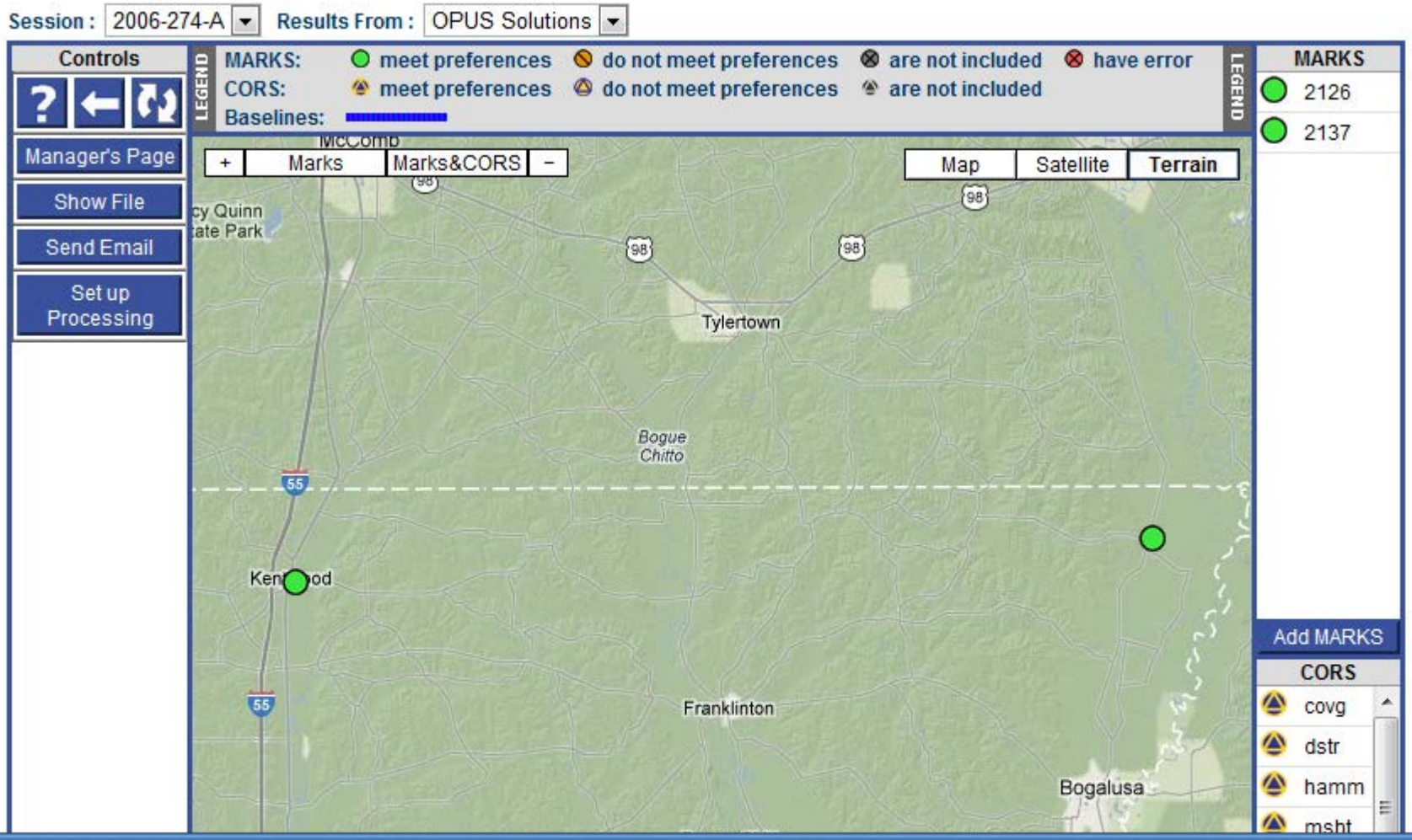
Let’s briefly visit the session 2006-274-A session page. Click on the link …



MARKS	Sessions & Solutions 2006-274-A	MARKS
2126	●	2126
2137	●	2137



This page contains information and controls specific to this session: 2006-274-A. Here again, we see the marks and CORS on the map and in the tables.



Similar information and reports as found on the manager's page are available for these marks, but it is limited to information specific to this session.

And there are new tables on this page too. The “Solution Quality Indicators” table lists the solution values checked against the quality threshold preferences. The “Data Availability” table gives a representation of the satellite availability in each data file.

Solution Quality Indicators

MARKS		ANTENNA		HEIGHT (m)	EPH TYPE	OBS (%)	FIXED (%)	RMS (m)	LAT (m)	LON (m)	HGT (m)
2126		TRM41249.00	NONE	2.000	precise	98.6	85.7	0.012	0.017	0.015	0.021
2137		TRM55971.00	NONE	2.000	precise	95.5	86.5	0.015	0.015	0.010	0.023
PREFERENCES:					Best Available	≥80.0	≥80.0	≤0.025	≤0.030	≤0.030	≤0.060

Data Availability

2006-10-01T20:00:00 GPST to 2006-10-02T02:00:00 GPST in 10 minute cells

MARKS		2006-10-01																								2006-10-02							
		20												21												22									
2126		0	0	0	0	0	0	0	0	0	0	0	0	7	7	8	8	8	7	8	8	8	8	7	7	7	7	7	7	8	7	7	8	8	7	0
2137		7	7	7	7	7	8	7	8	7	7	8	8	9	9	A	A	8	8	8	8	8	9	8	8	8	7	7	7	7	7	8	8	7	8	8	7	7

The row headers in these tables are convenience links to the individual mark pages, just as on the manager's page. Let's visit the page for mark 2126.

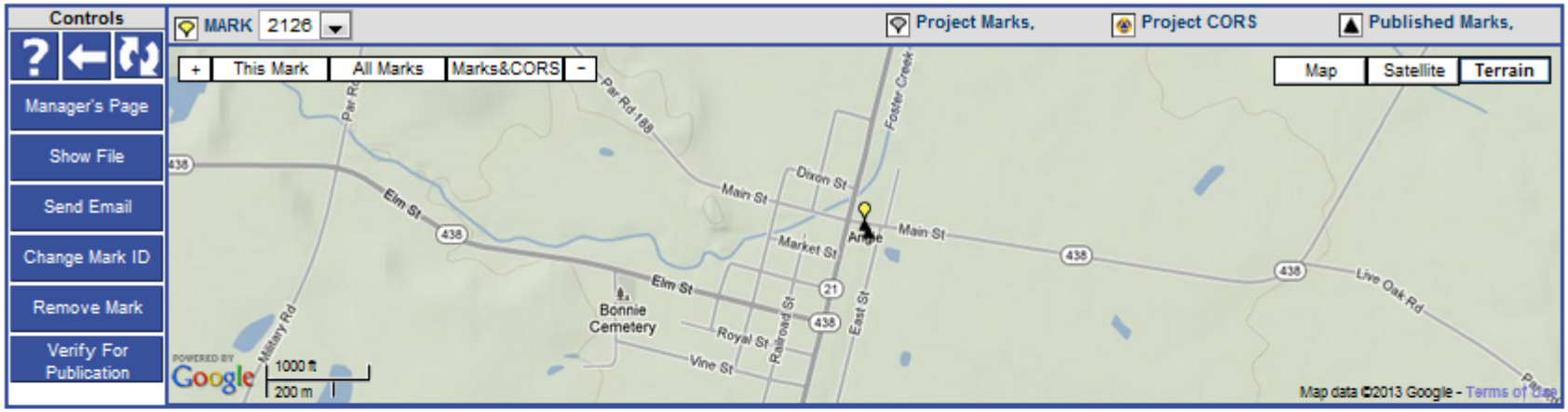
Solution Quality Indicators

MARKS	ANTENNA		HEIGHT (m)	EPH TYPE	OBS (%)	FIXED (%)	RMS (m)	LAT (m)	LON (m)	HGT (m)
2126	TRM41249.00	NONE	2.000	precise	98.6	85.7	0.012	0.017	0.015	0.021
213	TRM55971.00	NONE	2.000	precise	95.5	86.5	0.015	0.015	0.010	0.023
PREFERENCES:				Best Available	≥80.0	≥80.0	≤0.025	≤0.030	≤0.030	≤0.060

Data Availability

2006-10-01T20:00:00 GPST to 2006-10-02T02:00:00 GPST in 10 minute cells

MARKS	2006-10-01																								2006-10-02											
	20												21												22												23												00												01											
2126	0	0	0	0	0	0	0	0	0	0	0	0	7	7	8	8	8	7	8	8	8	8	7	7	7	7	7	7	8	7	7	8	8	7	0	
2137	7	7	7	7	8	7	8	7	7	8	8	9	9	A	A	8	8	8	8	9	8	8	8	7	7	7	7	8	8	8	7	8	8	8	7	7	



MARK 2126 Datasheet Mock-up

Upload A Photo | Save Description

Description

PID	
stamping*	H 393 2006
name*	H 393 2006
type*	R = Rod F = Flange-encased rod Rod Depth*: 31.7 Sleeve Depth: 0.9 Feet Meters
setting*	59 = Stainless steel rod in sleeve (10FT+ or 3.048M+) specific setting
description* 426 chars (500 chars max)	MARK IS 23.6 FT (7.2 M) SOUTH OF THE CENTERLINE OF LA-438, 151.4 FT (46.25 M) EAST OF THE CENTERLINE OF LA-21, 76.3 FT (23.25 M) WEST OF WEST RAIL OF RAILROAD TRACKS, 109.0 FT (33.25 M) EAST OF A POWER POLE WITH TWO TRANSFORMERS NUMBER 113, AND 0.8 FT (0.24 M) NORTH OF A CARSONITE WITNESS POST. ACCESS TO MARK IS THROUGH A 5 INCH (13 CM) PVC PIPE AND LOGO CAP. SLEEVE DEPTH DOES NOT MEET SPECIFICATIONS FOR A CLASS A MARK.

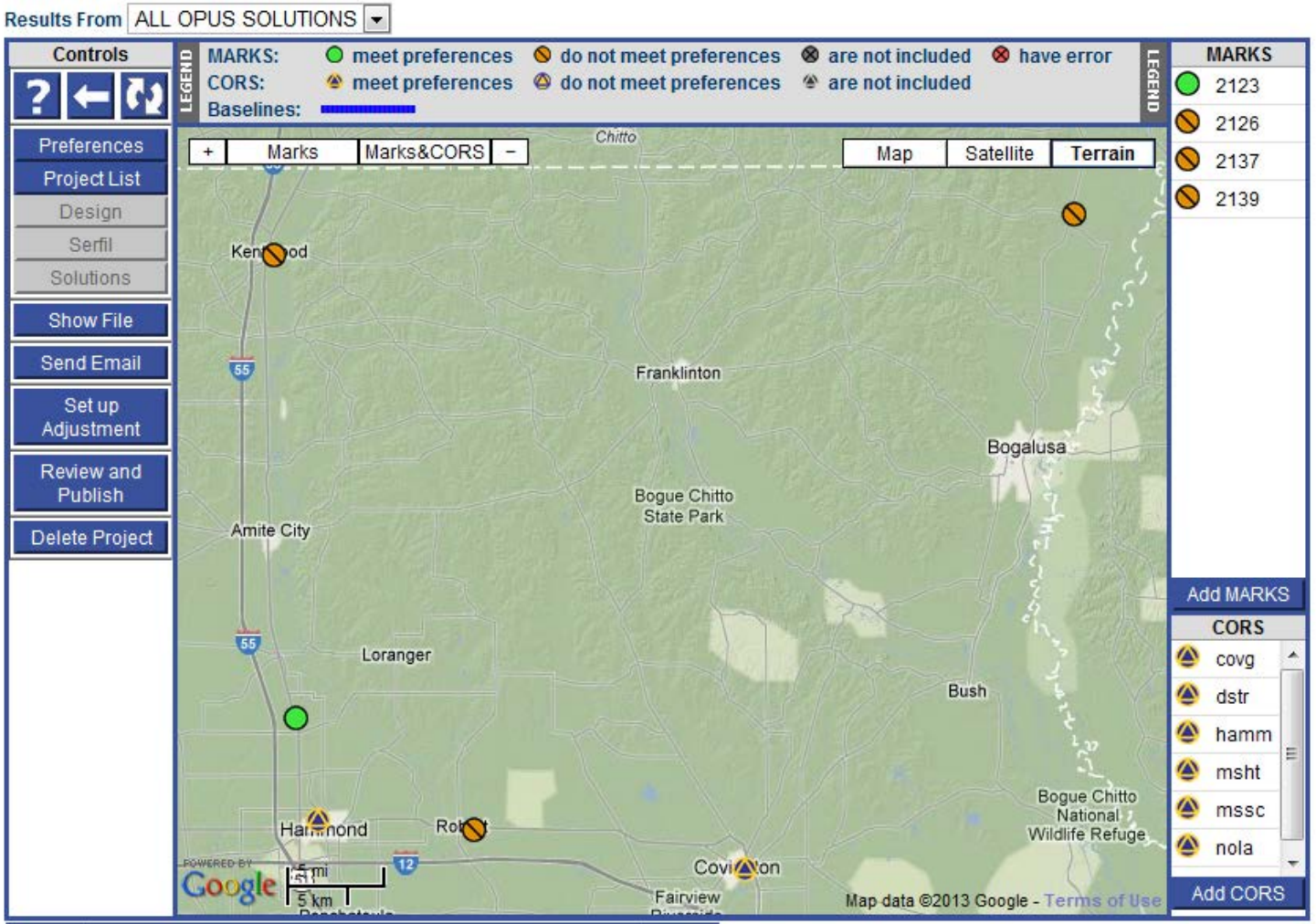
Close-up View

Horizon View

Here, you can review, edit or enter the mark description. Many other tools are available, but we'll save those for later.

Let's look a little farther ahead.

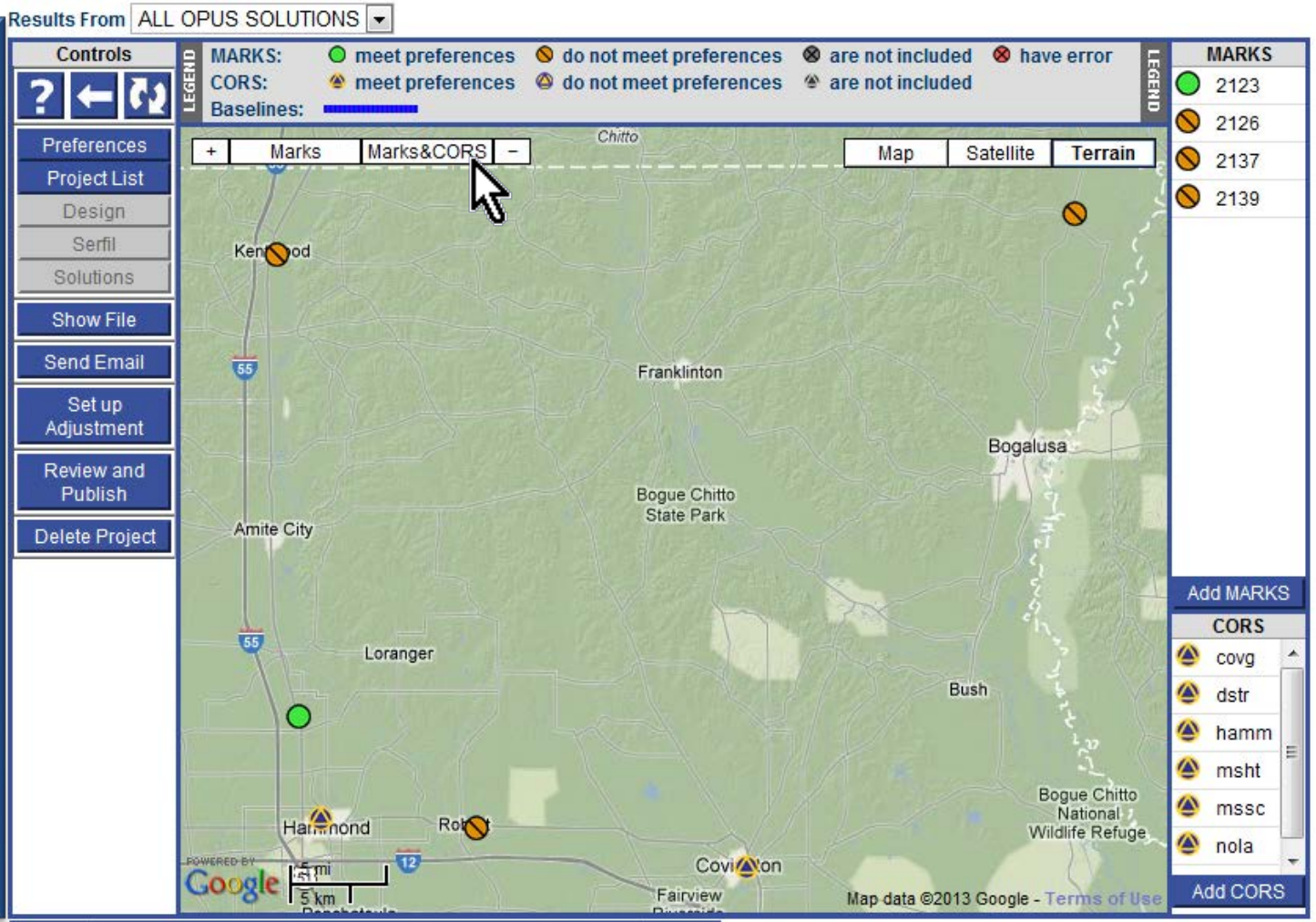
Let's jump to the point where all project data has been uploaded.



MARKS	Sessions & Solutions						MARKS
	2006-274 A	2006-275 A	2006-275 B	2006-276 A	2006-276 B	2006-277 A	
2123			●	●	●	●	2123
2126	●	●	⊘	●			2126
2137	●		⊘	●			2137
2139			⊘	⊘	⊘	⊘	2139

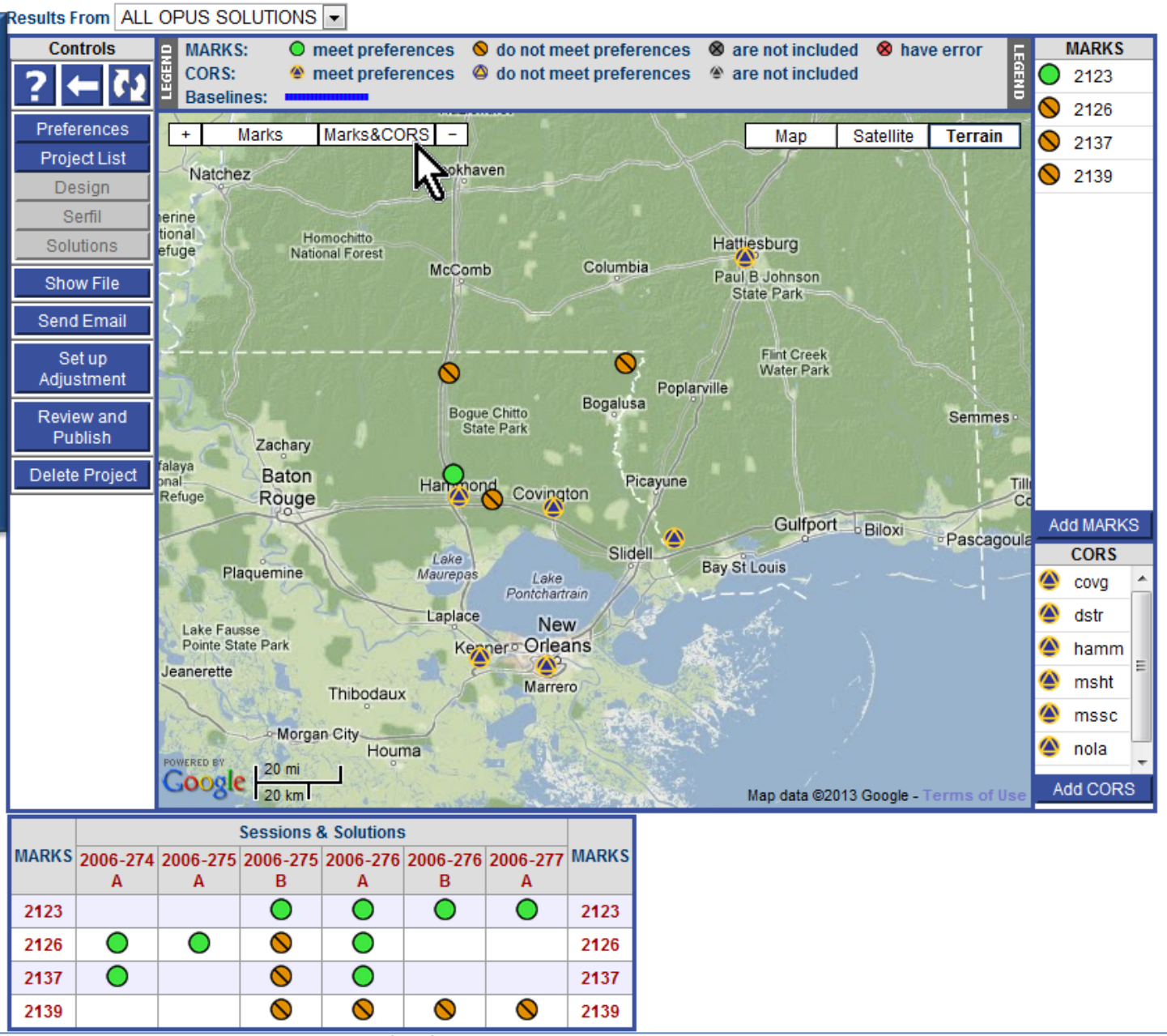
Note that all four marks in our training project are now shown and six sessions have been defined.

Let's click the Marks&CORS button on the map.



MARKS	Sessions & Solutions						MARKS
	2006-274 A	2006-275 A	2006-275 B	2006-276 A	2006-276 B	2006-277 A	
2123			●	●	●	●	2123
2126	●	●	⊘	●			2126
2137	●		⊘	●			2137
2139			⊘	⊘	⊘	⊘	2139

The map's center and zoom level changes to encompass all project marks and the included CORS.



MARKS	Sessions & Solutions						MARKS
	2006-274 A	2006-275 A	2006-275 B	2006-276 A	2006-276 B	2006-277 A	
2123			●	●	●	●	2123
2126	●	●	⊘	●			2126
2137	●		⊘	●			2137
2139			⊘	⊘	⊘	⊘	2139

Let's take a short break.

The preliminaries are now complete. Let's take a break, stretch our legs and clear our heads.

Use this break to verify that you can access the project provided with this training, and that the training project has all mark data and metadata loaded.

If you are new to OPUS, take this opportunity to try re-loading one or more of the data files.

OPUS Projects Manager Training

Step 2 : Uploading Data

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