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.

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OPUS Menu

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Contact OPUS



Let's upload the RINEX file 2126274w.060 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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OPUS Menu

Upload About OPUS Projects Published Solutions

Contact OPUS



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

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

OPUS Menu

sample solutions

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.

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	
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Contribute to a project	Enter the project identifier provided by your project manager	hrdb86fc	
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Publish my solution	Share your solutions	No, don't publish	•
Upload to R for data > 15 n	apid-Static Upload to Static nin. < 2 hrs. for data > 2 hrs. < 48 hrs.		

Jampie Jolatona **OPUS Menu** We'll leave the other options as they are. Now click the Upload button to have this data file uploaded to your project. na neight of your antenna's reference point Contact OPUS your.name@your.address * Email address - your solution will be sent here. Options to customize your solution. standard solution Formats Add solution details Ŧ Look up site IDs Base Type in 4-char site IDs, or select from map, any Use: Exclude: CORS you wish to explicitly include or exclude stations from your solution Sample NOTE: the automated selection of base stations has recently improved; this option should now be used only sparingly browse map State plane Customize your native SPCS zone let OPUS choose Ŧ Contribute Enter the project identifier provided by your project hrdb86fc to a project manager My profile Customize OPUS defaults for future solutions Ŧ Publish my Share your solutions No, don't publish Ŧ solution Upload to Rapid-Static Upload to Static for data > 15 min. < 2 hrs. for data > 2 hrs. < 48 h

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



1. upload	i√	2. identify	3. describe	4. publish			
		your mark					
choose one: mark has a PID mark is NEW to NGS skip description mark has a PID? Search the NGS database to find out.							
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You project ID will be listed (and should be visually confirmed) ...



1. upload \checkmark	2. identify	3. describe	4. publish					
	your mark							
choose one:	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 ema	! ail when processing is c	omplete.						

uploaded:		Solving with:	
data file	2126274w.060	solution format	Extended
converted to	2126274w.060 (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.





uploaded:		Solving with:	
data file	2126274w.060	solution format	Extended
converted to	2126274w.060 (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	1 V	2. identify	3. describe	4. publish				
		your mark						
choose one: mark has a PID mark is NEW to NGS skip description mark has a PID? Search the NG stabase to find out.								
	ccessful!							
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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.





for data file: 2126274w.06o

1. upload	√ 2. identify	3. describe	4. publish
		your mark	
* Stamping			
* Designation			
* Туре	Choose Type 💌 💌		
* Setting	Select Setting Code		•
	Specific setting (optional):		
* Description	(describe the mark, witness ties,	etc., to enable future recoveries. N	/lax. characters=500)

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.

2013-08-07

Choose Special Application

Antenna S/N

Receiver



for data file: 2126274w.06o

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scription (describe	be the mark, witness ties, e	etc., to enable future re	ecoveries. Max. cha	aracters=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

2013-08-07

Application

Choo Step 2 : Uploading Data

Antenna S.N

Receiver



for data file: 2126274w.060

1. upload	i √ :	2. identify	3. describe	4. publish
			your mark	
* Stamping				
* Designation				
* Туре	Choose Type	•		
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	Specific setting (o	ptional):		
* Description	(describe the mark	, witness ties, etc., to	enable future recoveries. M	ax. 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.

2013-08-07

Application

Choo Step 2 : Uploading Data

Antenna S.N

Receiver



for data file: 2126274w.06o

1. uploa	ıd √	2. identify	3. describe	4. publish
			your mark	
* Stamping	H 393 2006			
* Designation	H 393 2006			
* Туре	Choose Type	•		
* Setting	Select Setting) Code	•	•
	Specific setting	(optional):		
* Description	(describe the m	ark, witness ties, etc., to	o enable future recoveries. Mai	x. 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.

2013-08-07

Choos Step 2 : Uploading Data



2013-08-07

Step 3 of 4: Describe new mark.

for data file: 2126274w.060

1. uploa	ıd √	2. identify	3. describe	4. publish
			your mark	
* Stamping	H 393 2006			
* Designation	H 393 2006			
* Туре	R = Rod Rod Depth 31.7	F = Flange-end Sleeve Depth 0.9	cased rod ●ft◎m	
* Setting	Select Setting	Code		•
	Specific setting	(optional):		
* Description	(describe the ma	ark, witness ties, etc., t	o enable future recoveries. Ma	x. 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 2 : Uploading Data



for data file: 2126274w.06o

1. uploa	ıd √	2. identify	3. describe	4. publish
			your mark	
* Stamping	H 393 2006			
* Designation	H 393 2006			
* Type	R = Rod	F = Flange-en	cased rod 💌	
	Rod Depth 31.7	Sleeve Depth 0.9	Oftom	
* Cotting	59 = Stainh	ess steel rod in sleeve	(10FT+ or 3.048M+)	•
" Setting	Specific set	ting (optional):		
* Description	Specific set (describe the	ting <i>(optional</i>): mark, witness ties, etc., te	o enable future recoveries. Ma	. characters=500)
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* Description	Specific set (describe the	ting <i>(optional</i>): mark, witness ties, etc., t	o enable future recoveries. Ma	k. characters=500)

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

	Stability	Choose Vertical Stability	*
2013-08-07	Magnetic	Choos Step 2 : Uploading Data	*
		Choose Special Application	



for data file: 2126274w.06o

1. uploa	d√	2. identify	3. describe	4. publish
			your mark	
* Stamping	H 393 2006			
* Designation	H 393 2006			
* Туре	R = Rod	F = Flange-end	cased rod 💌	
	Rod Depth 31.7	Sleeve Depth 0.9	©ft⊛m	
* Setting	59 = Stainless	steel rod in sleeve (1	0FT+ or 3.048M+)	•
	Specific setting ((optional):		
* Description	(describe the ma	rk, witness ties, etc., to	o enable future recoveries. M	ax. characters=500) 428
	MARK IS 23.6	5 FT (7.2 M) SOU	JTH OF THE CENTERLIN	IE OF
	LA-438, 151. OF LA-21, 76	.4 FT (46.25 M) 5.3 FT (23.25 M)) EAST OF THE CENTER) WEST OF WEST RAIL	OF
	RAILROAD TRA	ACKS, 109.0 FT	(33. 25 M) EAST OF A	POWER
	POLE WITH TW	10 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.

stamping H 393 2

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.

	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	Choose Vertical Stability
Magnetic	Choose Magnetic Property
Application	Choose Special Application
Antenna S/N	Receiver S/N:
Model	Firmware
Upload Descripti	on Abort
* required fields	

tamping H 393 20

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.

	MARK IS 23.6 FT (7.2 M) S LA-438, 151.4 FT (46.25 OF LA-21, 76.3 FT (23.25 RAILROAD TRACKS, 109.0 FT POLE WITH TWO TRANSFORMER (0.24 M) NORTH OF A CARS S TO MARK IS THROUGH A 5 LOGO CAP. SLEEVE DEPTH DO FOR A CLASS & MARK	SOUTH OF THE CENT M) EAST OF THE (M) WEST OF WEST (33. 25 M) EAST (33. 25 M)	TERLINE OF CENTERLINE RAIL OF T OF A POWER ND 0.8 FT DST. ACCES C PIPE AND CIFICATIONS
	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 Descript	ion Abort		
* required fields			



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 Descripti	on 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).

www.ngs.noaa.gov



OPUS Menu

Upload About OPUS Projects Published Solutions

Contact OPUS

Upload yo	our data file.		FLA: 219903.00 0001000 00 010 10.0110 00000 WIN: 001 21000000 00 WIN: 001 21000000 00 WIN: 001 21000000 00 WIN: 001 21000000
Tie your GPS What is OPD	S observation to the National Spatial Reference System. US? FAQs		
Choose Fi * Data file of	ile 2137274u.06o f dual-frequency GPS observations. <mark>sample</mark>		6.00
TRM41249	0.00 NONE Zephyr 4-point feed anter	nna - Stealth Gr 💌	Mathematical Matchematical Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Mathematical 2011 Section 2011 Section 2011 Section 2011 Section 2011 Mathematical 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011 Mathematical 2011 Section 2011 Section 2011 Section 2011 Section 2011 Section 2011
Antenna typ	e - choosing wrong may degrade your accuracy.		Sample Solutions
2.00 Antenna hei your.namer * Email addr	meters above your mark. ight of your antenna's reference point. @your.address ress - your solution will be sent here. customize your solution.		
Formate	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	Use: Exclude:	Look up site IDs
	recently improved; this option should now be used		
h o t h o r			

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

solution

Share your solution.

2013-08-07

Upload to Rapid-Static UStep 2 : Uploading Data

or data = 15 min = 2 hrs — for data = 2 hrs = 48 hrs



Choose File 2137274u 06c Data file of dual-frequency GPS observations sample -

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

About OPUS	Antenna neig	gnt of your antenna's reference point.				
Projects						
Published Solutions	your.name(@your.address				
Contact OPUS	* Email addr	ess - your solution will be sent here.				
	Options to c	customize your solution.				
	Formats	Add solution details	standa	rd 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	Use:	Exclude:	Look up site IDs	
		NOTE: the automated selection of base stations has recently improved; this option should now be used only sparingly			browse map	
	State plane	Customize your native SPCS zone	let OPI	JS choose		•
	Contribute to a project	Enter the project identifier provided by your project manager	hrdb86f	ic .		
	My profile	Customize OPUS defaults for future solutions				-
	Publish my solution	Share your solutions	No, dor	n't publish		•
	Upload to R for data > 15 r	Rapid-Static Upload to Static min. < 2 hrs. for data > 2 hrs. < 48 hrs.				
	* required fie	lds				

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



1. uploa	d √ 2. identify	3. describe	4. publish
	your mark		
cho	ose one: mark has a PID mar mark has a PID?	k is NEW to NGS skip descrip Search the NGS database to	tion find out.
Upload s	uccesstul! ve an email when processing	a is complete	
Upload s (ou will recei	uccessful! ve an email when processin	g is complete.	
Upload s (ou will receiv uploaded:	uccessful! ve an email when processin	g is complete. Solving with:	
Upload s (ou will receiv uploaded: lata file	uccessful! ve an email when processing 2137274u.060	g is complete. Solving with: solution format	Extended
Upload s ou will receiv uploaded: data file converted to	2137274u.060 (RINEX	g is complete. Solving with: solution format format) base sta. used	Extended
Upload s ou will receiv uploaded: lata file converted to antenna type	2137274u.060 2137274u.060 (RINEX TRM41249.00 NONE	g is complete. Solving with: solution format format) base sta. used base sta. exclud	Extended ded
Upload s ou will receiv uploaded: data file converted to antenna type antenna heigh	2137274u.060 2137274u.060 (RINEX TRM41249.00 NONE t 2.00 meters	g is complete. Solving with: solution format format) base sta. used base sta. exclud state plane zone	Extended ded AUTO
Upload s ou will receiv uploaded: data file converted to antenna type antenna heigh email address	2137274u.060 2137274u.060 2137274u.060 (RINEX TRM41249.00 NONE t 2.00 meters your.name@your.addres	g is complete. Solving with: solution format format) base sta. used base sta. exclud state plane zone	Extended ded AUTO

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



1. upload $$	2. identify	3. describe	4. publish
		your mark	
Enter the mark's PID	BJ1784		
Class up photo	Ohanna Eila 0127 alaanus is		
Close-up photo	Choose File 2137_closeup.jp	eg	
Horizon photo	Choose File 2137_horizon.jpe	eg	
Mark condition	Good condition OPoor, distu	rbed, mutilated, requires main	tenance
Description	(Amend existing description, if necessar RECOVERED AS DESCRIBED	ry. Max. characters=500) 41 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.

www.ngs.noaa.gov

FILE: 2126274w.060 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.060	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.

02110 1011

STATE DISME COM

NAV105 (COMBUDED US

COODDING TES

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

PROJECT:	hrdb86f0	2
RINEX FILE:	2137275	1.060
ANTENNA:	0K	TRM55971.00 NONE
ARP HGT:	0K	1.500 m
RMS:	0K	0.016 m
EPHEMERIS:	0K	igs13951.eph
OBS USED:	0K	91.6%
FIXED AMB:	WARNING	76.1% < 80% fixed ambiguities threshold.
LAT RANGE:	0K	0.012 m
LON RANGE:	0K	0.013 m
HGT RANGE:	0K	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	3		
RINEX FILE:	2137275u	1.060		
ANTENNA:	0K	TRM55971.00	NONE	
ARP HGT:	0K	1.500 m		
RMS:	0K	0.016 m		
EPHEMERIS:	OK	igs13951.eph		
OBS USED:	0K	91.6%		
FIXED AMB:	WARNING	76.1% < 80% fix	ed ambiguities	threshold.
LAT RANGE:	0K	0.012 m		
LON RANGE:	0K	0.013 m		
HGT RANGE:	0K	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.

				Ur	US Project	National Geodetic	Survey
NGS Home	About NGS	Data & Imagery	Tools Surv	veys Science	& Education		Search
		OPUS Proje occupations Data up Custom Visualiz	ects gives users s. The advantage loading through izable data proc ation and manag	web-based acces of OPUS-Proje OPUS. essing via the PA gement aids.	s to simple manageme cts are: GES software suite.	ent and processing tools for pr	rojects involving multiple sites and multiple
		Create a ne	ew project. RESTRICTED to new project. All o	o trained project m others, see the Tr	nanagers. If you have o aining Schedule.	ompleted OPUS Projects train	ning, you are registered and may create a
		Configure,	edit, and process Project Identifie	individual netwo r:	rk sessions.		
Fools/OPUS	Menu		Session Keywo Your Email:				
Jpload About OPUS Projects		Manage, eo Manage	lit, process, and Project Identifie Manager Keywo	publish the proiec r: hrdb86fc ord: ff5d3zmu			
ublished So	lutions				۱ ۲		
- Ret	urning	g to the \circ	OPUS-	Project	gateway	•	
htt	p://ge	odesy.no	baa.go	v/OPU	SI/OpusP	rojects.htm	
Ent	er the	project	ID and	l mana	ger keyw	ord, the clic	ck Manage.

NORR	THE	-	OPUS Pro	jects	
				National Geodetic Su	rvey
NGS Home About	t NGS Data & Imagery	Tools Surveys	Science & Education		Search
			Scanning Pr	oject 🍀	s involving multiple sites and multiple
	C This i	Your project s a normal operatic upon the Website Owne	is being scanned an on, but may take a few mor size of the project and the r: National Geodetic Survey /	d web page prepared. nents to several minutes depending number of changes. \$Revision: 51114 \$Created: 2010-12-13	you are registered and may create a
Tools/OPUS Menu Upload About OPUS	Manage, et Manage	Your Email: dit, process, and publ Project Identifier:	ish the proiect. hrdb86fc		•
Projects Published Solutions < back		Manager Keyword.	Iff5d3zmu		
A com for dis	fort messa play.	ge will a	ppear while	e your project pr	repares itself



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.

Results From ALL OPUS S	SOLUTIONS -
Controls g MARK	KS: O meet preferences 🛇 do not meet preferences ⊗ are not included ⊗ have error 📻 MARKS
? ← ? 2	"my project @ 2006-10-01"
Preferences Project List Design Serfil	OPUS Solution 2126 2126274w.06o Show File
Solutions	2126274w.06o.txt created: 2011-06-13 14:15 UTC downloaded: 2011-06-13 15:27 UTC
Ohou: File	NGS OPUS SOLUTION REPORT
Send Email Set up Adjustment Review and Publish Delete Project	All computed coordinate accuracies are listed as peak-to-peak values. For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy USER: mark.schenewerk@noaa.gov DATE: June 13, 2011 RINEX FILE: 2126274w.060 TIME: 14:15:04 UTC SOFTWARE: page5 1009.28 masterll.pl 061011 START: 2006/10/01 22:07:00 EPHEMERIS: igs13950.eph [precise] STOP: 2006/10/02 01:45:00 NAV FILE: brdc2740.06n OBS USED: 8270 / 8385 : 99% ANT NAME: TRM41249.00 NONE # FIXED AMB: 30 / 35 : 86% ARP HEIGHT: 2.0 OVERALL RMS: 0.012(m)
	REF FRAME: NAD_83(CORS96) (EPOCH: 2002.0000) ITRF00 (EPOCH: 2006.7507) X: 18197.035(m) 0.015(m) 18196.367(m) 0.015(m) Y: -5473864.210(m) 0.026(m) -5473862.725(m) 0.026(m) Z: 3262753.723(m) 0.008(m) 3262753.535(m) 0.008(m) LAT: 30 58 0.78089 0.017(m) 30 58 0.80051 0.017(m) E LON: 270 11 25.69368 0.015(m) 270 11 25.66869 0.015(m)

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

2126 2126 2137 2137 2137



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.



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.

W meet preferences 👋 do not meet preferences. 🧐 are not included.





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



www.ngs.noaa.gov



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.

2013-08-07	ANTENNA	EPH	Step	2:Upl	loading	g Data	HGT
Service of a		TYPE	(*=)	(m)	(m)		(m)
2422 700	LADID DO LIONE			0.040	0.047		0.004

www.ngs.noaa.gov



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.

2013-08-07	ANTENNA	EPH	Step	2:Up	loading	Data	HGT
and the second s		TYPE	(*5)	(m)	(m)		
2422 7 704					0.047		0.004

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

M/	ARK	s	ANTENN	A	HEIGHT (m)	EPH TYPE	OBS (%)	FIXED (%)	RMS (m)	LAT (m)	LON (m)	HGT (m)
212	26	C	TRM41249.00	NONE	2.000	precise	98.6	85.7	0.012	0.017	0.015	0.021
213	87 🤇)	TRM55971.00	NONE	2.000	precise	95.5	86.5	0.015	0.015	0.010	0.023
			PREFERENC	CES:		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

MAR	W.C										2	00)6·	-1()-()1													2	00	6-	10)-0	2			
MAN	in S			2	20					2	1					2	2					2	3					0	0					0	1		
2126	igodot	0	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	\bigcirc	7	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	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	ANTENN	A	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
	PREFERENC	ES:	-	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										2	00)6·	-1()-()1													2	00)6-	10)-0	2				
MAR	(1)3				2	20					2	21					2	2					2	3					0	0					0	1		
2126	C		0	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	C)	7	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	7	7

www.ngs.noaa.gov



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

 condition
 Good condition
 Food distribution inclusion inclusion inclusion inclusion inclusion

 2013-08-07
 Occupations
 Step 2 : Uploading Data

Let's look a little farther ahead.

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

www.ngs.noaa.gov



www.ngs.noaa.gov



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



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

Mark Schenewerk mark.schenewerk@noaa.gov 816-994-3067