

WAAS Web Application Portal

Interactive Pan Report

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Introduction

As part of the William J. Hughes Technical Center WAAS Test Team website (www.nstb.tc.faa.gov), the WAAS Web Application Portal allows you to view an Interactive PAN Report.

This website provides a web interface to the tables and graphs in our quarterly report.

The following information shows you how to navigate the website. First, click on the “WAAS Web Application Portal” link (See red arrow below).

Welcome to the William J. Hughes Technical Center WAAS Test Team

Please use the navigation bar at the left to view our products. The real-time performance plots are created every three minutes, and all real-time plot pages update every two minutes. The real-time plots show up to the minute WAAS performance. The 24-hour performance plots show yesterday's performance using the total 24-hours of data. Any daily plot page updates every 24 hours. Real-time data files update every three minutes as well. Performance videos show animated performance data for the previous 24-hour period. They can be viewed in Windows media player. Please see video help for further assistance. Performance analysis reports are updated quarterly, and contain the most detailed analyses of GPS and WAAS performance. The WAAS technical reports coincide with links contained in the PAN reports and give detailed analysis on specific problem occurrences.

- * Real-Time Interactive WAAS Performance Applications
 - [2D Display](#)
 - [3D Display](#)
 - (Requires Google Earth)
- * Additional WAAS/GPS Web Applications
 - [WAAS Web Application Portal](#)



William J. Hughes FAA Technical Center

Once you click the link, you come to the screen below. To access the airport outages, click on “Interactive PAN Report” (See red arrow below).

Welcome to The William J. Hughes Technical Center WAAS Test Team


Interactive Web Application Portal

Disclaimer: The data on this website is for information only and should not be used for flight planning.

Real-Time Applications

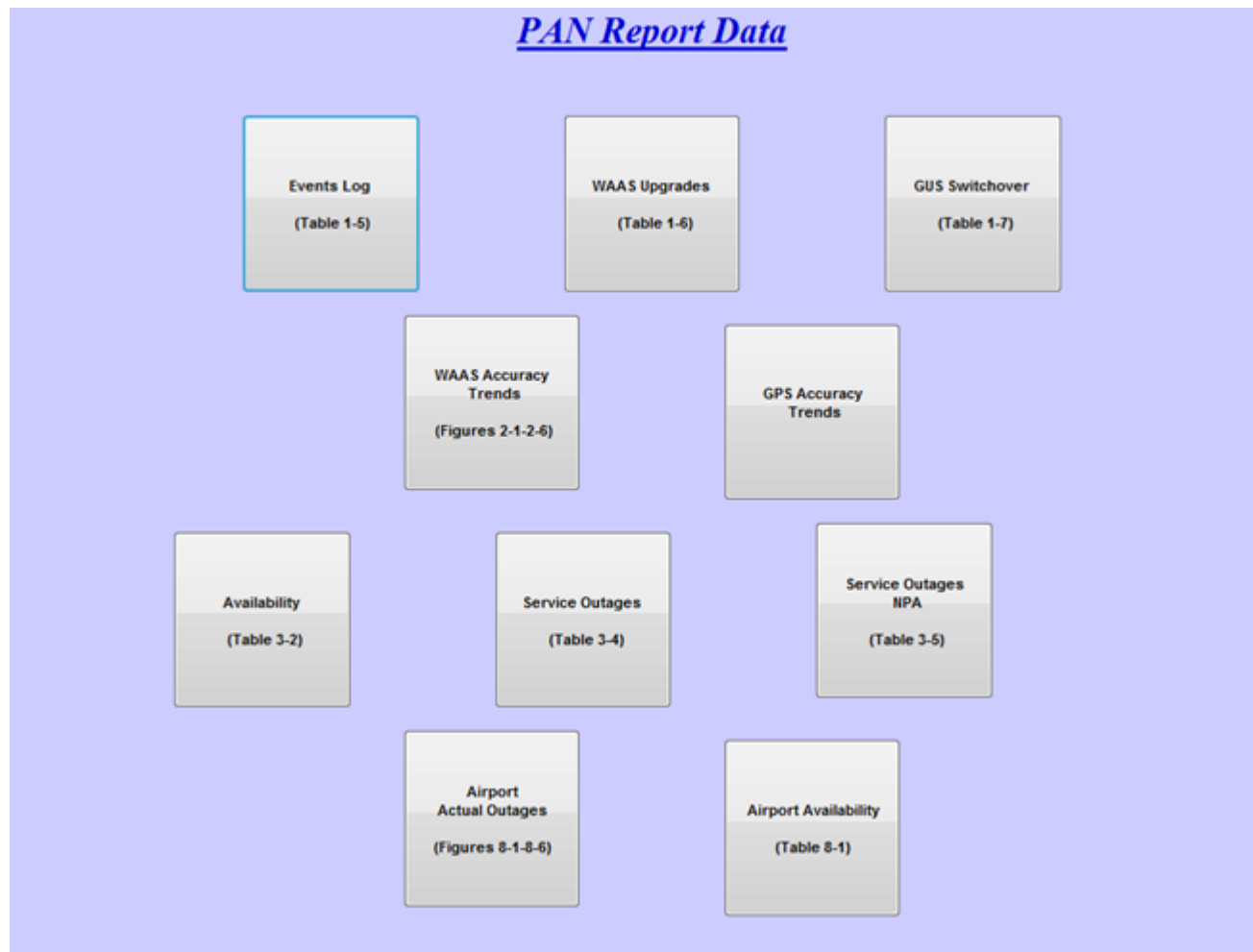
- [OTE Display](#) - Real-Time Receiver Data Display
- [SMS Display](#) - Real-Time Service Monitoring Subsystem Display
- SBAS Display (Coming Soon) - Real-Time EGNOS / MSAS / WAAS Display

Reporting Applications

- [Airport Actual Outages](#) - Provides "rolled up" airport outage information on a geographic display
- [Airport Schedules](#) - Shows predicted airport schedules for the next two weeks
-  [Interactive PAN Report](#) - Allows for interactive generation of select PAN Report Tables over a user specified period of time
- [NPA SPS Summary](#) - Summary NPA SPS Statistics
- [PA Summary](#) - Summary PA Statistics
- [Rollup Display](#) - Displays aggregated airport and IGP statistics on a geographic display
- [SMS Animation Display](#) - Animates SMS data over user selected time periods on an interactive geographic display
- [UDREI Daily Graphs](#) - Displays savable UDREI GEO graphs for a given day

After clicking “Interactive PAN Report,” you will see a screen like the one below. The Titles, Figures and Table Numbers correlate to the same as in the WAAS Quarterly PAN Report. Click any box to see the information.

For descriptive purposes, we will review all the boxes from left to right, top to bottom, starting with the “Events Log.” Clicking on the boxes will change the box from gray to blue.



Events Log

Events Log

(Table 1-5)

After selecting the Events Log, a new window will open showing events from the latest quarter. This is the default setting.

You may view different dates by changing the Start Date and End Date. (Event data is available since January 2010)

Once you select the dates, click "Run Report." Please note: All start and end dates must follow the DD-MON-YY format.

To view all events, use the scroll bar on the right side of the table.

The oldest event is listed first in the table, followed by more recent entries. This is a read-only table.

File Edit View Favorites Tools Help

★ Favorites Events Log Report

Page Safety Tools

WAAS Events Log (PAN)

Please Enter Start and End Dates (format DD-MON-YY)!

Start Date 01-JAN-14 End Date 31-MAR-14 Run Report Export To Word

Start Date	End Date	Location Satellite	Service Affected	Event Description	DR Assigned	DR Title	Event ID	Action Item Assigned	Action Item Completed?	Cov
12/4/2013	2/3/2014	PRN1	CONUS	Starting on 12/4/13 through 2/3/14 (NANU 2014009), PRN-1 exhibited numerous carrier phase jerk anomalies of varying severity. Some events caused the carrier smoothing algorithm to reinitialize, others caused some or all of the WAAS receivers to loss lock and then reacquire PRN-1, which also reinitializes the carrier smoothing algorithm. The anomalies caused WAAS to alarm PRN-1 to the "not monitored" condition 15 to 25 times a day. The problem was resolved by maintenance being performed on the satellite. Some of the events caused minor LPV-200 outages to southern Florida. See DR 117.	Yes	Excessive "Not Monitored" Alarms on PRN1/SVN 63	10679	Tom McHugh	Yes	
1/1/2014	1/1/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (Kp = 4) disturbed the ionosphere causing elevated GIVE values. The high GIVE values caused outages of the LPV-200 service in northern Canada and northern Alaska. The elevated GIVES also enlarged the size of the brief daily outage that occurs in north western California, causing that outage to extend into Oregon and Washington state. Please see plots for coverage and duration of event: LPV200_1/1/2014	No		11028			LPV200_W1773D3
1/3/2014	1/3/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS	There was a small, brief outage of LPV-200 service spanning the border between North and South Dakota. PRN-1 was experiencing alerts in that time frame and is the most likely cause. Please see plots for coverage and duration of event: LPV200_1/3/2014	No		10957	Noah Rosen	Yes	LPV200_W1773D5
1/4/2014	1/4/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS	The size and duration of the daily LPV-200 outage in north western California was slightly larger and longer than normal. PRN-1 was experiencing alerts in the vicinity of that time period and was in a location critical to the IGP's which cause that daily outage. The GIVES for those IGP's go to 15 meters due to the number and geometry of the satellites providing the ionosphere measurements. Please see plots for coverage and duration of event: LPV200_1/4/2014	No		10956	Noah Rosen	No	LPV200_W1773D6
				Mild geomagnetic activity (Kp = 3) disturbed the						


Exporting to Word

You may export the table to Word by clicking the “Export To Word” button (See red arrow). Doing so will bring up a dialog box like the one below. Click either the “Open” or “Save” button.

WAAS Events Log (PAN)

Please Enter Start and End Dates (format DD-MON-YY)!


Start Date End Date




Start Date	End Date	Location Satellite	Service Affected	Event Description	DR Assigned	DR Title	Event ID	Action Item Assigned	Action Item Completed?	Cov
12/4/2013	2/3/2014	PRN1	CONUS	Starting on 12/4/13 through 2/3/14 (NANU 2014009), PRN-1 exhibited numerous carrier phase jerk anomalies of varying severity. Some events caused the						
						ive "Not red" Alarms 11/SVN 63	10679	Tom McHugh	Yes	
1/1/2014	1/1/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Alaska, LPV200_Canada				11028			LPV200_W1773D3
1/3/2014	1/3/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS	There was a small, brief outage of LPV-200 service spanning the border between North and South Dakota. PRN-1 was experiencing alerts in that time frame and is the most likely cause. Please see plots for coverage and duration of event: LPV200 1/3/2014 The size and duration of the daily LPV-200 outage in	No		10957	Noah Rosen	Yes	LPV200_W1773D5

File Download

Do you want to open or save this file?

 Name: Events_Log.doc
Type: Microsoft Word 97 - 2003 Document
From: www.nstb.tc.faa.gov

 While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. [What's the risk?](#)

Once exported to Word, it will look something like this. This table may be modified in Word.

Start Date	End Date	Location Satellite	Service Affected	Event Description	DR Assigned	DR Title	Event ID	Action Item Assigned	Action Item Completed?	Cov.
12/4/2013	2/3/2014	PRN1	CONUS	Starting on 12/4/13 through 2/3/14 (NANU 2014009), PRN-1 exhibited numerous carrier phase jerk anomalies of varying severity. Some events caused the carrier smoothing algorithm to reinitialize, others caused some or all of the WAAS receivers to loss lock and then reacquire PRN-1, which also reinitializes the carrier smoothing algorithm. The anomalies caused WAAS to alarm PRN-1 to the "not monitored" condition 15 to 25 times a day. The problem was resolved by maintenance being performed on the satellite. Some of the events caused minor LPV-200 outages to southern Florida. See DR 117.	Yes	Excessive "Not Monitored" Alarms on PRN1/SVN 63	10679	Tom McHugh	Yes	
1/1/2014	1/1/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity ($K_p = 4$) disturbed the ionosphere causing elevated GIVE values. The high GIVE values caused outages of the LPV-200 service in northern Canada and northern Alaska. The elevated GIVES also enlarged the size of the brief daily outage that occurs in north western California, causing that outage to extend into Oregon and Washington state. Please see plots for coverage and duration of event: LPV200_1/1/2014	No		11028			LPV200_W1773D3
1/3/2014	1/3/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS	There was a small, brief outage of LPV-200 service spanning the border between North and South Dakota. PRN-1 was experiencing alerts in that time frame and is the most likely cause. Please see plots for coverage and duration of event: LPV200_1/3/2014	No		10957	Noah Rosen	Yes	LPV200_W1773D5
1/4/2014	1/4/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS	The size and duration of the daily LPV-200 outage in north western California was slightly larger and longer than normal. PRN-1 was experiencing alerts in the vicinity of that time period and was in a location critical to the IGP's which cause that daily outage. The GIVEs for those IGP's go to 15 meters due to the number and geometry of the satellites providing the ionosphere measurements. Please see plots for coverage and duration of event: LPV200_1/4/2014	No		10956	Noah Rosen	No	LPV200_W1773D6
1/7/2014	1/7/2014	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Mild geomagnetic activity ($K_p = 3$) disturbed the ionosphere causing elevated GIVE values. The high GIVE values caused outages of the LPV-200 service in northern Canada. Please see plots for coverage and duration of event: LPV200_1/7/2014	No		11029	Noah Rosen	No	LPV200_W1774D2
1/9/2014	1/9/2014	Boston (ZBW1), Boston (ZBW2), Boston (ZBW3)	Local	Local RFI caused the WAAS receivers at ZBW (Boston ARTCC, Nashua, New Hampshire) to briefly (~60 sec) lose tracking of enough GPS satellites to cause brief LPV and LPV-200 outages to be noted in this reported.	No		11228			

WAAS Upgrades

Clicking on “WAAS Upgrades” will bring up a new screen showing a table of all WAAS Receiver Hardware and Software Upgrades. By default, the table is pre-populated with information from the latest Quarter. Here we are looking at January 1, 2014 through March 31, 2014.

WAAS Upgrades

(Table 1-6)

<i>WAAS Receiver HW/SW Upgrades (PAN)</i>			
Please Enter Start and End Dates (format DD-MON-YY)!			
Start Date	01-JAN-14	End Date	31-MAR-14
<input type="button" value="Run Report"/>			
START DATE	END DATE	LOCATION	EVENT DESCRIPTION
01/06/2014	01/06/2014	Winnipeg (YWG1), Winnipeg (YWG2), Winnipeg (YWG3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/07/2014	01/08/2014	Memphis (ZME1), Memphis (ZME2), Memphis (ZME3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/08/2014	01/08/2014	Iqaluit (YFB1), Iqaluit (YFB2), Iqaluit (YFB3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/08/2014	01/08/2014	Minneapolis (ZMP2), Minneapolis (ZMP3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/09/2014	01/09/2014	Anchorage (ZAN1), Anchorage (ZAN2), Anchorage (ZAN3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/10/2014	01/10/2014	Memphis (ZME1)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/13/2014	01/13/2014	Minneapolis (ZMP1)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/13/2014	01/14/2014	Billings (BIL1), Billings (BIL2), Billings (BIL3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/13/2014	01/14/2014	San Juan (ZSU1), San Juan (ZSU2), San Juan (ZSU3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/13/2014	01/13/2014	Puerto Vallarta (MPR1), Puerto Vallarta (MPR2), Puerto Vallarta (MPR3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/13/2014	01/14/2014	Tapachula (MTP1), Tapachula (MTP2), Tapachula (MTP3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/15/2014	01/16/2014	Goose Bay (YYR1), Goose Bay (YYR2), Goose Bay (YYR3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.

View Other Dates

To view other dates, change the Start and End Date and click the “Run Report” button. Remember to use the DD-MON-YY format.

WAAS Receiver HW/SW Upgrades (PAN)

Please Enter Start and End Dates (format DD-MON-YY)!

Start Date 01-JAN-14

End Date 31-MAR-14

Run Report

Other Options

Within WAAS Upgrades, you may do the following.

Please Note: The Print and Zoom features are only available when using Internet Explorer. These features do not appear when using Firefox or Chrome.

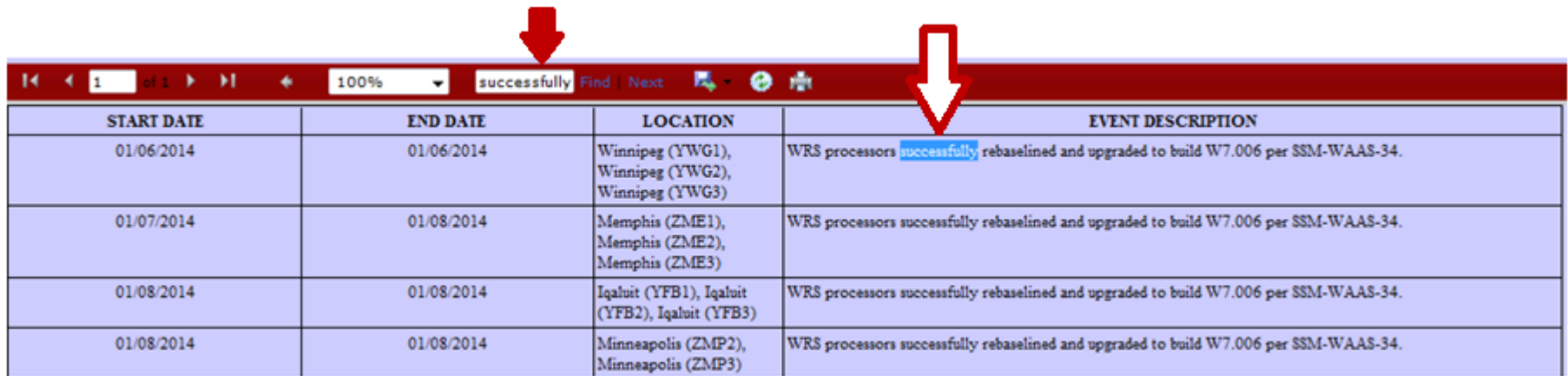
The diagram illustrates the WAAS Upgrades interface with several callouts explaining navigation and printing options:

- Arrow to go back to parent report:** Points to the left arrow icon in the top navigation bar.
- Find words or dates:** Points to the search input field in the top navigation bar.
- Refresh page:** Points to the refresh icon in the top navigation bar.
- Go to different pages within the table:** Points to the page number dropdown (1 of 1) in the top navigation bar.
- Zoom the table to varying sizes. Use the down arrow to select.** Points to the zoom dropdown menu (100%, 75%, 50%, 25%, 10%) in the top navigation bar.
- Export to an Excel or Word file, and/or create a PDF. Use the down arrow to select.** Points to the export icons (Excel, Word, PDF) in the top navigation bar.
- Print:** Points to the print icon in the top navigation bar.

The interface shows a table with columns: DATE, LOCATION, and EVENT DESCRIPTION. The table contains two rows of data, both dated 2014, describing successful rebaselining and upgrades to build W7.006 per SSM-WAAS-34.

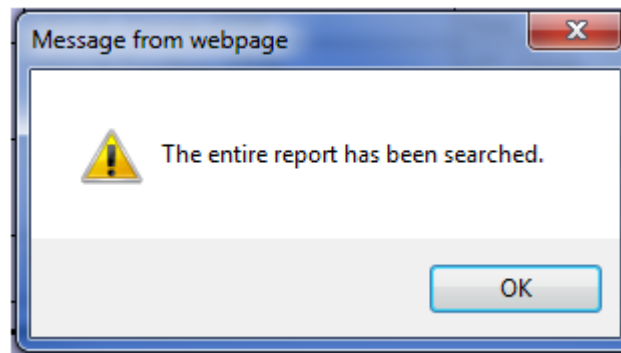
Find/Next Feature

Notice we used the Find/Next feature to find the word “successfully” in the document. Type the word and then click “Find.” Notice the word we are searching for is highlighted in blue within the table. To search for more entries of the same word, click “Next.”



START DATE	END DATE	LOCATION	EVENT DESCRIPTION
01/06/2014	01/06/2014	Winnipeg (YWG1), Winnipeg (YWG2), Winnipeg (YWG3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/07/2014	01/08/2014	Memphis (ZME1), Memphis (ZME2), Memphis (ZME3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/08/2014	01/08/2014	Iqaluit (YFB1), Iqaluit (YFB2), Iqaluit (YFB3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.
01/08/2014	01/08/2014	Minneapolis (ZMP2), Minneapolis (ZMP3)	WRS processors successfully rebaselined and upgraded to build W7.006 per SSM-WAAS-34.

When there are no more instances of the word you are looking for, this dialog box will pop up:



GUS Switchovers

After selecting the “GUS switchovers,” a new window will open showing the WAAS Ground Uplink System (GUS) switchovers that took place during the last quarter. This is the default setting.

You may view different dates by changing the Start Date and End Date. (Remember, you may only go back to January 2010.) Once you select the dates, click “Run Report.” Please note: All start and end dates must follow the DD-MON-YY format.

The oldest switchover is listed first in the table, followed by more recent entries. This is a read-only table.

The start and end date are included here along with the type of switchover. It was either a manual switch or the GUS faulted. The next column lists the Satellite Location along with the original GUS and its code in parentheses. The remaining columns describe the services affected, if any, and exactly what happened (i.e. which GUS is now activated for which satellite, etc.).

GUS Switchover
(Table 1-7)

<u>WAAS GUS SWITCHOVERS</u>					
Please Enter Start and End Dates (format DD-MON-YY)!					
Start Date	01-JAN-14	End Date	31-MAR-14	Run Report	
Start Date	End Date	GUS Switch	Location Satellite	Service Affected	Event Description
01/02/14	01/02/14	Manual	GEO133, Santa Paula (\$ZP)	None	GEO 133, manual switchover from Santa_Paula to Pamalu.
01/10/14	01/10/14	Manual	GEO133, Pamalu (HDH)	None	GEO 133, manual switchover from Pamalu to Santa_Paula. even 11209 (\$ZP RFU instability (still under investigation))
01/17/14	01/17/14	Manual	GEO133, Santa Paula (\$ZP)	None	GEO 133, manual switchover from Santa_Paula to Pamalu.
01/17/14	01/17/14	Manual	GEO133, Pamalu (HDH)	None	GEO 133, manual switchover from Pamalu to Santa_Paula.
02/03/14	02/03/14	Manual	GEO133, Santa Paula (\$ZP)	None	GEO 133, manual switchover from Santa_Paula to Pamalu. to Pamalu. GEO 133, manual switchover from Santa_Paula to Pamalu. TOW 149299-149304
02/07/14	02/07/14	Manual	GEO133, Pamalu (HDH)	None	GEO 133, manual switchover from Pamalu to Santa_Paula.
02/12/14	02/12/14	Manual	GEO138, Woodbine (QWE)	LPV_Canada, LPV200_Alaska, LPV200_Canada	GEO 138, manual switchover from Woodbine to Brewster-E GUS switch overs and the CCC trip, along with elevated GIVE LPV/LPV200 Canadian service. TOW 333025-333030
02/12/14	02/12/14	Faulted	GEO138, Brewster (BRE-B)	LPV_Canada, LPV200_Alaska, LPV200_Canada	GEO 138 switched to Woodbine, Brewster-B faulted. The hi over and the CCC trip, along with elevated GIVEs caused Canadian service. TOW 304952-304965
02/16/14	02/16/14	Faulted	GEO138, Brewster (BRE-B)	All	GEO 138 switched to Woodbine, Brewster-B faulted. Kp = 5 also attributed to loss of coverage after 06:00. TOW 2540-

Other Options

Within GUS Switchovers, you may do the following.

Please Note: The Print and Zoom features are only available when using Internet Explorer. These features do not appear when using Firefox or Chrome.


The screenshot shows the GUS Switchovers interface with several callouts explaining available options:

- Arrow to go back to parent report:** Points to the left arrow icon in the top navigation bar.
- Find words or dates:** Points to the search input field in the top navigation bar.
- Refresh page:** Points to the refresh icon in the top navigation bar.
- Go to different pages within the table:** Points to the page number '1' in the top navigation bar.
- Zoom the table to varying sizes. Use the down arrow to select.** Points to the zoom dropdown menu in the top navigation bar.
- Export to an Excel or Word file, and/or create a PDF. Use the down arrow to select.** Points to the export icons in the top navigation bar.
- Print:** Points to the print icon in the top navigation bar.

Start Date	End Date	GUS Switch	Location	Satellite	Service Affected	Event Description
	01/02/2010	Manual	Palmar	133	None	GEO 133, manual switchover from Santa_Paula to Palmar.
	01/10/2010	Manual	Palmar	133	None	GEO 133, manual switchover from Palmar to Santa_Paula.
						even 11209 (SZP RFU instability (still under investigation))

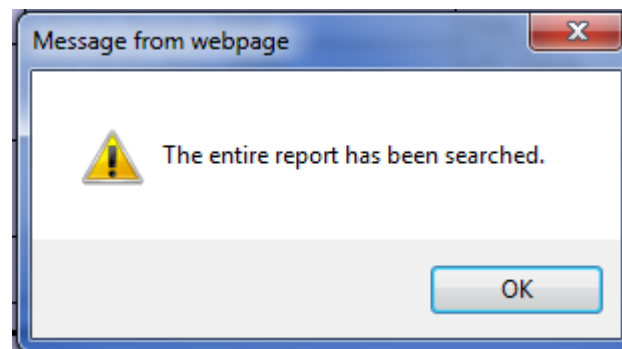
Find/Next

Notice we used the Find/Next feature to find the word “Canadian” in the document. Type the word and then click “Find.” Notice the word we are searching for is highlighted in blue within the table. To search for more entries of the same word, click “Next.”



Start Date	End Date	GUS Switch	Location Satellite	Service Affected	Event Description
01/02/14	01/02/14	Manual	GEO133, Santa Paula (SZP)	None	GEO 133, manual switchover from Santa_Paula to Pamalu
01/10/14	01/10/14	Manual	GEO133, Paumalu (HDH)	None	GEO 133, manual switchover from Pamalu to Santa_Paula even 11209 (SZP RFU instability (still under investigation
01/17/14	01/17/14	Manual	GEO133, Santa Paula (SZP)	None	GEO 133, manual switchover from Santa_Paula to Pamalu
01/17/14	01/17/14	Manual	GEO133, Paumalu (HDH)	None	GEO 133, manual switchover from Pamalu to Santa_Paula
02/03/14	02/03/14	Manual	GEO133, Santa Paula (SZP)	None	GEO 133, manual switchover from Santa_Paula to Pamalu. GEO 133, manual switchover from Santa_Paula to Pamalu. TOW 149299-149304
02/07/14	02/07/14	Manual	GEO133, Paumalu (HDH)	None	GEO 133, manual switchover from Pamalu to Santa_Paula
02/12/14	02/12/14	Manual	GEO138, Woodbine (QWE)	LPV_Canada, LPV200_Alaska, LPV200_Canada	GEO 138, manual switchover from Woodbine to Brewster. GUS switch overs and the CCC trip, along with elevated GIVES caused LPV/LPV200 Canadian service. TOW 333025-333030
02/12/14	02/12/14	Faulted	GEO138, Brewster (BRE-B)	LPV_Canada, LPV200_Alaska, LPV200_Canada	GEO 138 switched to Woodbine, Brewster-B faulted. The overs and the CCC trip, along with elevated GIVES caused LPV/LPV200 Canadian service. TOW 304952-304965

When there are no more instances of the word you are looking for, this dialog box will pop up:



Maximum LPV
Error
(Table 2-3)

Maximum LPV Error

Clicking on Maximum LPV Error will open a new window displaying a table of all LPV Error Statistics. The information for the last Quarter will appear in a table by default. The maximum error shown is when LPV service is available ($HPL \leq 40$ meters and $VPL \leq 50$ meters).

This table shows the Location, Horizontal Error (in meters), Horizontal Error HPL, Horizontal Maximum Ratio, Vertical Error (in meters), Vertical Error VPL, and Vertical Maximum Ratio.

You may use the scroll bar to the right of the table to scroll further down in the table.

PAN Maximum LPV Error Statistics Table 2-3

Please Enter Start and End Dates (format DD-MON-YY)!

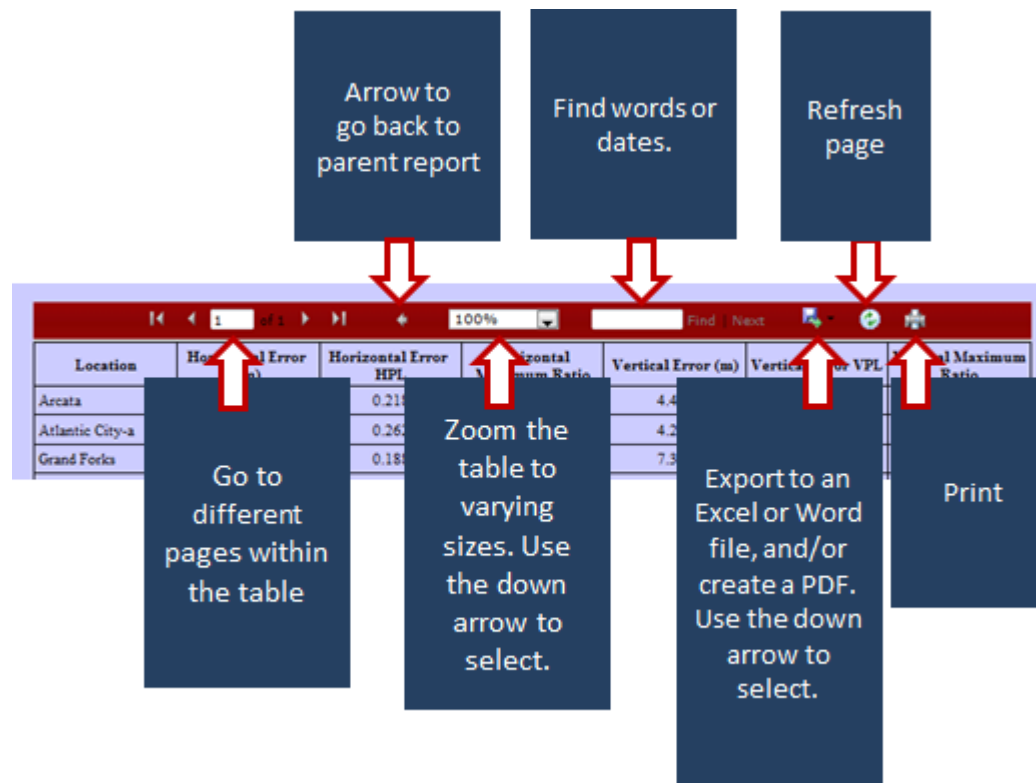
Start Date End Date

Location	Horizontal Error (m)	Horizontal Error HPL	Horizontal Maximum Ratio	Vertical Error (m)	Vertical Error VPL	Vertical Maximum Ratio
Arcata	3.359	0.218	0.232	4.466	0.111	0.171
Atlantic City-a	2.900	0.262	0.277	4.293	0.089	0.237
Grand Forks	3.162	0.188	0.250	7.395	0.228	0.246
Oklahoma City	2.545	0.165	0.252	4.159	0.130	0.219
Albuquerque	1.619	0.161	0.161	2.891	0.163	0.172
Anchorage	2.475	0.065	0.155	4.343	0.096	0.175
Atlanta	2.114	0.127	0.176	3.583	0.131	0.213
Barrow	3.392	0.098	0.170	6.542	0.159	0.224
Bethel	2.166	0.060	0.124	3.750	0.127	0.147
Billings	1.894	0.190	0.192	4.458	0.113	0.165
Boston	2.993	0.134	0.221	5.444	0.140	0.190
Chicago	2.832	0.085	0.202	7.190	0.160	0.179
Cleveland	2.023	0.128	0.175	4.781	0.168	0.195
Cold Bay	2.947	0.076	0.137	4.897	0.106	0.131
Dallas	1.735	0.159	0.178	4.117	0.209	0.218
Denver	1.949	0.131	0.186	3.467	0.092	0.172
Fairbanks	2.755	0.104	0.179	5.361	0.278	0.278
Gander	3.776	0.097	0.142	5.689	0.134	0.134
Goose Bay	4.293	0.119	0.214	6.403	0.158	0.221
Houston	2.232	0.190	0.211	3.909	0.186	0.216
Iqaluit	4.145	0.118	0.186	7.046	0.158	0.208
Jacksonville	1.997	0.148	0.174	3.285	0.192	0.220
Juneau	4.484	0.168	0.230	5.292	0.177	0.209
Kansas City	2.984	0.090	0.186	4.598	0.139	0.203
Kotzebue	4.070	0.102	0.162	4.776	0.107	0.189
Los Angeles	2.054	0.130	0.130	2.973	0.152	0.152
Memphis	1.830	0.196	0.196	4.804	0.188	0.209
Merida	2.448	0.134	0.180	3.946	0.106	0.192
Minneapolis	3.566	0.161	0.163	4.667	0.104	0.216

Other Options

As with all other tables in the PAN report, you will be able to:

- Enter start and end dates of your choosing
- Toggle through pages (first page, last page, next page and previous page)
- Go back to the parent report
- Zoom to various levels
- Locate words and numbers by using the “Find/Next” feature
- Export the table to Excel, PDF or Word where you can manipulate the table and its information (Online, it is solely read-only)
- Refresh the page
- If you are using Internet Explorer, you may use the Zoom or Print features. **(NOTE: Zoom and Print are not available when using Firefox or Chrome.)**



WAAS Accuracy Trends

WAAS Accuracy Trends

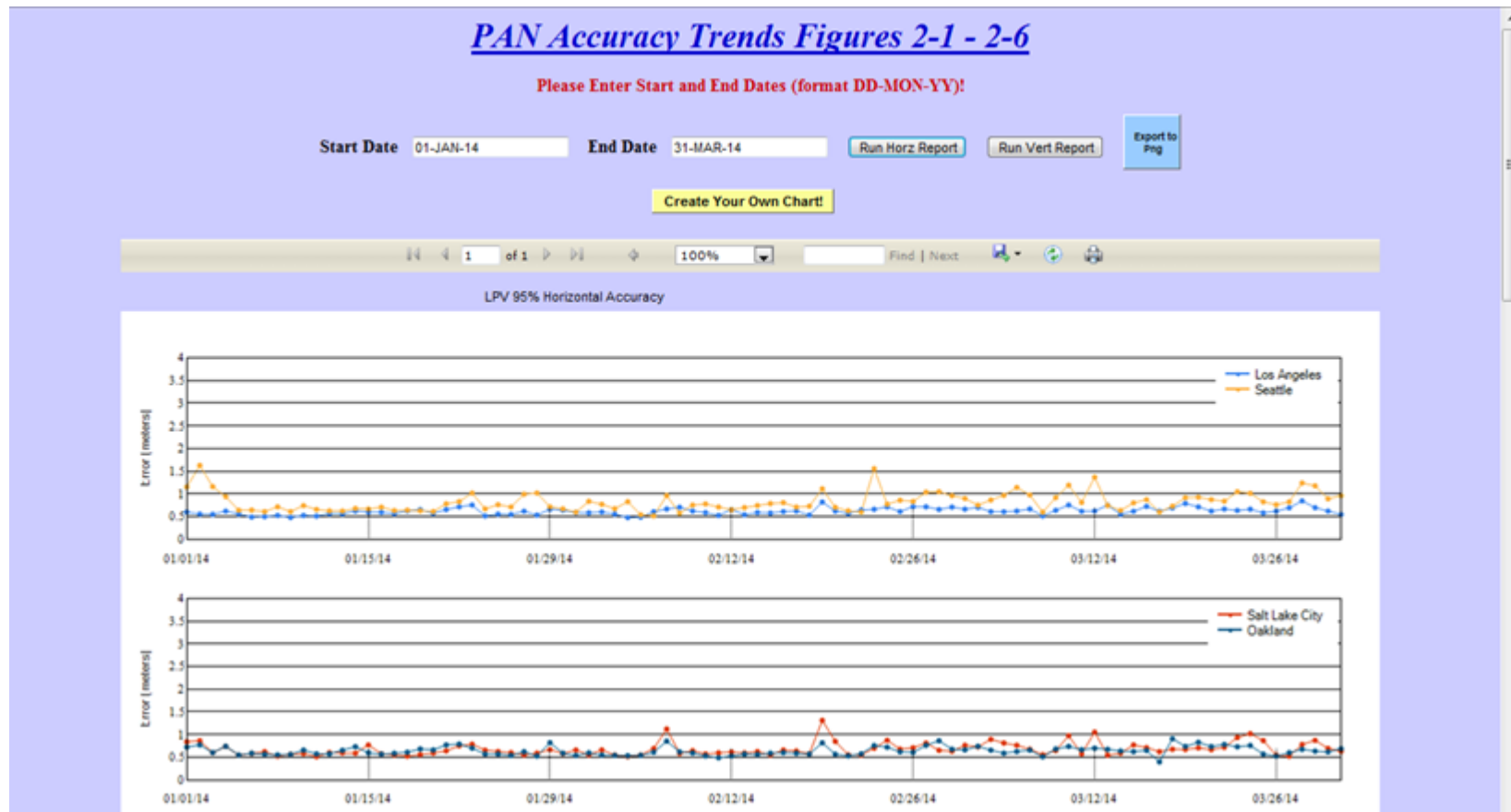
(Figures 2-1-2-6)

Graphs are used in WAAS Accuracy Trends to depict each site's accuracy over a specific time period. Below we are looking at the window that opened after clicking the WAAS Accuracy Trends button.

These plots show the 95% position error value for each receiver each day. Note that the absolute value was taken so all vertical errors are positive.

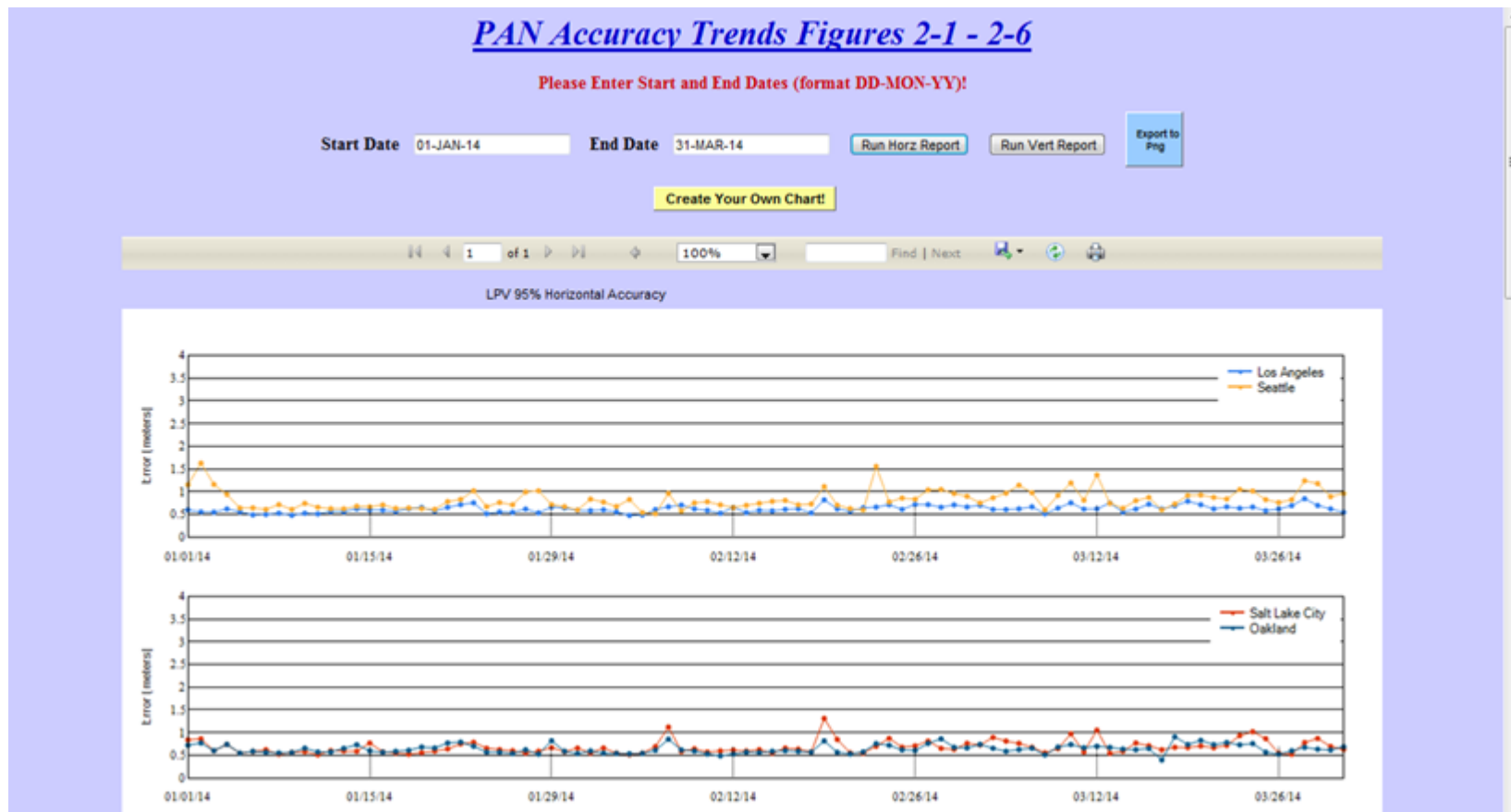
This is showing us the first Quarter of 2014. Each graph includes at least two receivers.

Notice the scroll bar to the right of the graph.



Create Your Own Chart

Within WAAS Accuracy Trends, you may also create your own chart by entering the dates and receivers you would like to use and then clicking the yellow “Create Your Own Chart!” button.



Once you click “Create Your Own Chart!” button, this window will open. From here you may modify the dates (See #1 below), choose the receivers you would like to plot for those given dates (See # 2 below), and assign receivers per plot or cancel the plot design by choosing either the “Assign RCVRs per Plot” button or the “Cancel Plot Design!” button (See #3 below).

PAN Accuracy Trends Figures 2-1 - 2-6

Please Enter Start and End Dates (format DD-MON-YY)!

1 Start Date 01-NOV-2013 End Date 31-DEC-2013 Run Horiz Report Run Vert Report Export to Png

3 Assign RCVRs Per Plot Cancel Plot Design!

2

- ☐ Los Angeles
- ☐ Seattle
- ☐ Salt Lake City
- ☐ Oakland
- ☐ Kansas City
- ☐ Albuquerque
- ☐ Memphis
- ☐ Denver
- ☐ Atlanta
- ☐ Boston
- ☐ Washington DC
- ☐ New York
- ☐ Billings
- ☐ Minneapolis
- ☐ Chicago
- ☐ Cleveland
- ☐ Houston
- ☐ Miami
- ☐ Dallas
- ☐ Jacksonville
- ☐ Anchorage
- ☐ Fairbanks
- ☐ Juneau
- ☐ Bethel
- ☐ Barrow
- ☐ Cold Bay
- ☐ Kotzebue
- ☐ Grand Forks
- ☐ Arcata

In this case, we choose a few receivers and clicked on the “Assign RCVRs Per Plot” button. The following image appeared after we chose a few receivers to plot. Notice, we are asked to “Assign another set of receivers for a plot or click ‘Plot Chart(s)’ when ready to see graphs” (See #1 below). For our purposes, we are going to choose a few more receivers to plot. Then, we will click on the “Assign RCVRs per Plot” button to further populate the gray box.

PAN Accuracy Trends Figures 2-1 - 2-6

Please Enter Start and End Dates (format DD-MON-YY)!

Start Date End Date

1 Assign another set of receivers for a plot or click 'Plot Chart(s)' when ready to see the graphs

2

- ☐ Los Angeles
- ☐ Seattle
- ☐ Salt Lake City
- ☐ Oakland
- ☐ Kansas City
- ☐ Albuquerque
- ☐ Memphis
- ☐ Denver
- ☐ Atlanta
- ☐ Boston
- ☐ Washington DC
- ☐ New York
- ☐ Billings
- ☐ Minneapolis
- ☐ Chicago
- ☐ Cleveland
- ☐ Houston
- ☐ Miami
- ☐ Dallas
- ☐ Jacksonville
- ☐ Anchorage
- ☐ Fairbanks
- ☐ Juneau

Plot rcvrs0 : Los Angeles, Seattle, Salt Lake City, Oakland

The three other receivers we chose to plot are now also listed in the gray box underneath the four receivers we chose in the previous step (See #1 below). From here we will click the green “Plot Chart(s)” button (See #2 below).

PAN Accuracy Trends Figures 2-1 - 2-6

Please Enter Start and End Dates (format DD-MON-YY):

Start Date End Date

Assign another set of receivers for a plot or click 'Plot Chart(s)' when ready to see the graphs

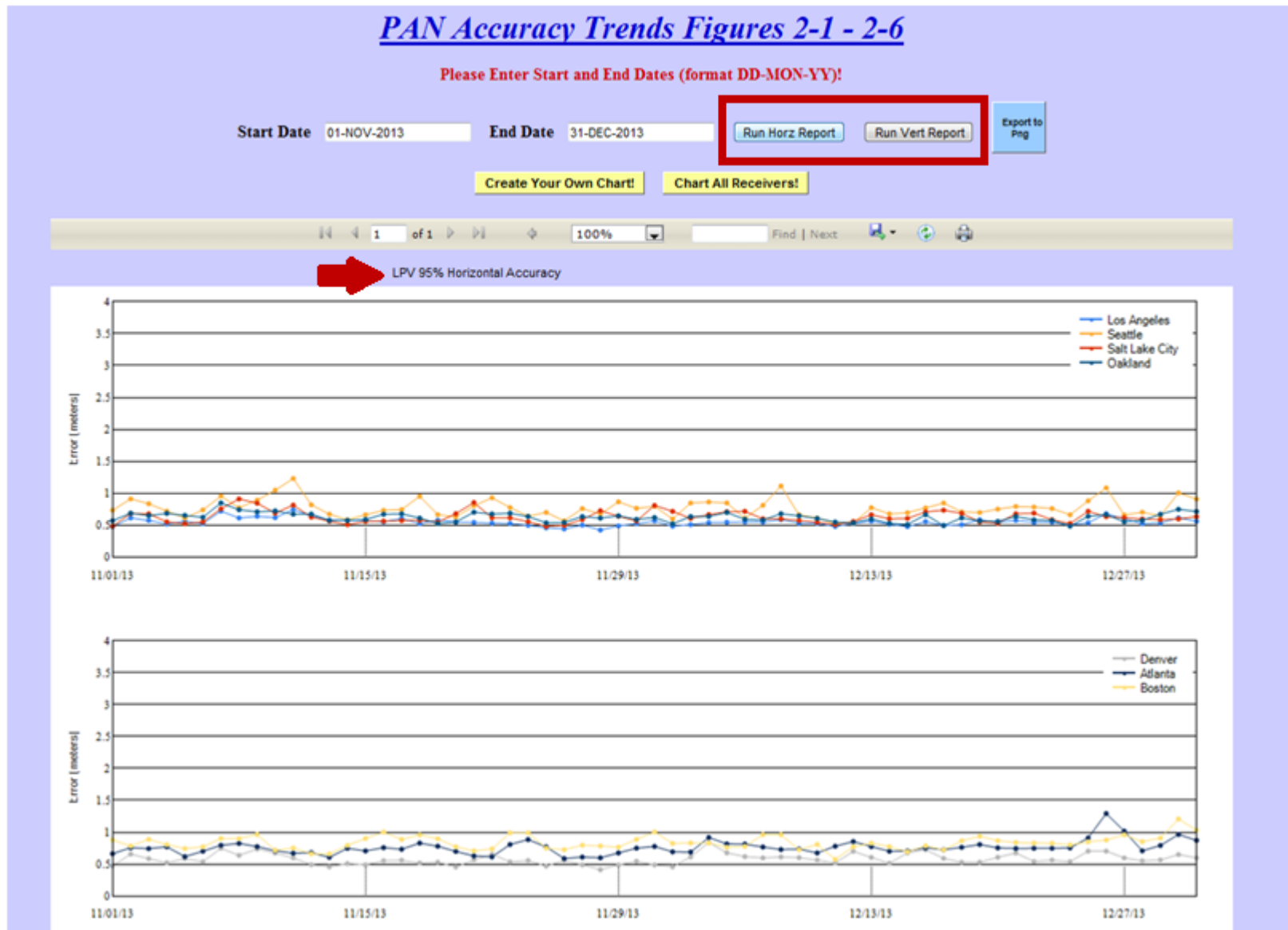
- ☐ Los Angeles
- ☐ Seattle
- ☐ Salt Lake City
- ☐ Oakland
- ☐ Kansas City
- ☐ Albuquerque
- ☒ Memphis
- ☐ Denver
- ☐ Atlanta
- ☐ Boston
- ☒ Washington DC
- ☐ New York
- ☐ Billings
- ☐ Minneapolis
- ☐ Chicago
- ☐ Cleveland
- ☐ Houston
- ☐ Miami
- ☐ Dallas
- ☐ Jacksonville
- ☐ Anchorage

Plot rcvrs0 : Los Angeles, Seattle, Salt Lake City, Oakland
Plot rcvrs1 : Denver, Atlanta, Boston

1

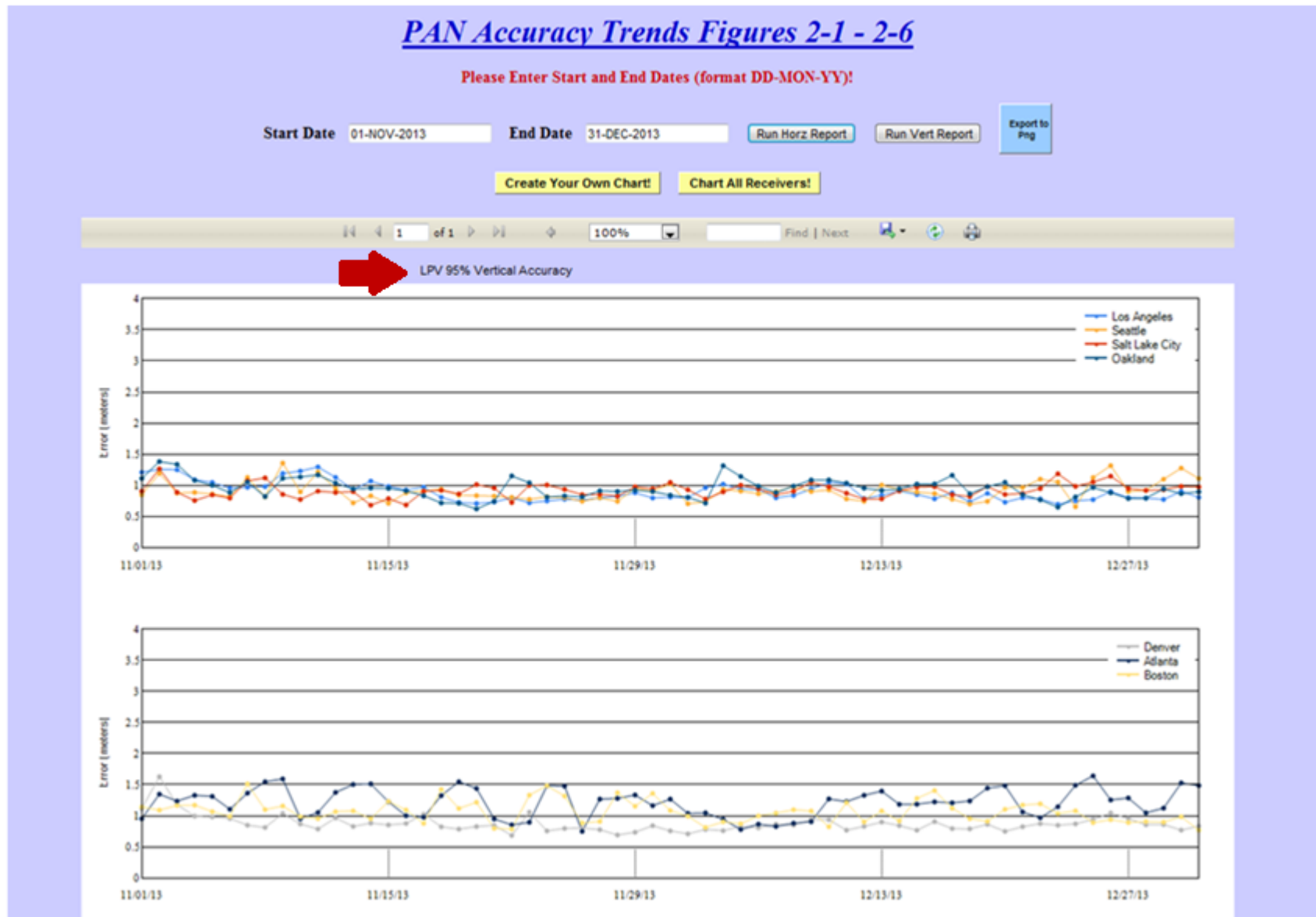
Here are our two custom made charts. Notice, the first four receivers are in the top chart; while the second chart shows the second grouping we indicated.

From here you may run a Horizontal or Vertical report (See red box below). The chart is portraying LPV Horizontal Accuracy (See red arrow below). We are going to click on the “Run Vert Report” button.



Run Vertical Report

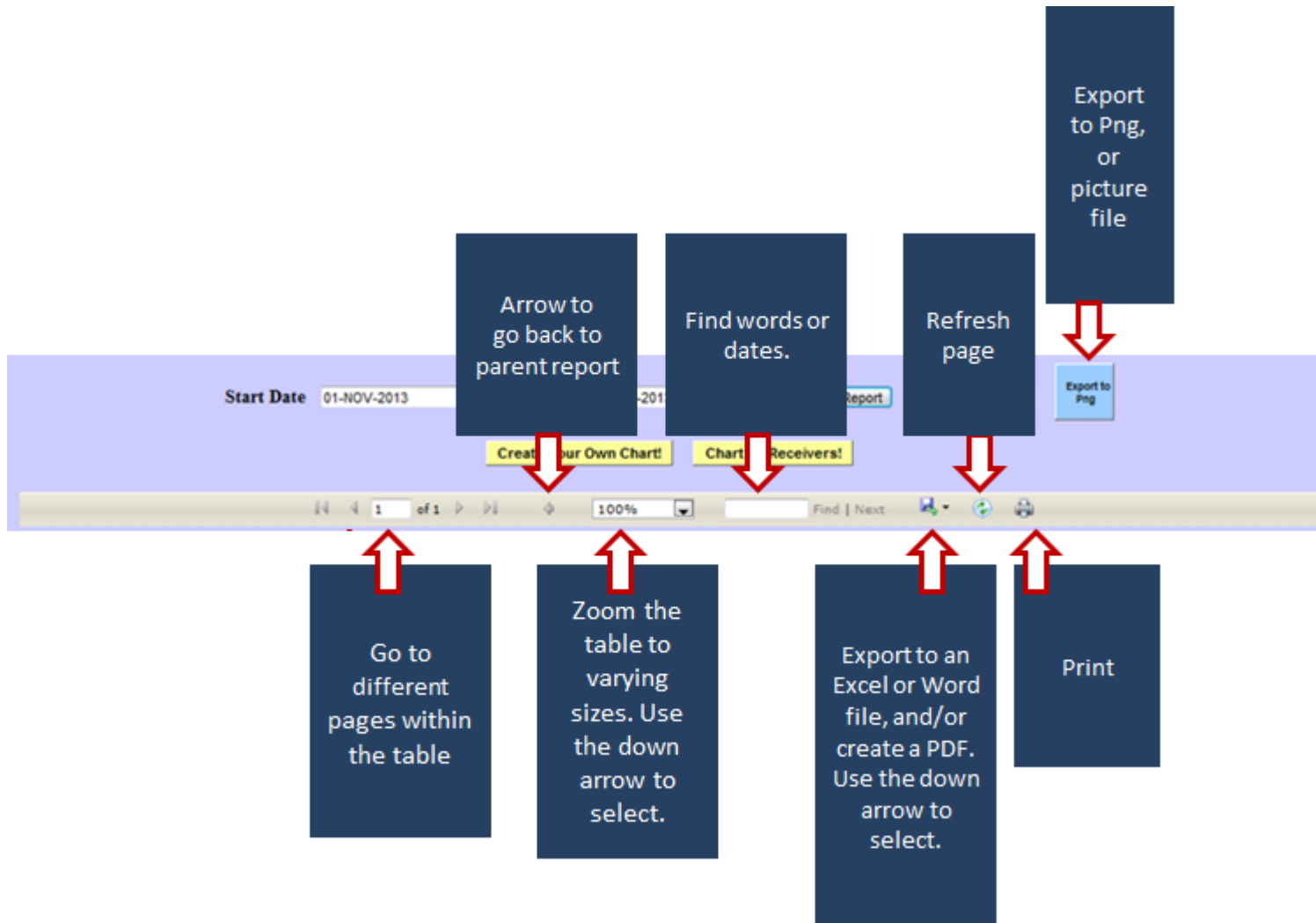
After clicking the “Run Vert Report” button, we see graphs of the LPV Vertical Accuracy for the same receivers we specified earlier (See red arrow below).



Other Options

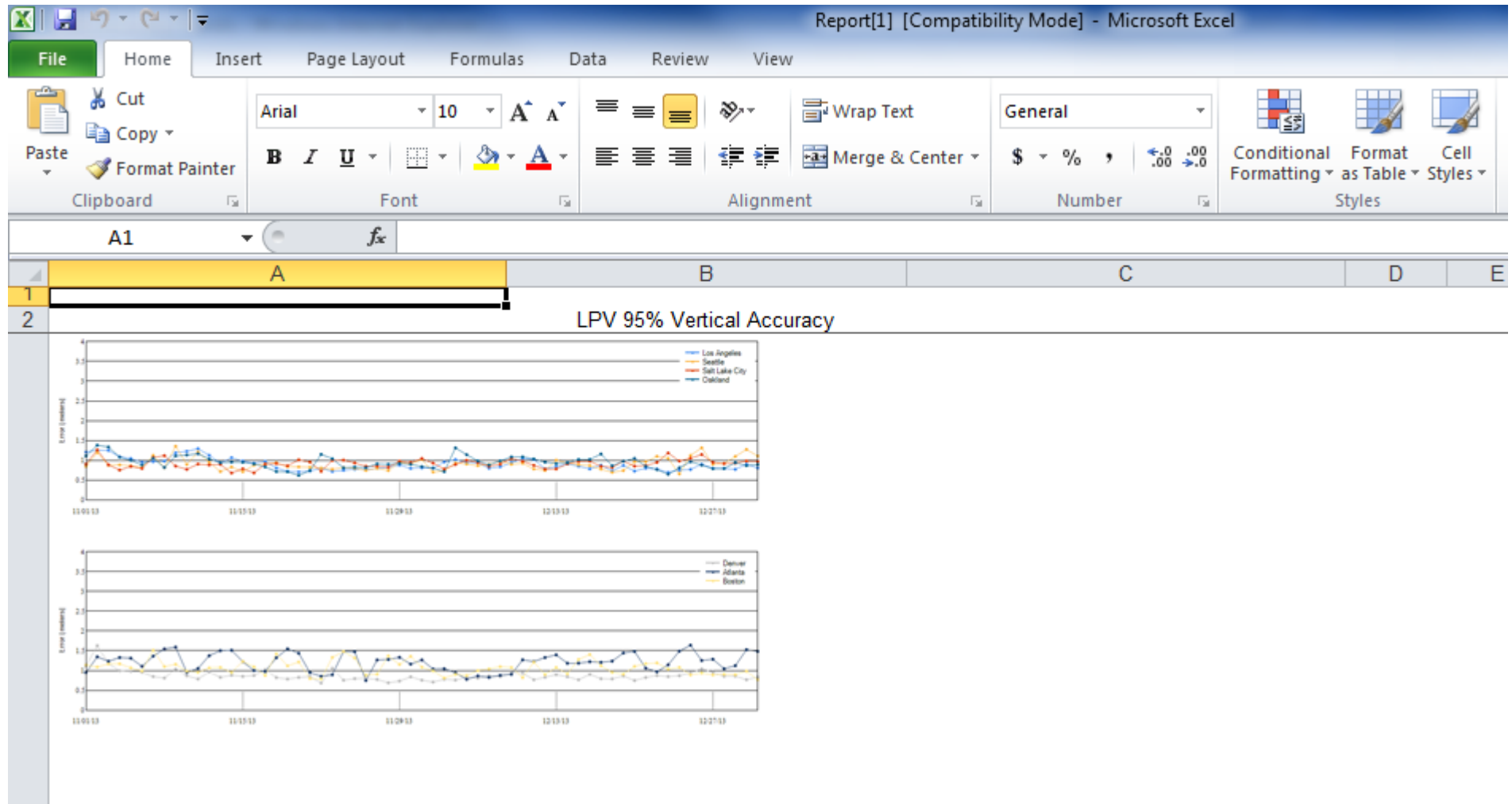
As with other portions of the PAN report, you may do the same things. Within WAAS Accuracy Trends, you may also export to PNG, or a picture file.

Please Note: The Print and Zoom features are only available when using Internet Explorer. These features do not appear when using Firefox or Chrome.



Exporting to Excel

When exporting to Excel, our graphs look like this:

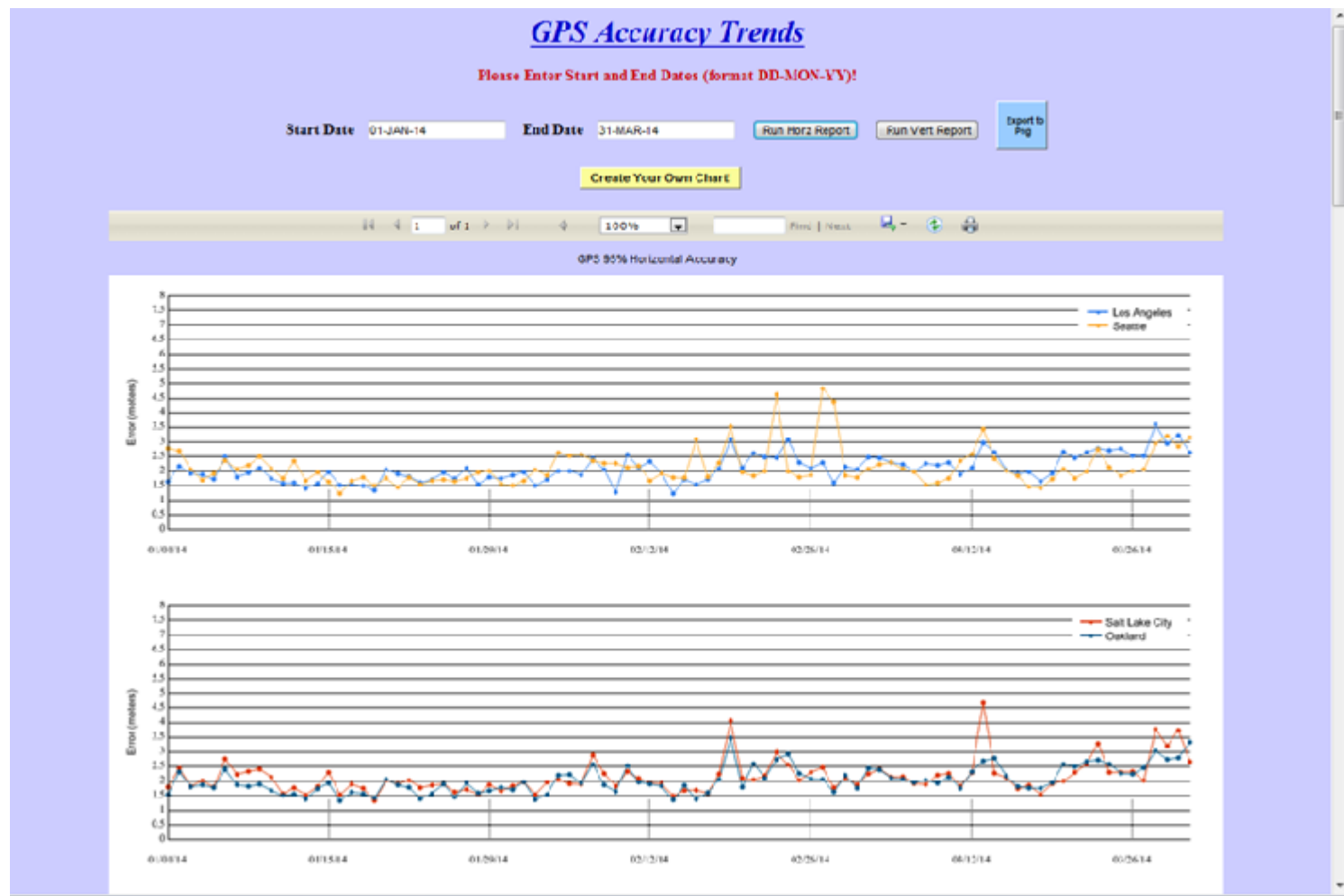


GPS Accuracy Trends

GPS Accuracy Trends

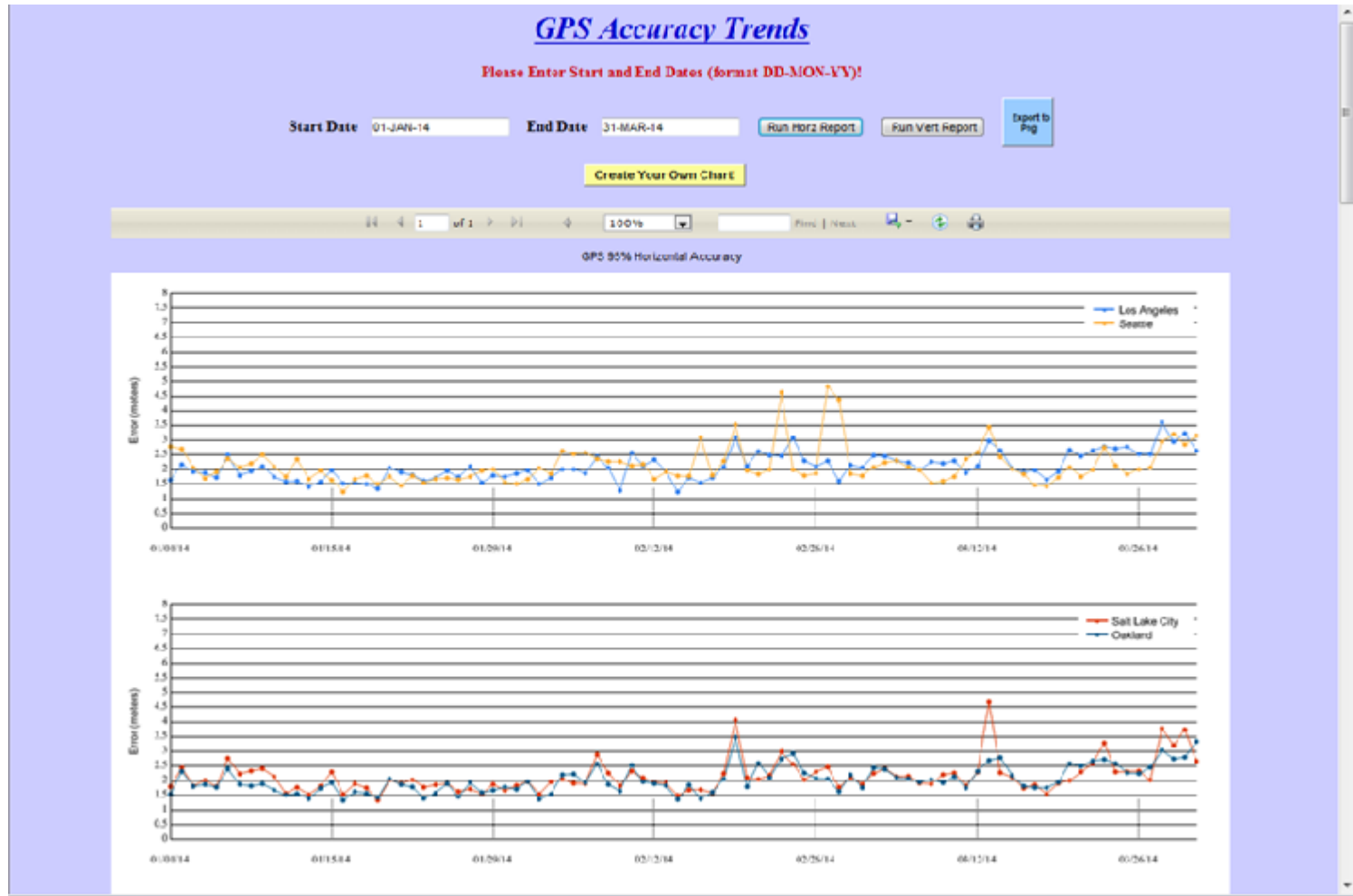
The GPS Accuracy Trends shows GPS 95% position errors. Notice there is no figure number because this figure is not included in the WAAS report.

As in WAAS Accuracy trends, the graphs depict each site's 95% position error over a specific time period and for specific receivers. Clicking the GPS Accuracy Trends button leads you to the window shown below. By default, we are looking at the first Quarter of 2014. Each graph includes at least two receivers. Notice the scroll bar to the right of the graph which enables you to view all graphs.



Create Your Own Chart

Within GPS Accuracy Trends, you may also create your own chart by entering the dates you would like to use and then clicking the yellow “Create Your Own Chart!” button.



Once you click the “Create Your Own Chart!” button, this window will open. From here you may modify the dates. We have chosen July 1, 2013 to August 31, 2014 and inputted them using the proper format: DD-MON-YY (See #1 below). Next, choose the receivers you would like to plot for those given dates (See # 2 below). Then assign receivers per plot or cancel the plot design by choosing either the “Assign RCVRs per Plot” button or the “Cancel Plot Design!” button (See #3 below).

The screenshot shows the 'GPS Accuracy Trends' web application. At the top, the title 'GPS Accuracy Trends' is displayed in a blue serif font. Below it, a red instruction reads 'Please Enter Start and End Dates (format DD-MON-YY)!'. The interface includes a 'Start Date' field with '01-JUL-13' and an 'End Date' field with '31-AUG-14'. To the right of these fields are buttons for 'Run Horz Report', 'Run Vert Report', and 'Export to Fig'. A blue box with the number '1' is positioned to the left of the date fields. Below the date fields are two yellow buttons: 'Assign RCVRs Per Plot' and 'Cancel Plot Design!'. A blue box with the number '3' is positioned to the left of these buttons. Below the yellow buttons is a list of city names, each preceded by a checkbox. A blue box with the number '2' is positioned to the left of this list. The cities listed are: Los Angeles, Seattle, Salt Lake City, Oakland, Kansas City, Albuquerque, Atlanta, Boston, Washington DC, Billings, Minneapolis, Cleveland, Houston, Miami, Anchorage, Fairbanks, Juneau, Bethel, Barrow, Cold Bay, Kotzebue, Grand Forks, Arcata, Oklahoma City, Atlantic City-a, Merida, San Jose Del Cabo, Tapachula, and San Juan.

GPS Accuracy Trends

Please Enter Start and End Dates (format DD-MON-YY)!

Start Date 01-JUL-13 End Date 31-AUG-14 Run Horz Report Run Vert Report Export to Fig

Assign RCVRs Per Plot Cancel Plot Design!

☐ Los Angeles
☐ Seattle
☐ Salt Lake City
☐ Oakland
☐ Kansas City
☐ Albuquerque
☐ Atlanta
☐ Boston
☐ Washington DC
☐ Billings
☐ Minneapolis
☐ Cleveland
☐ Houston
☐ Miami
☐ Anchorage
☐ Fairbanks
☐ Juneau
☐ Bethel
☐ Barrow
☐ Cold Bay
☐ Kotzebue
☐ Grand Forks
☐ Arcata
☐ Oklahoma City
☐ Atlantic City-a
☐ Merida
☐ San Jose Del Cabo
☐ Tapachula
☐ San Juan

In this case, the following image appears after we chose a few receivers to plot and clicked on the “Assign RCVRs per Plot” button. Here we chose Seattle, Billings, Anchorage and Fairbanks.

Notice, we are asked to “Assign another set of receivers for a plot or click ‘Plot Chart(s)’ when ready to see graphs” (See #1 below). For our purposes, we are going to plot a few more receivers (See #2 below). Then, we will click on the “Assign RCVRs per Plot” button to further populate the gray box.

The screenshot shows the "GPS Accuracy Trends" web application. At the top, there is a title "GPS Accuracy Trends" in blue. Below it, a red instruction reads "Please Enter Start and End Dates (format DD-MON-YY)!". The interface includes input fields for "Start Date" (01-JUL-13) and "End Date" (31-AUG-14), along with buttons for "Run Horz Report", "Run Vert Report", and "Export to Png". A row of three buttons is present: "Assign RCVRs Per Plot" (highlighted with a red box and labeled "1"), "Cancel Plot Design!", and "Plot Chart(s)". Below these buttons, a red instruction states: "Assign another set of receivers for a plot or click 'Plot Chart(s)' when ready to see the graphs". To the left of this instruction is a list of city names, each preceded by a checkbox. A red box labeled "2" points to this list. The list includes: Los Angeles, Seattle, Salt Lake City, Oakland, Kansas City, Albuquerque, Atlanta, Boston, Washington DC, Billings, Minneapolis, Cleveland, Houston, Miami, Anchorage, Fairbanks, Juneau, Bethel, Barrow, Cold Bay, Kotzebue, Grand Forks, Arcata, Oklahoma City, Atlantic City-a, Merida, San Jose Del Cabo, and Tapachula. To the right of the list is a gray rectangular area labeled "Plot rcvrs0 : Seattle, Billings, Anchorage, Fairbanks".

The four other receivers we chose to plot are now listed in the gray box below the initial four receivers selected in the previous step. These include Juneau, Grand Forks, Arcata and thread “A” of Atlantic City (See #1 below). Since we are now ready to see the graphs of these receivers, we will click the green “Plot Chart(s)” button (#2 below).

The screenshot shows the 'GPS Accuracy Trends' web application. At the top, the title 'GPS Accuracy Trends' is underlined. Below it, a red instruction reads 'Please Enter Start and End Dates (format DD-MON-YY)!'. The 'Start Date' is set to '01-JUL-13' and the 'End Date' is set to '31-AUG-14'. To the right of these date fields are buttons for 'Run Horz Report', 'Run Vert Report', and 'Export to Png'. Below the date fields are three buttons: 'Assign RCVRs Per Plot' (yellow), 'Cancel Plot Design!' (yellow), and 'Plot Chart(s)' (green). A red box with the number '2' is placed over the 'Plot Chart(s)' button. Below these buttons, a red instruction reads 'Assign another set of receivers for a plot or click 'Plot Chart(s)' when ready to see the graphs'. On the left, there is a list of cities with checkboxes: Los Angeles, Seattle, Salt Lake City, Oakland, Kansas City, Albuquerque, Atlanta, Boston, Washington DC, Billings, Minneapolis, Cleveland, Houston, Miami, Anchorage, Fairbanks, Juneau, Bethel, Barrow, Cold Bay, Kotzebue, Grand Forks, Arcata, Oklahoma City, Atlantic City-a, Merida, San Jose Del Cabo, and Tapachula. On the right, there is a gray box containing the text: 'Plot rcvrs0 : Seattle, Billings, Anchorage, Fairbanks' and 'Plot rcvrs1 : Juneau, Grand Forks, Arcata, Atlantic City-a'. A red box with the number '1' is placed over this gray box.

GPS Accuracy Trends

Please Enter Start and End Dates (format DD-MON-YY)!

Start Date 01-JUL-13 End Date 31-AUG-14 Run Horz Report Run Vert Report Export to Png

Assign RCVRs Per Plot Cancel Plot Design! Plot Chart(s)

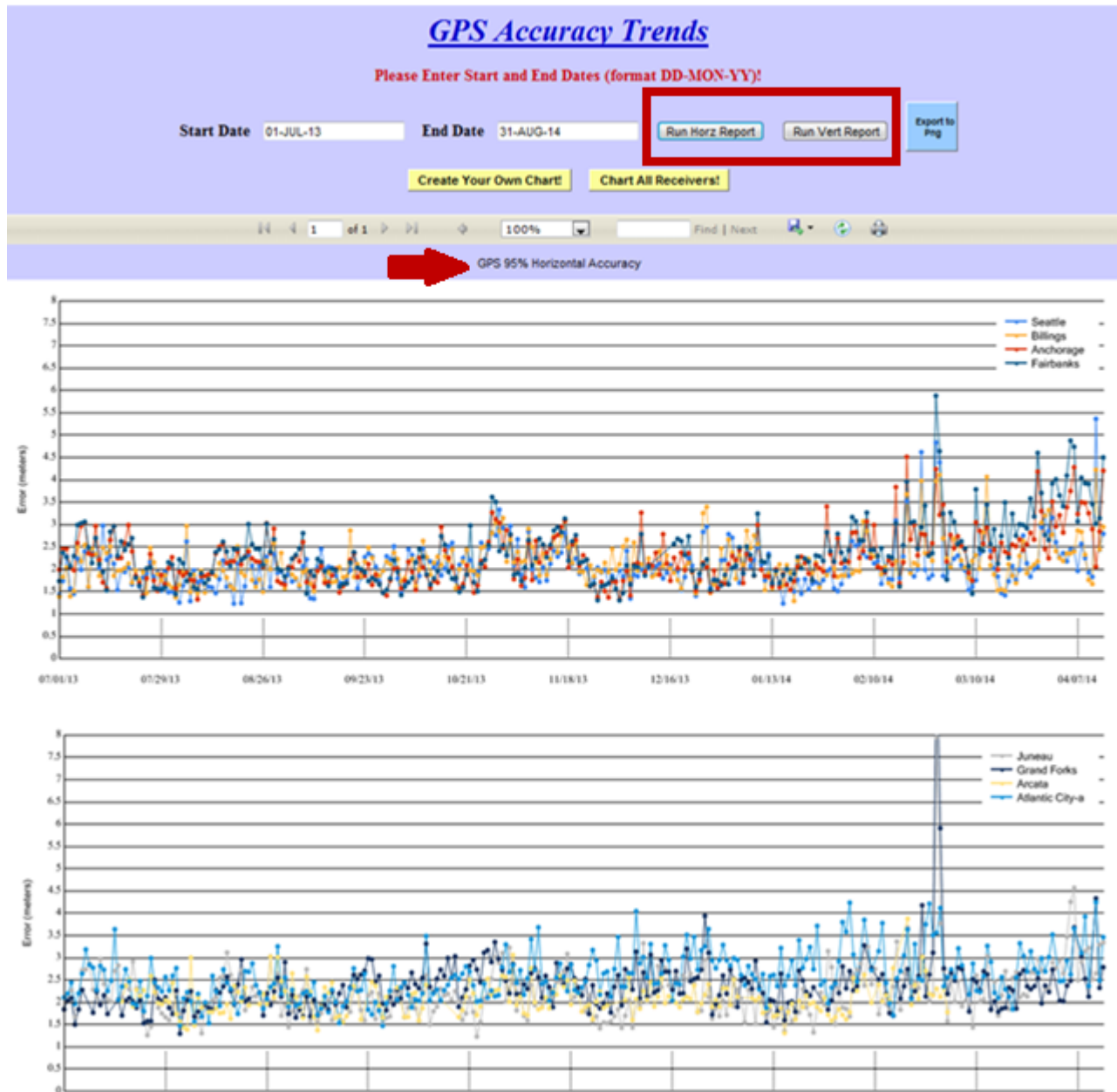
Assign another set of receivers for a plot or click 'Plot Chart(s)' when ready to see the graphs

☐ Los Angeles
☐ Seattle
☐ Salt Lake City
☐ Oakland
☐ Kansas City
☐ Albuquerque
☐ Atlanta
☐ Boston
☐ Washington DC
☐ Billings
☐ Minneapolis
☐ Cleveland
☐ Houston
☐ Miami
☐ Anchorage
☐ Fairbanks
☐ Juneau
☐ Bethel
☐ Barrow
☐ Cold Bay
☐ Kotzebue
☐ Grand Forks
☐ Arcata
☐ Oklahoma City
☐ Atlantic City-a
☐ Merida
☐ San Jose Del Cabo
☐ Tapachula

Plot rcvrs0 : Seattle, Billings, Anchorage, Fairbanks
Plot rcvrs1 : Juneau, Grand Forks, Arcata, Atlantic City-a

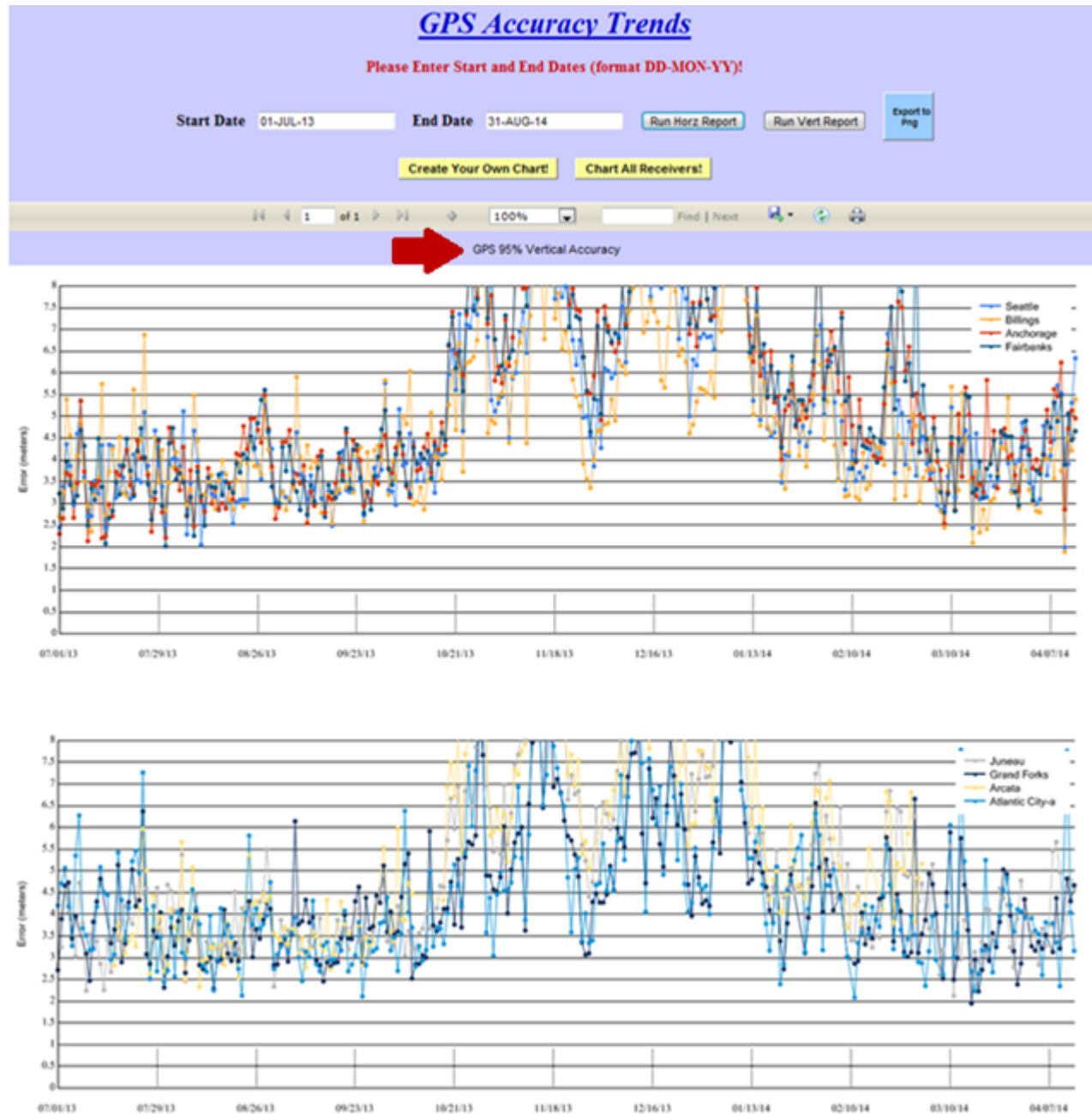
Here are our two custom made charts. Notice, the first four receivers we chose are in the top chart; while the second chart shows the second grouping we indicated.

From here we may run a Horizontal or Vertical report (See red box below). The chart is portraying GPS 95% Horizontal Accuracy (See red arrow below). Click on the “Run Vert Report” button.



Run Vertical Report

After clicking “Run Vert Report” button, we see graphs of the GPS 95% Vertical Accuracy for the same receivers we specified earlier (See red arrow below).

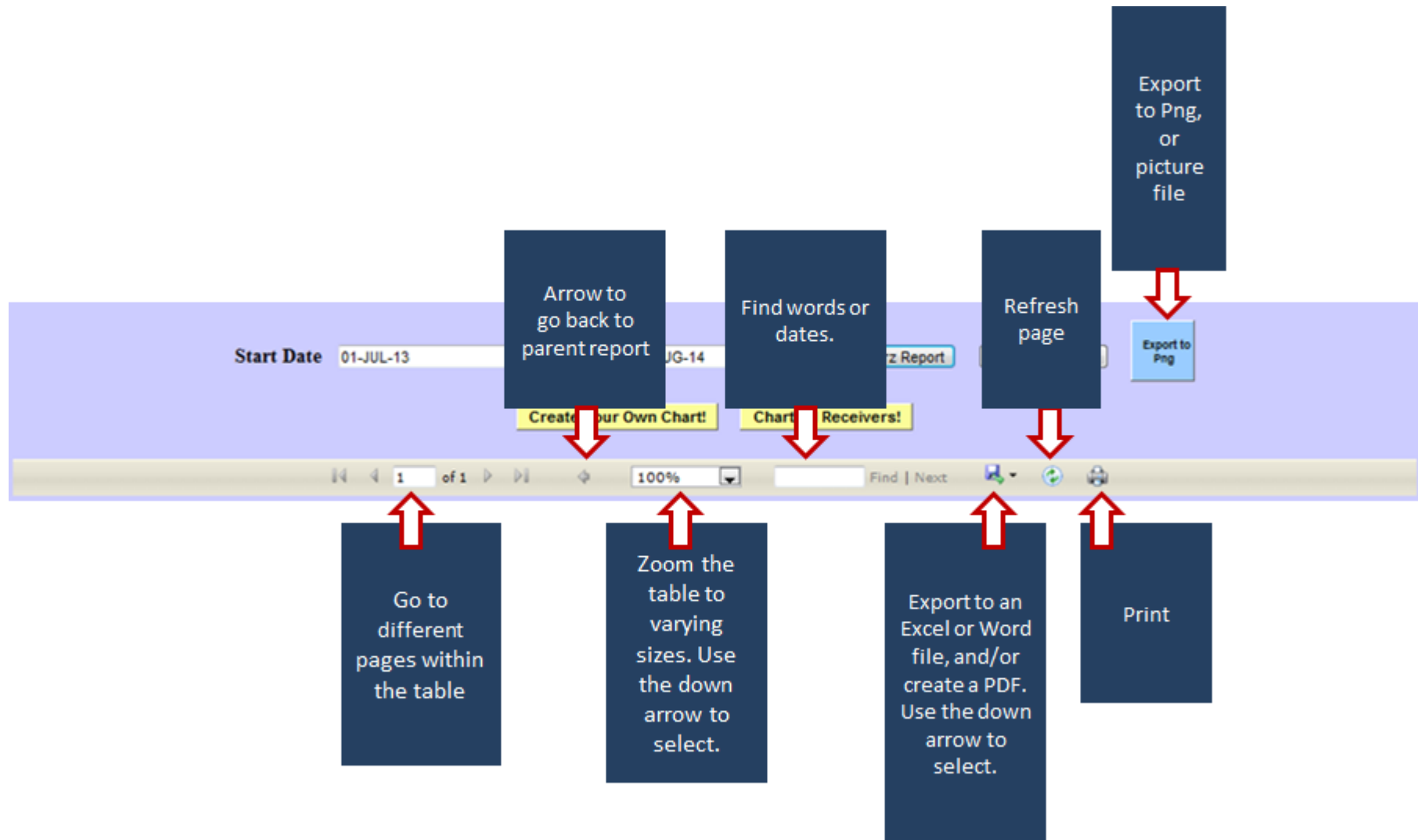


Other Options

As with other portions of the PAN report, you may do the same things.

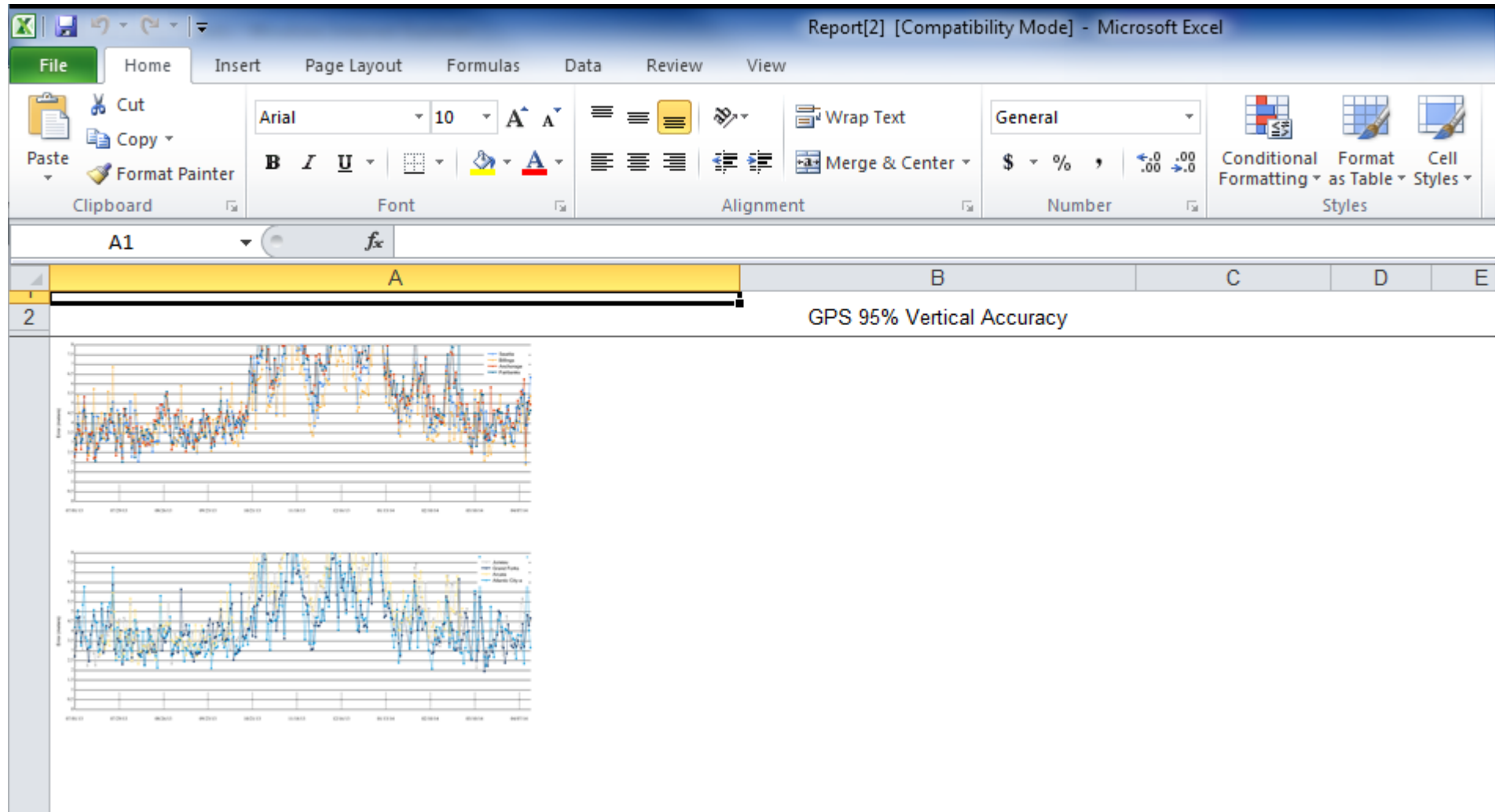
Within GPS Accuracy Trends, you may also export to PNG, or a picture file, if you are using Chrome or Firefox. **Note:** this feature only works with Chrome and Firefox when pop-up blocker is disabled. You cannot export to PNG using Internet Explorer regardless of whether pop-up blocker is enabled or not.

Please Note: The Print and Zoom features are only available when using Internet Explorer. These features do not appear when using Firefox or Chrome.



Exporting to Excel

When exporting to Excel, our graphs look like this:



Availability

Clicking on the “Availability” button gives us a table showing each receiver’s LP WAAS, LPV WAAS and LPV200 WAAS availability, each with a 15-minute window. After an outage, at least 15 minutes must pass without outages before an additional outage can be declared.

You may change the dates by inputting them in the DD-MON-YY format and pressing the “Run Report” button.

PAN Availability Table 3-2

Please Enter Start and End Dates (format DD-MON-YY)!

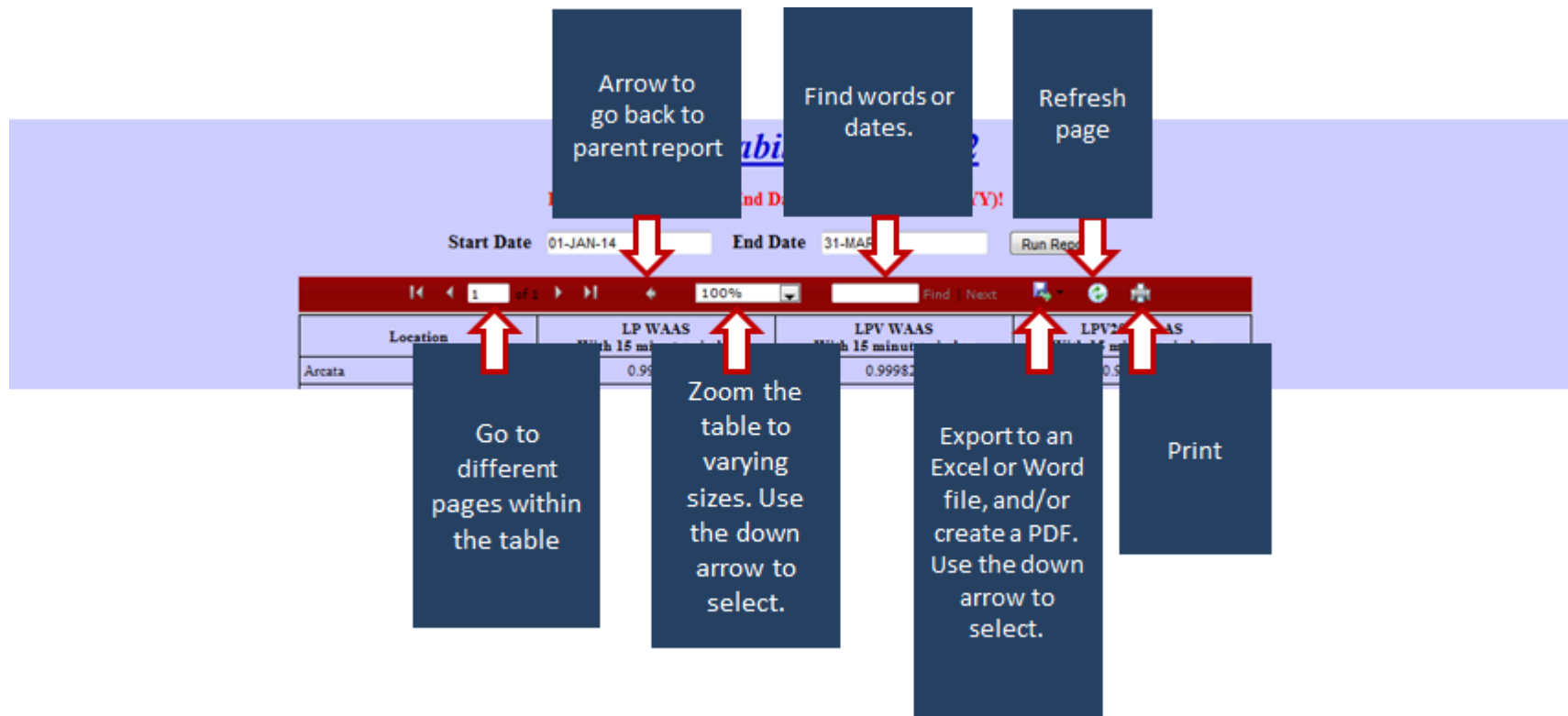
Start Date End Date

Location	LP WAAS With 15 minute window	LPV WAAS With 15 minute window	LPV200 WAAS With 15 minute window
Arcata	0.999965	0.999828	0.986617
Atlantic City-a	0.998273	0.998205	0.998156
Grand Forks	0.997356	0.997356	0.997138
Oklahoma City	1	1	1
Albuquerque	1	1	1
Anchorage	0.997701	0.997566	0.996536
Atlanta	1	1	0.999945
Barrow	0.993959	0.992238	0.964652
Bethel	0.998911	0.998102	0.996132
Billings	0.998356	0.998354	0.998124
Boston	0.997902	0.997902	0.997114
Chicago	0.998413	0.998283	0.998203
Cleveland	0.998335	0.998239	0.998202
Cold Bay	0.999732	0.999123	0.948257
Dallas	1	1	1
Denver	1	1	0.999697
Fairbanks	0.995932	0.995746	0.994703
Gander	0.996310	0.994291	0.858391
Goose Bay	0.996091	0.994919	0.984759
Houston	1	1	1
Iqaluit	0.982848	0.954584	0.786018
Jacksonville	1	1	1
Juneau	0.997183	0.996762	0.995442
Kansas City	0.999835	0.999811	0.999259
Kotzebue	0.994879	0.994404	0.985708
Los Angeles	1	1	0.999463
Memphis	1	1	0.999974
Merida	1	0.999890	0.993034
Mexico City	0.999425	0.998102	0.903231

Other Options

As with all other tables in the PAN report, you will be able to:

- Enter start and end dates of your choosing
- Toggle through pages (first page, last page, next page and previous page)
- Go back to the parent report
- Zoom to various levels
- Locate words and numbers by using the “Find/Next” feature
- Export the table to Excel, PDF or Word where you can manipulate the table and its information (Online, it is solely read-only)
- Refresh the page
- If you are using Internet Explorer, you may use the Zoom or Print features. (**NOTE: Zoom and Print are not available when using Firefox or Chrome.**)



Service Outages

These are service outages in PA mode. Here we are looking at service outages from a different perspective. Unlike previous tables that show availability, this table shows how long LP, LPV and LPV200 were **unavailable**. This table also uses the 15 minute window criteria and shows the number of outages and the outage rates (% of time out of service).

Here too you may run reports on any dates you enter using the “Run Report” button.

Service Outages

(Table 3-4)

PAN Outages Table 3-4

Please Enter Start and End Dates (format DD-MON-YY)!

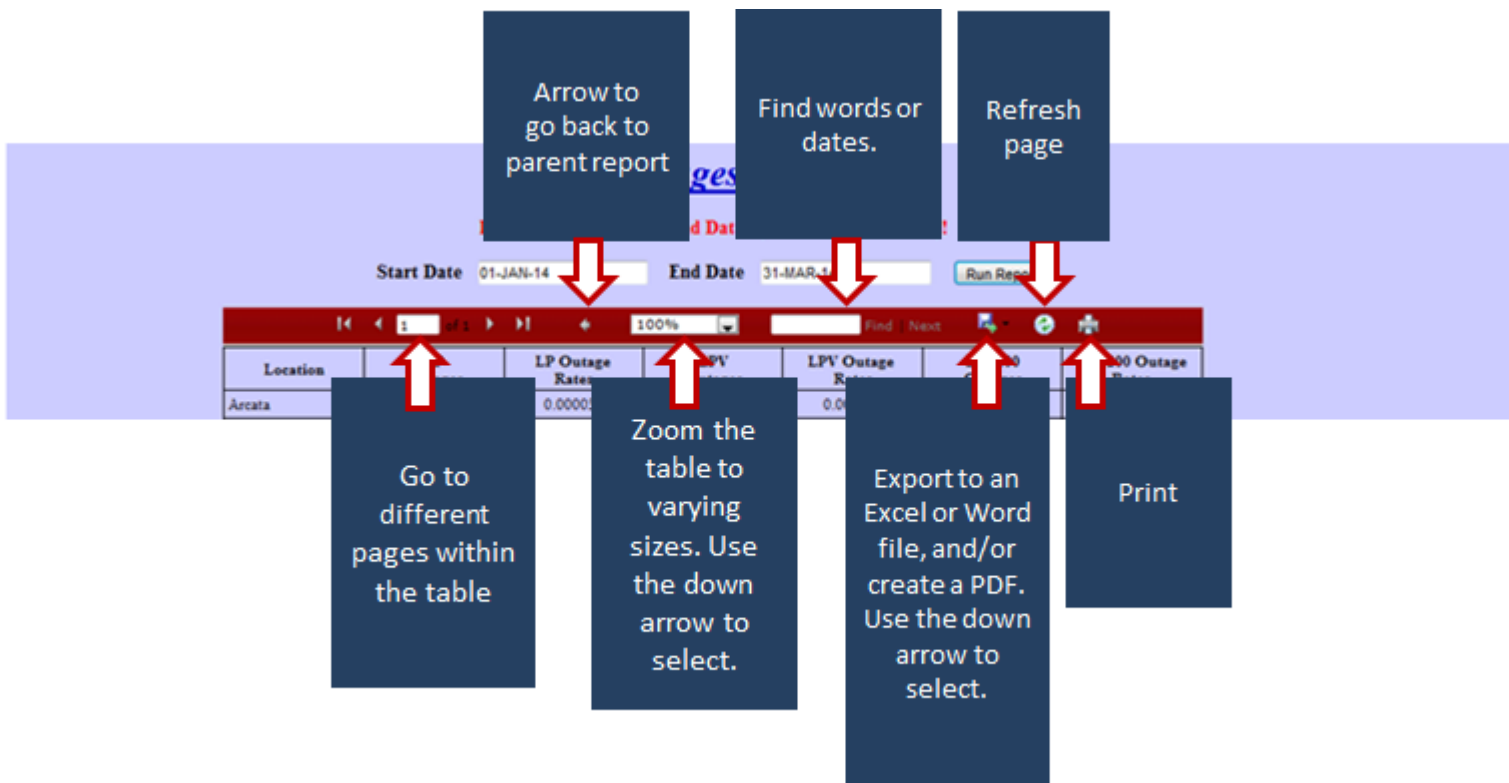
Start Date End Date

Location	LP Outages	LP Outage Rates	LPV Outages	LPV Outage Rates	LPV200 Outages	LPV200 Outage Rates
Arcata	1	0.000032	3	0.000095	61	0.001963
Atlantic City-a	2	0.000039	2	0.000039	2	0.000039
Grand Forks	2	0.000041	2	0.000041	4	0.000081
Oldahoma City	0	0	0	0	0	0
Albuquerque	0	0	0	0	0	0
Anchorage	3	0.000058	3	0.000058	9	0.000174
Atlanta	0	0	0	0	1	0.000019
Barrow	11	0.000214	33	0.000644	249	0.004995
Bethel	6	0.000116	5	0.000097	14	0.000271
Billings	3	0.000059	3	0.000059	3	0.000059
Boston	3	0.000058	3	0.000058	10	0.000193
Chicago	2	0.000039	2	0.000039	2	0.000039
Cleveland	2	0.000039	2	0.000039	2	0.000039
Cold Bay	1	0.000019	6	0.000116	443	0.009012
Dallas	0	0	0	0	0	0
Denver	0	0	0	0	2	0.000039
Fairbanks	6	0.000116	6	0.000116	13	0.000252
Gander	8	0.000155	20	0.000388	589	0.013237
Goose Bay	5	0.000097	12	0.000233	95	0.001862
Houston	0	0	0	0	0	0
Igaluit	73	0.001434	221	0.004471	794	0.019508
Jacksonville	0	0	0	0	0	0
Juneau	4	0.000078	4	0.000078	8	0.000157
Kansas City	1	0.000019	2	0.000039	2	0.000039
Kotzebue	8	0.000155	11	0.000213	79	0.001546
Los Angeles	0	0	0	0	5	0.000097
Memphis	0	0	0	0	1	0.000019
Merida	0	0	4	0.000077	92	0.001789
Mexico City	76	0.001474	85	0.001651	596	0.012793

Other Options

As with all other tables in the PAN report, you will be able to:

- Enter start and end dates of your choosing
- Toggle through pages (first page, last page, next page and previous page)
- Go back to the parent report
- Zoom to various levels
- Locate words and numbers by using the “Find/Next” feature
- Export the table to Excel, PDF or Word where you can manipulate the table and its information (Online, it is solely read-only)
- Refresh the page
- If you are using Internet Explorer, you may use the Zoom or Print features. **(NOTE: Zoom and Print are not available when using Firefox or Chrome.)**



Service Outages NPA

This table shows the number of sites with NPA outages. Below, we expanded our dates to include January 1, 2012 to March 31, 2014. Here we see a few NPA Outages at Kotzebue and Barrow during this time period.

With NPA, the Horizontal Protection Level (HPL) is less than the Horizontal Alert Limit (HAL). HAL for NPA is 556 meters.

You may run reports on any dates you enter using the “Run Report” button.

Service Outages NPA

(Table 3-5)

PAN NPA Outages Table 3-5

Please Enter Start and End Dates (format DD-MON-YY):

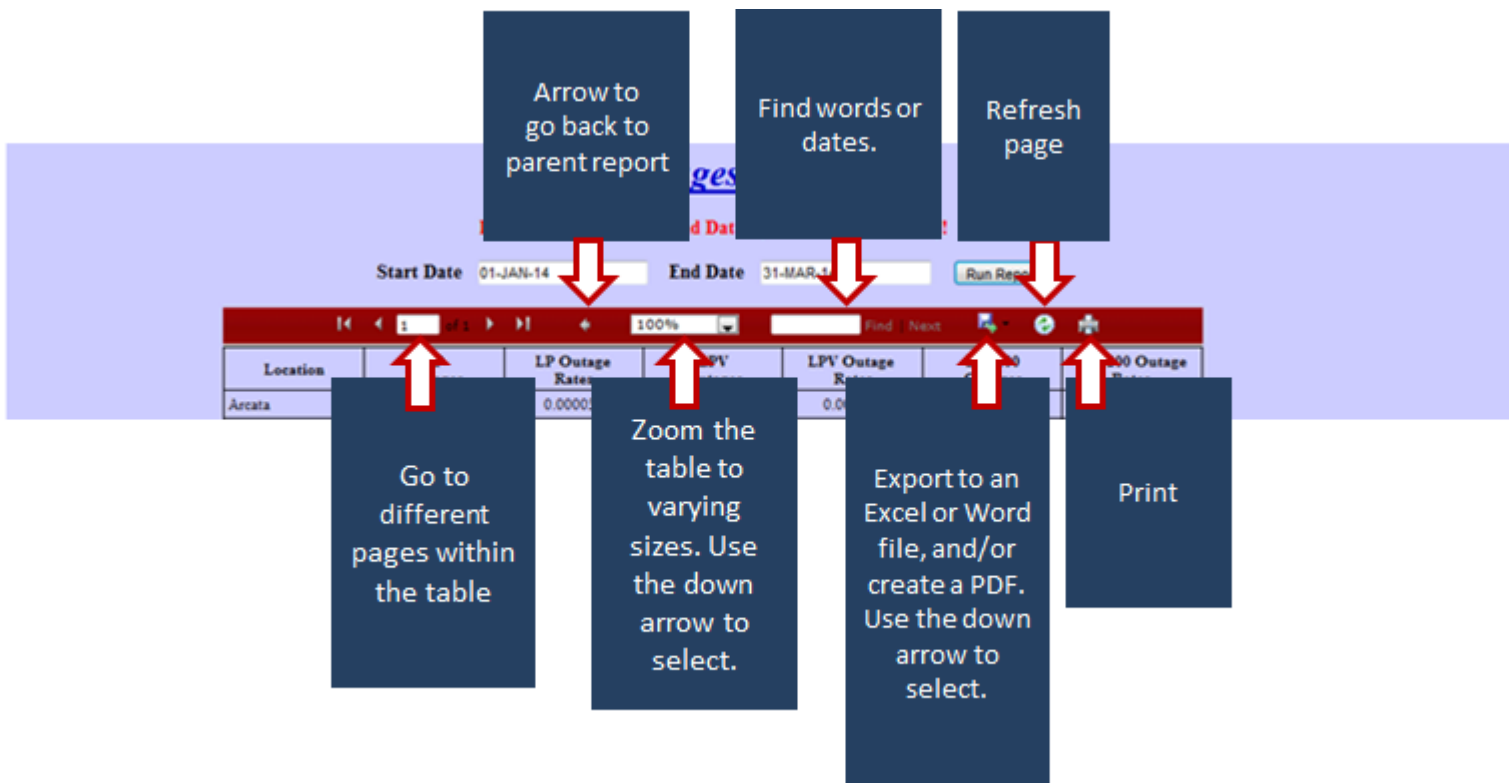
Start Date 01-JAN-12 End Date 31-MAR-14 [Run Report](#)

Location	NPA Outages	NPA Outage Rates
Albuquerque	0	0
Anchorage	0	0
Atlanta	0	0
Barrow	6	0.000013
Bethel	0	0
Billings	0	0
Boston	0	0
Cleveland	0	0
Cold Bay	0	0
Fairbanks	0	0
Gander	0	0
Honolulu	0	0
Houston	0	0
Iqaluit	0	0
Juneau	0	0
Kansas City	0	0
Kotzebue	6	0.000013
Los Angeles	0	0
Merida	0	0
Miami	0	0
Minneapolis	0	0
Oakland	0	0
Salt Lake City	0	0
San Jose Del Cabo	0	0
San Juan	0	0
Seattle	0	0
Tapachula	0	0
Washington DC	0	0

Other Options

As with all other tables in the PAN report, you will be able to:

- Enter start and end dates of your choosing
- Toggle through pages (first page, last page, next page and previous page)
- Go back to the parent report
- Zoom to various levels
- Locate words and numbers by using the “Find/Next” feature
- Export the table to Excel, PDF or Word where you can manipulate the table and its information (Online, it is solely read-only)
- Refresh the page
- If you are using Internet Explorer, you may use the Zoom or Print features. **(NOTE: Zoom and Print are not available when using Firefox or Chrome.)**



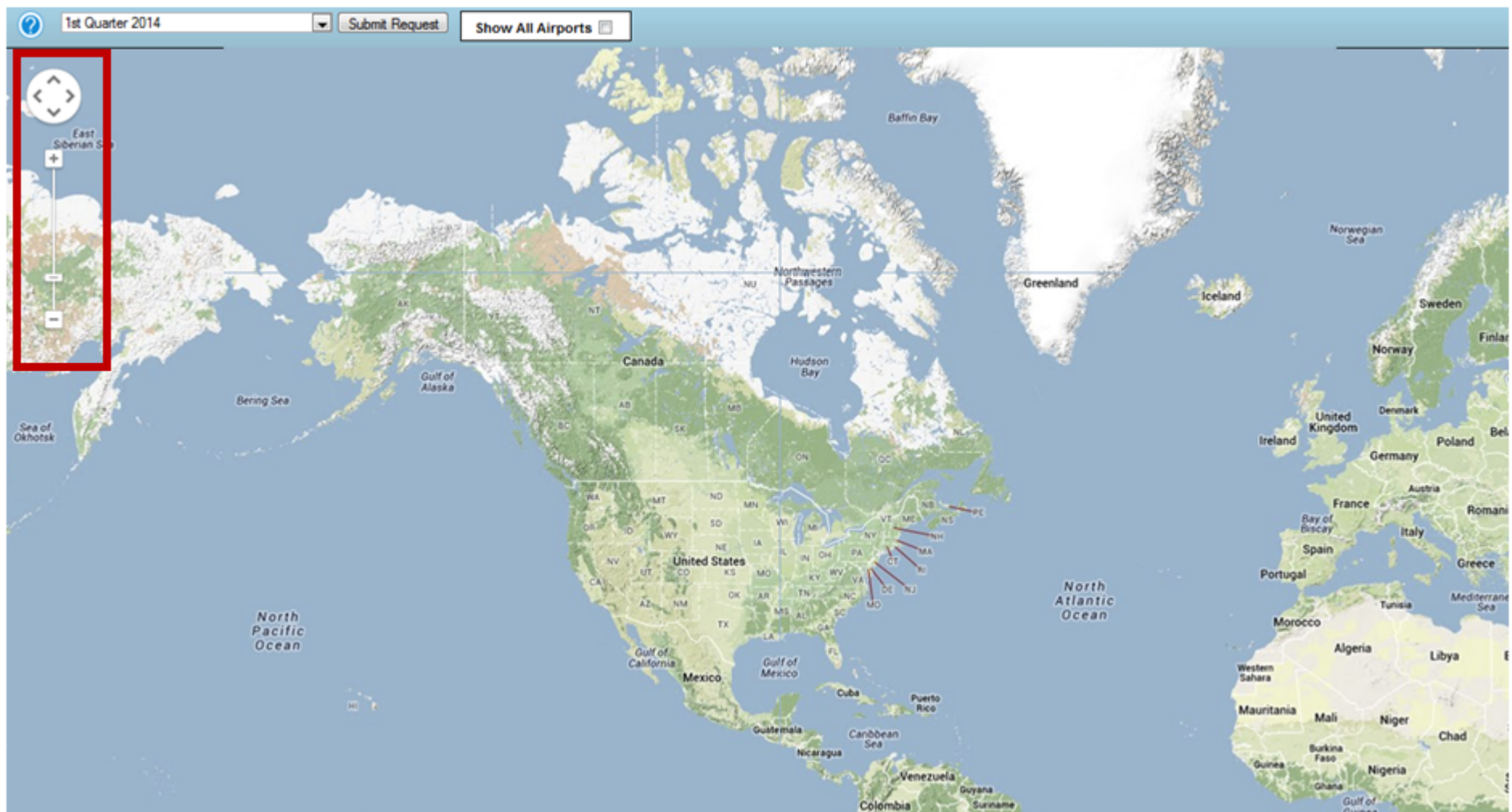
Airport Actual Outages

After clicking “Actual Airport Outages,” you will see a screen like the one below. As can be done with all Google Maps, you may zoom in and out by sliding the zoom control on the upper left corner of the map or the by scrolling with the scroll wheel your computer mouse. You can also pan using the round pan button (See the red box below).

You may also pan by pressing and holding the left-mouse key and moving your mouse anywhere on the map.

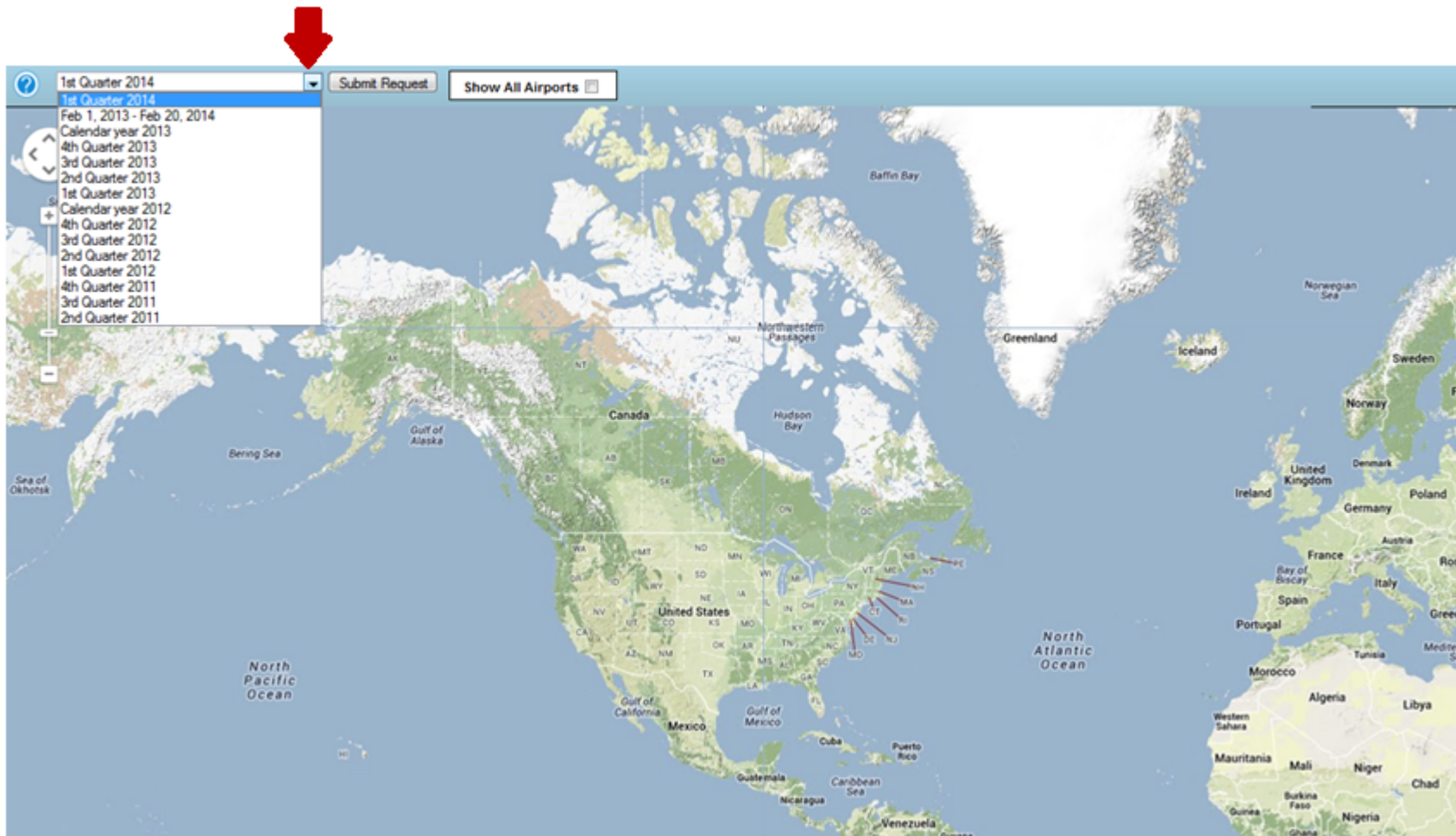
Airport Actual Outages

(Figures 8-1-8-6)



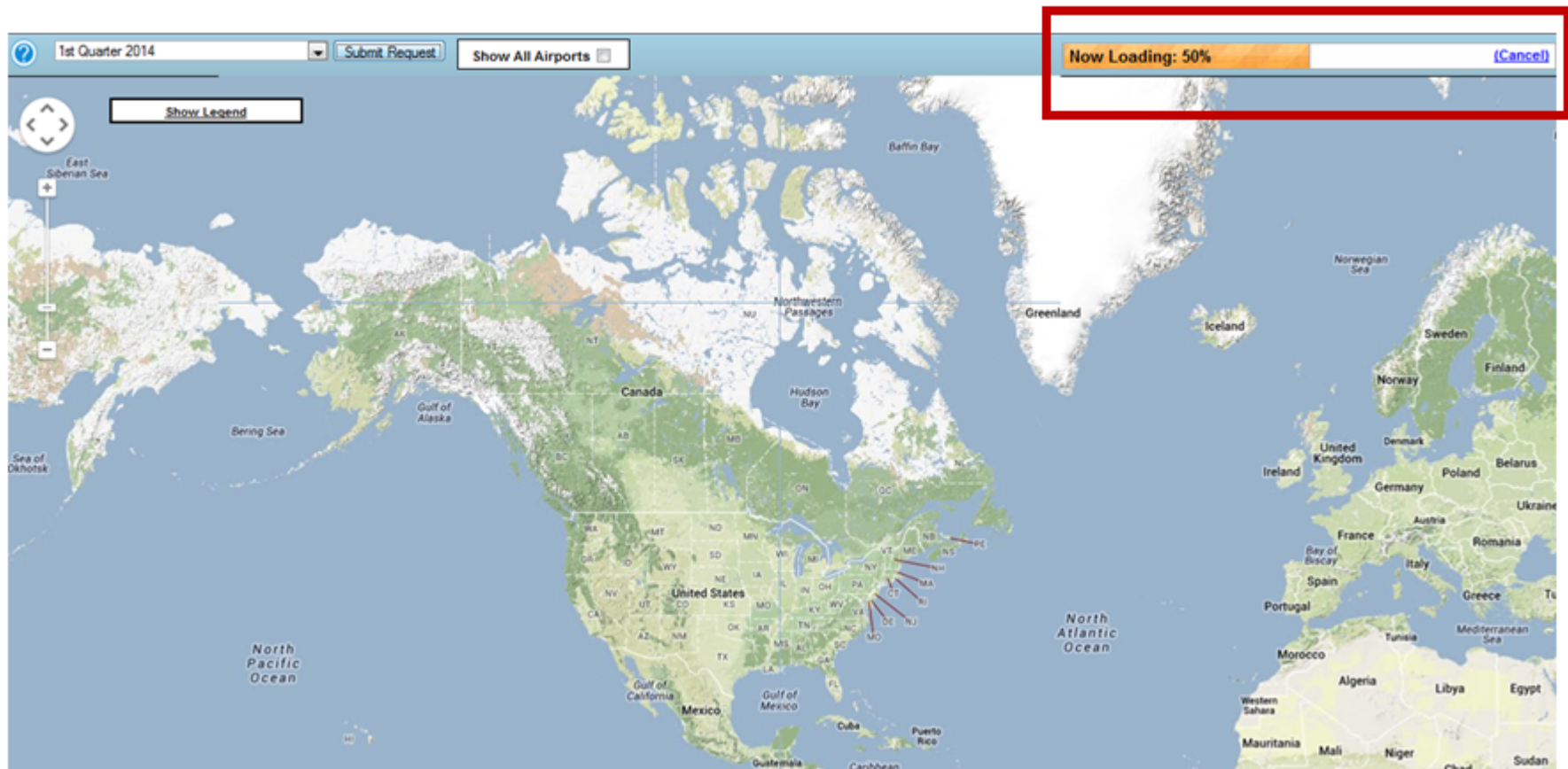
Choosing a Date

In the upper left corner, use the down arrow to pick the Quarter or Calendar Year you would like to view, as far back as 2nd Quarter 2011. Once you choose a date, click on the “Submit Request” box.



Canceling a Page Load

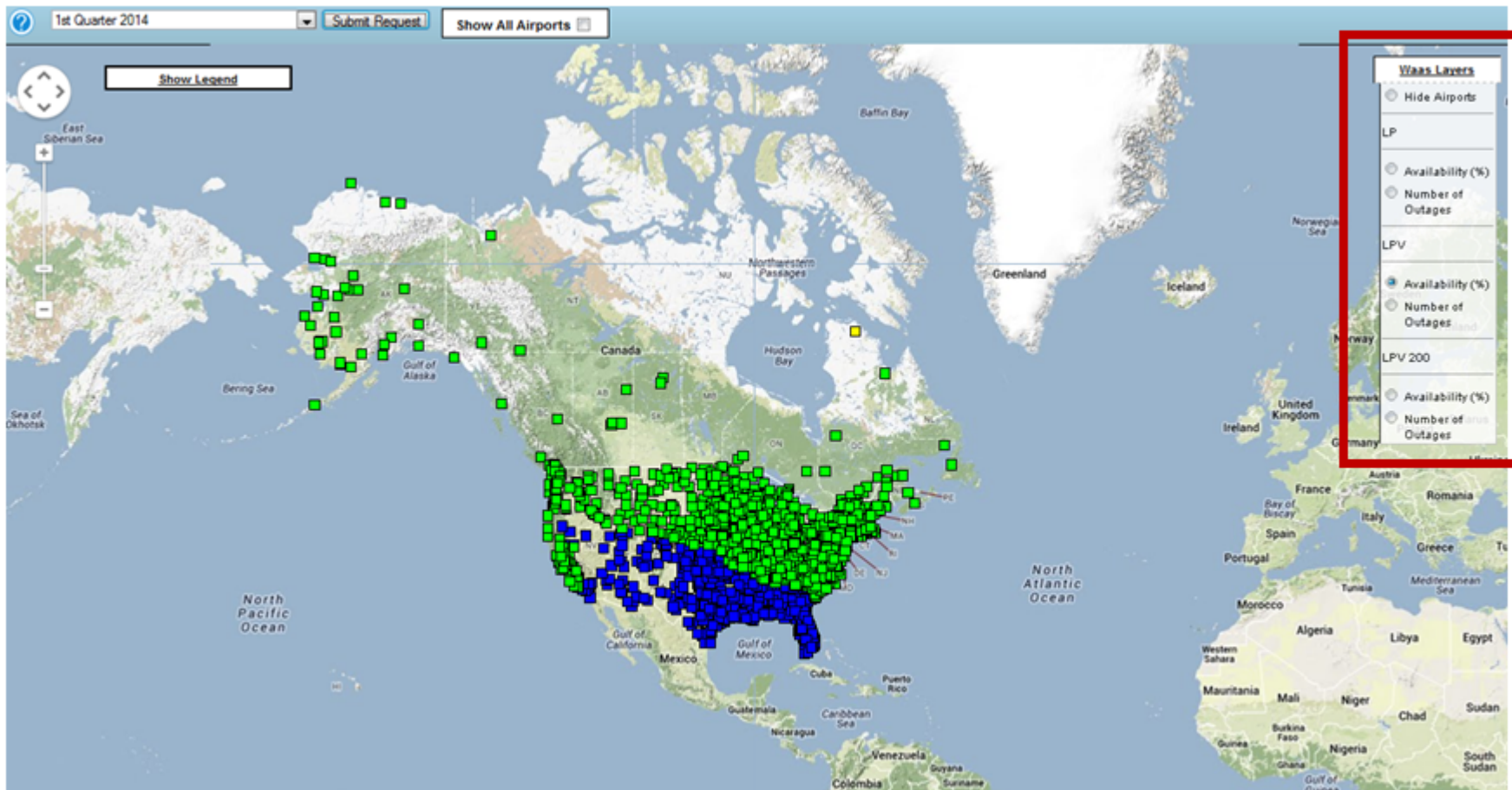
The red box here is highlighting that the page is currently 50% loaded. If you want to cancel or change this request *while the page is loading*, click on the word [\(Cancel\)](#) in the upper right-hand corner. This will bring you back to the initial page where you may submit a request for a different date. After the page has finished loading you cannot hit Cancel. You simply request a different time period.



WAAS Layers

After clicking on ‘Submit Request’ for 1st Quarter 2014, we are shown the WAAS layers box. In the example below, the LPV Availability radio button is selected by default (See red box). Note: the WAAS layers box can be hidden by clicking “[WAAS Layers](#).”

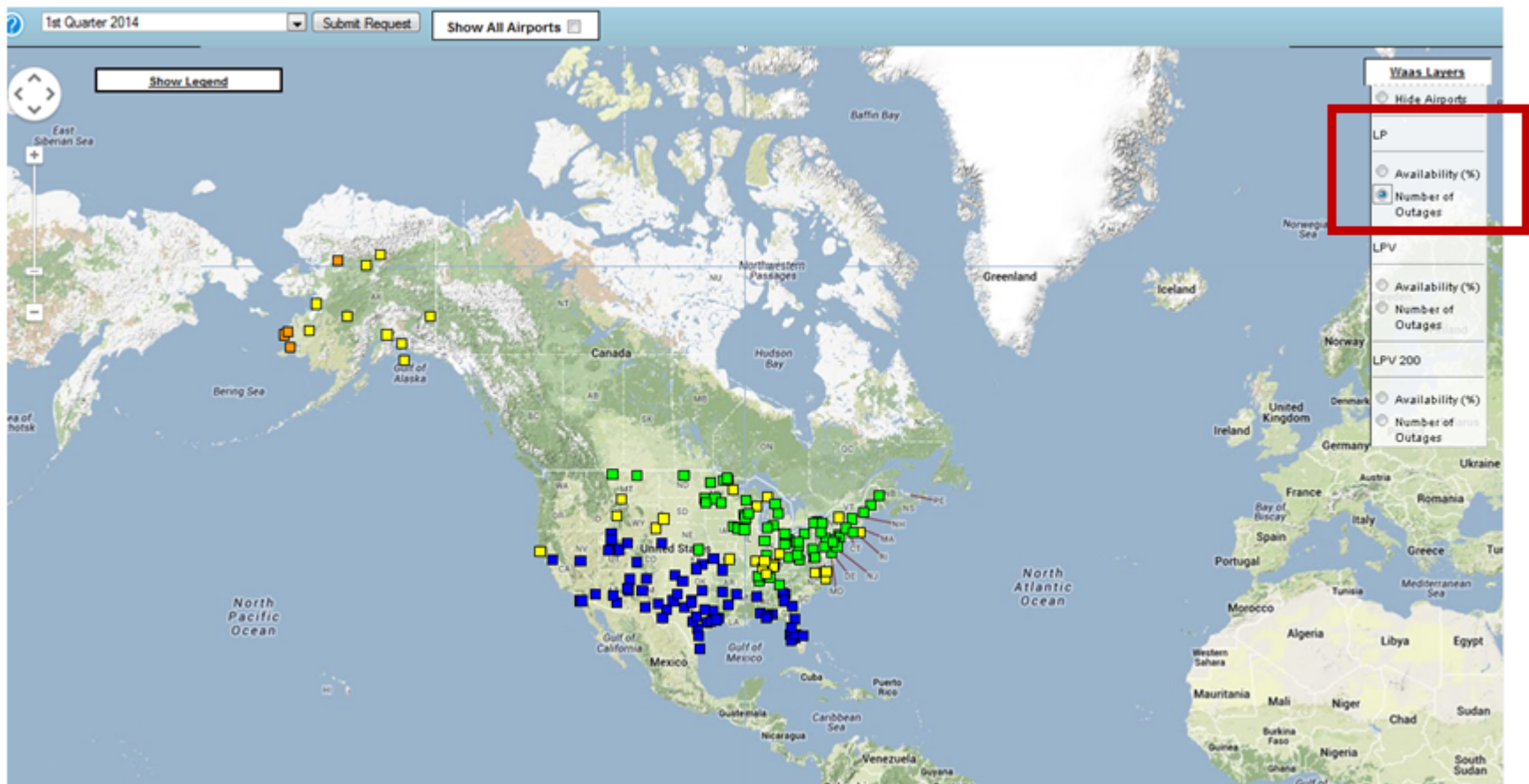
Each box shown corresponds to an airport that has a published approach for the service level selected (LP, LPV, or LPV200).



From the WAAS Layers box, we can change parameters to view all airports that have WAAS LP, LPV, or LPV200 approaches published. We can also choose whether we'd like to see percent of availability or the number of outages. Click the appropriate radio button to choose a different parameter. The map will change accordingly.

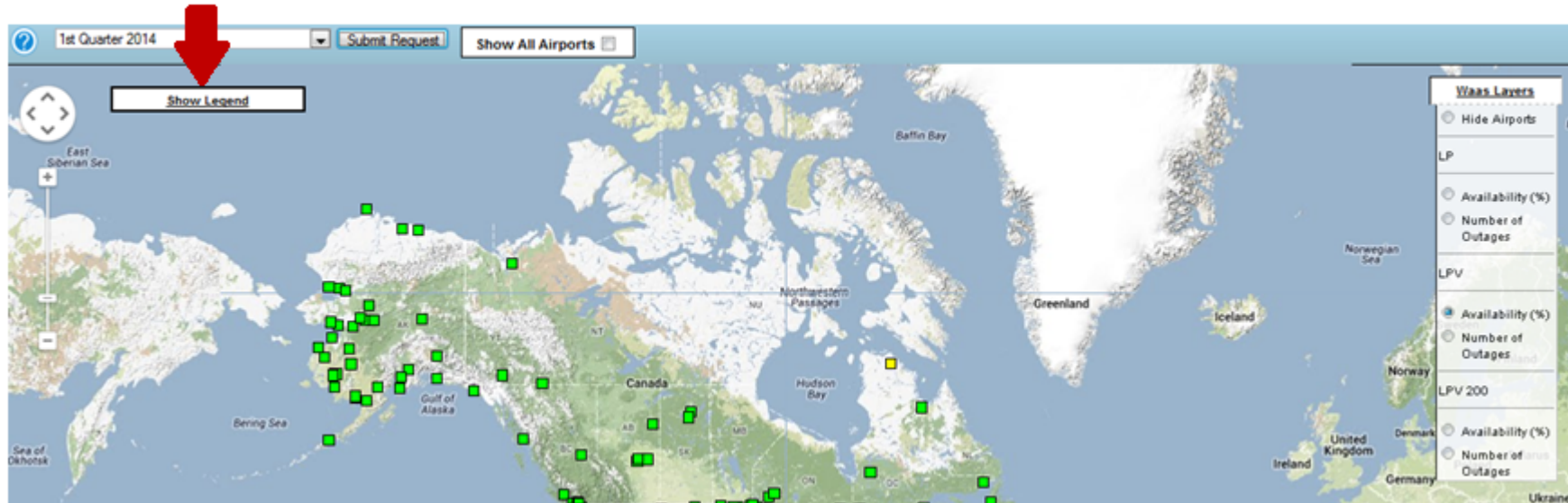
In this example, we selected Number of LP outages (See red box below). The map has changed to reflect this.

Note: only one parameter can be shown at a time. For example, you cannot choose to view both LPV and LPV200 availability at the same time.

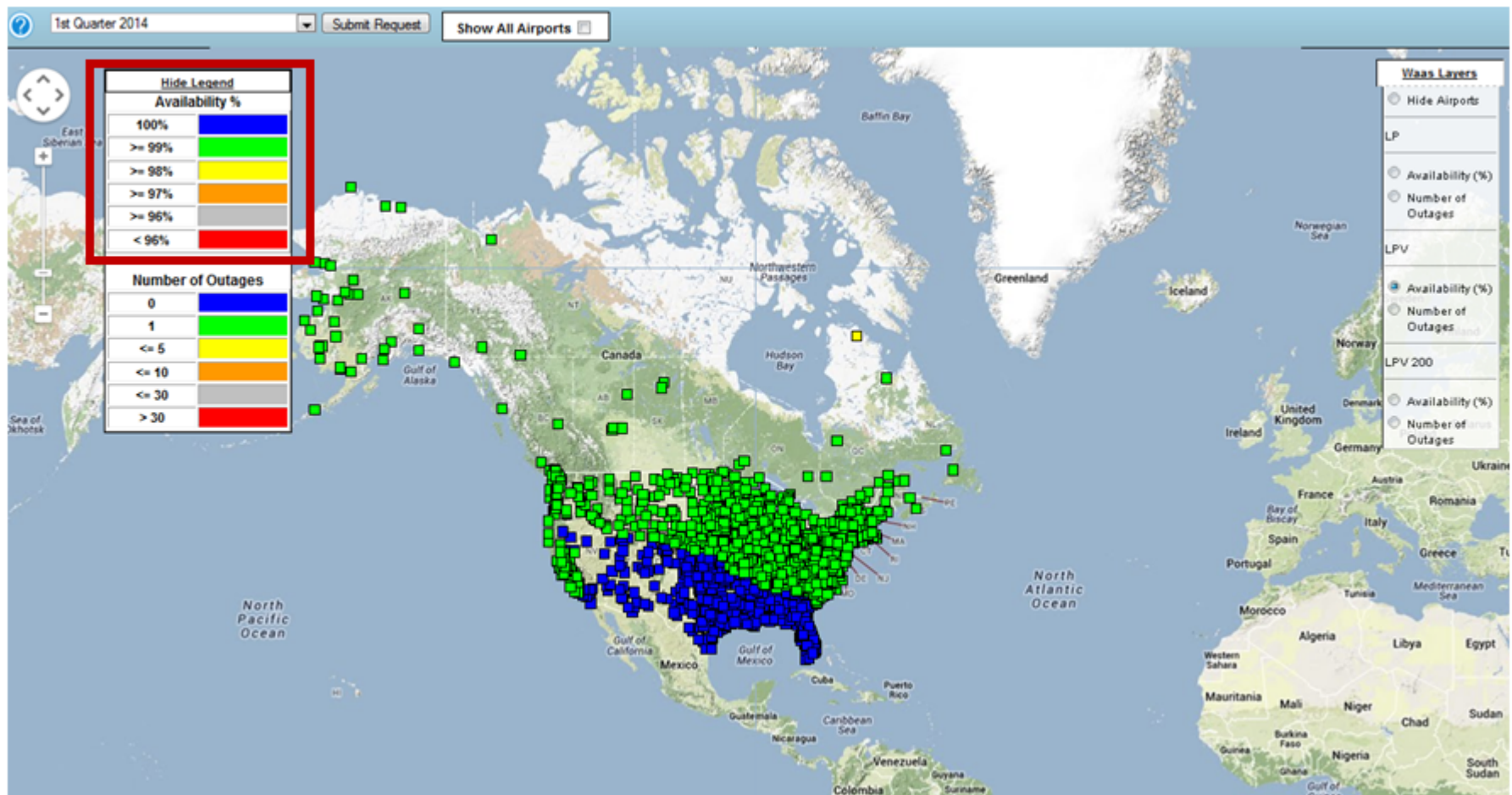


Show Legend Box

Notice the “Show Legend” box in the upper, left-hand corner of the screen (See red arrow below. Clicking this will allow us to see what the colored boxes represent.



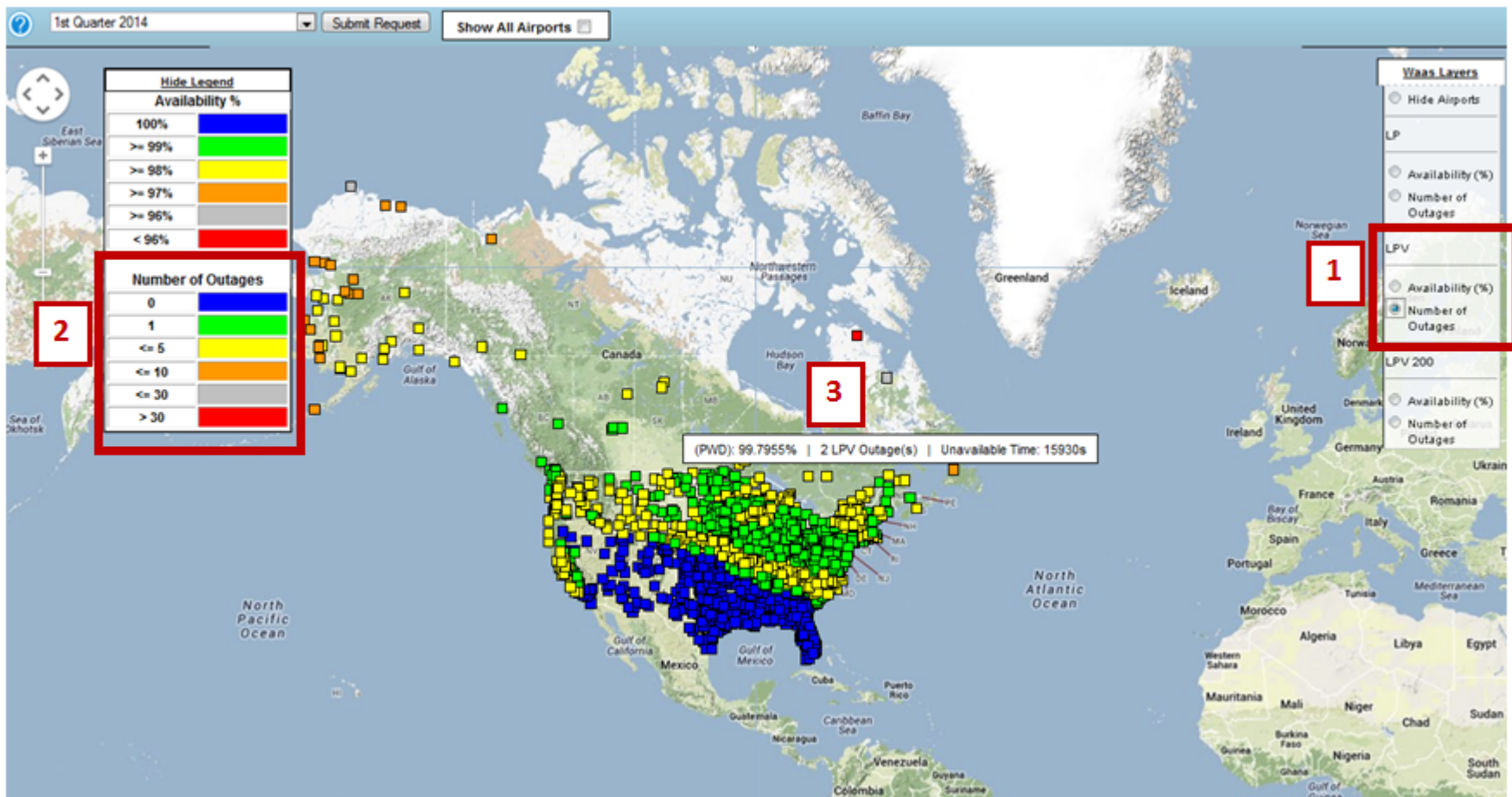
Here is the screen after clicking on the “Show Legend” box. Since we are looking at LPV Availability, we concentrate on the upper portion of the box (See red box below). The blue boxes represent 100% LPV availability. The green boxes indicate $\geq 99\%$ LPV availability. The yellow boxes show $\geq 98\%$ LPV availability, and so on. To close the legend, click on “Hide Legend” at the top of the Legend box.



Number of Outages

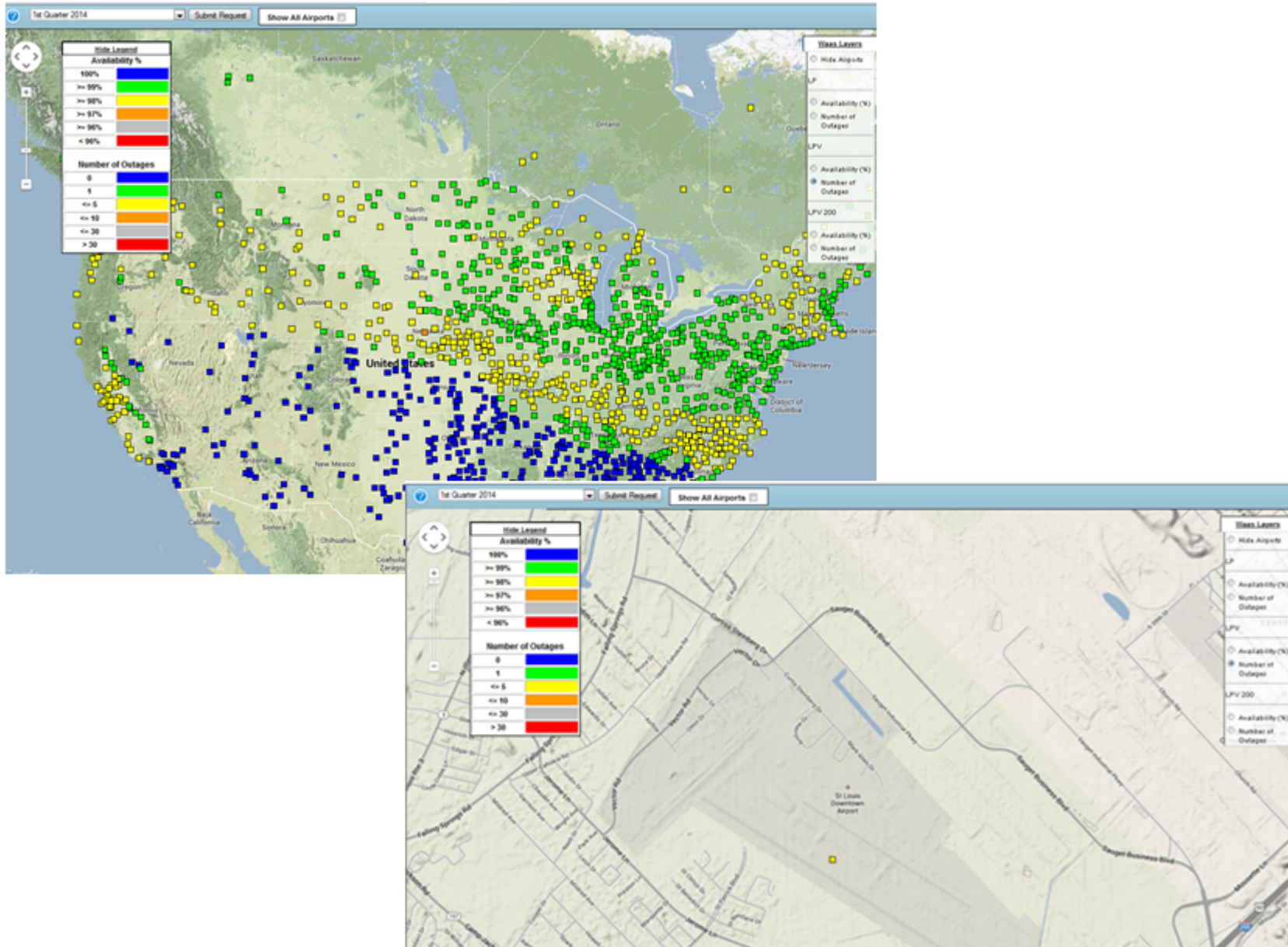
Below we clicked LPV “Number of Outages” (See #1 below). Now, the screen is showing boxes indicating the number of LPV outages; therefore, we look at the **bottom** of the legend to see what the colors mean in terms of number of outages (See #2 below). When hovering over a particular airport, a white box will appear listing the airport code, the percent of LPV availability, the number of outages, and seconds LPV was unavailable (See #3 below). In the case of the box below, we see PWD had 99.7955% LPV Availability, 2 LPV Outages and was unavailable for 15,930 seconds during the first quarter of 2014.

Please note: clicking on each individual colored box *will not* give you any further information other than what is already indicated in the pop-up box.



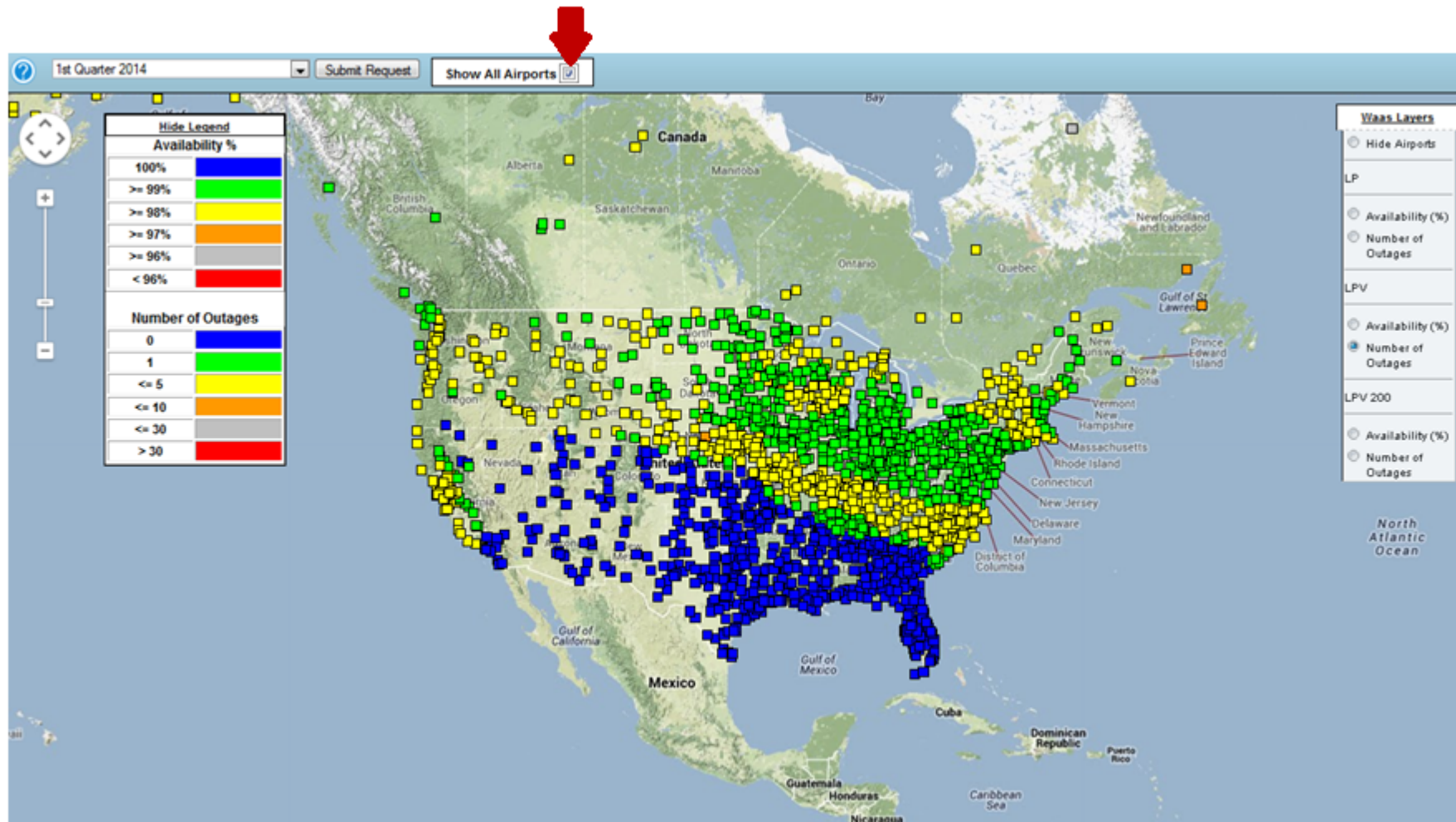
Scrolling

We scrolled in closer using the scroll wheel on the mouse. Below are two examples of scrolling. The bottom box is showing us a close up view of the St. Louis Downtown Airport, for example. You may also zoom out to get a broader view of the earth.



Show All Airports

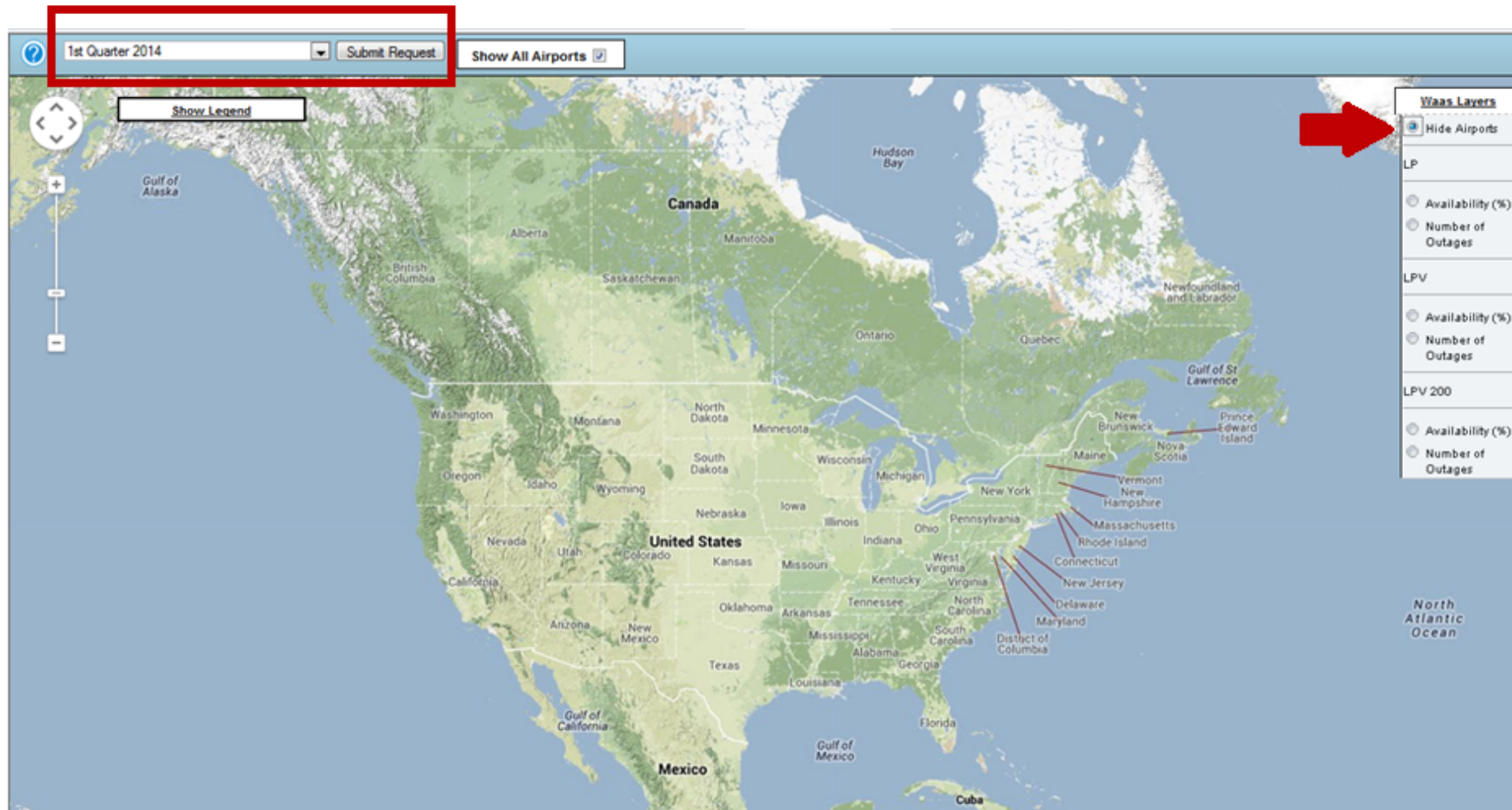
So far, we have looked at airports that have LPV approaches published. If we wanted to view all airports, regardless of which approach is published, we could check off “Show all Airports” (See red arrow). Note that “All” means those airports with a published procedure.



Hide Airports

Airports may be hidden by clicking on “Hide Airports” (See red arrow below). Doing so will remove all boxes, as seen in the image below.

After clicking “Hide Airports,” however, you will no longer be able to click on any other parameters you would like to view such as LP, LPV or LPV200. To see any data, you must select a quarter or calendar year you would like to view and hit “Submit Request” again (See red box below).



Additional Info

To find out more information, click on the question mark in the upper left corner. This will open a help Dialog Box with static information.

Airport Outages Display Help

How To Populate the Display With Data:

1. Left click on the drop-down menu, located on the upper left corner of your screen
2. Select the period of time you are interested in viewing
3. Left click on the submit request button, which is adjacent to the previously mentioned drop-down menu

Show All Airports Checkbox:

- When Unchecked:
 - The display only shows airports with published LPV or LPV 200 runway approaches
- When Checked:
 - The display shows all the airports the WJHTC WAAS Team has calculated outage information on, specifically for this display and requested period of time

Airport Color Legend:

- The "Show Legend" button becomes visible when a request for data has been submitted
- This button allows you to toggle the visibility of the Airport Color Legend
- The Airport Color Legend explains the correlation between the data values and colors given to the airports

Waas Layers Menu:

- Appears automatically after a request for data has been processed
- Clicking on the "Waas Layers" button will toggle the visibility of the "Waas Layers Menu"
- You may only view one type of data at a time

Availability % Legend:

Availability %	Color
100%	Blue
>= 99%	Green
>= 98%	Yellow
>= 97%	Orange
>= 96%	Light Green
< 96%	Red

Number of Outages Legend:

Number of Outages	Color
0	Blue
1	Green
<= 5	Yellow
<= 10	Orange
<= 30	Light Green
> 30	Red

Waas Layers:

- Hide Airports
- LP
- Availability (%)
- Number of Outages
- LPV
- Availability (%)
- Number of Outages
- LPV 200
- Availability (%)
- Number of Outages

North Atlantic Ocean

Airport Availability

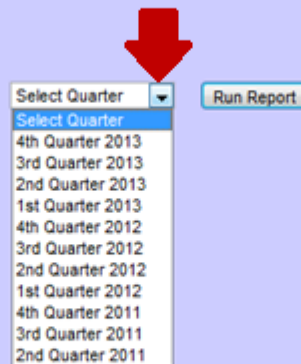
To view Airport Availability, click on the appropriate button to open a new window. Select a quarter from the drop down menu by using the arrow (See red arrow below). Then, click “Run Report.”

Notice we can select from as far back as the 2nd Quarter of 2011.

Airport Availability

(Table 8-1)

Table 8-1 WAAS LP, LPV, and LPV200 Outages and Availability



The screenshot shows a web interface for 'Airport Availability'. It features a dropdown menu labeled 'Select Quarter' with a red arrow pointing to the dropdown arrow. The menu is open, displaying a list of quarters from '4th Quarter 2013' down to '2nd Quarter 2011'. To the right of the dropdown is a button labeled 'Run Report'.

Select Quarter
Select Quarter
4th Quarter 2013
3rd Quarter 2013
2nd Quarter 2013
1st Quarter 2013
4th Quarter 2012
3rd Quarter 2012
2nd Quarter 2012
1st Quarter 2012
4th Quarter 2011
3rd Quarter 2011
2nd Quarter 2011

Run Report

Here we ran a report for the 4th Quarter of 2013. We can view a different Quarter or save the table to MS Excel or MS Word (See #1 below).

The resulting table (#2 below) shows us every airport that has a WAAS LP, LPV or LPV200 approach published. Notice, this is only a screen shot of a long table. Use the scroll bar on the right side of the table to view it in its entirety.

In order to search on this screen, use the “Cntrl + f” shortcut. This allows you to search for any variable within the table.

The Service column refers to the lowest approach published at that airport. LPV200 is defined as a published LPV approach with a decision height of 200 feet, while LPV is a published LPV with a decision height *above* 200 feet.

This table includes Canada.

Table 8-1 WAAS LP, LPV, and LPV200 Outages and Availability

Now Viewing 4th Quarter 2013

1
Select Quarter ▼
Run Report
Save to MS Excel
Save to MS Word

Airport Id	Airport Name	State/Province	Service	LP Outages	LP Avail	LPV Outages	LPV Avail	LPV 200 Outages	LPV 200 Avail
CAL4	FORT MACKAY / ALBIAN AERODROME	AB	LPV	0	1	0	1	7	0.998970
CEV3	VEGREVILLE	AB	LPV	0	1	0	1	2	0.999970
CYEG	EDMONTON / JOSEPHBURG	AB	LPV	0	1	0	1	2	0.999951
CYXD	EDMONTON CITY CTR	AB	LPV	0	1	0	1	2	0.999958
2C7	SHAKTOOLIK	AK	LPV	2	0.999328	3	0.999049	5	0.998641
6A8	ALLAKAKET	AK	LP	3	0.999185	4	0.998758	5	0.998200
7KA	TATITLEK	AK	LP	2	0.999672	2	0.999468	2	0.999162
9A3	CHUATHBALUK	AK	LPV	2	0.999540	3	0.999528	4	0.999072
AKN	KING SALMON	AK	LPV	0	1	0	1	2	0.999845
ANC	TED STEVENS ANCHORAGE INTL	AK	LPV200	2	0.999966	2	0.999872	4	0.999253
AQH	QUINHAGAK	AK	LPV	0	1	1	0.999955	4	0.999528
AQT	NUIQSUT	AK	LPV	4	0.998415	5	0.997917	19	0.996649
BET	BETHEL	AK	LPV200	0	1	1	0.999955	8	0.999136
BRW	WILEY POST-WILL ROGERS MEM	AK	LPV	8	0.998022	9	0.997626	217	0.982058
CDB	COLD BAY	AK	LPV200	2	0.999977	3	0.999864	420	0.945150
CDV	MERLE K (MUDHOLE) SMITH	AK	LPV	2	0.999649	1	0.999340	2	0.999223
CLP	CLARKS POINT	AK	LPV	0	1	1	0.999996	3	0.999789
CXF	COLDFOOT	AK	LP	3	0.999083	5	0.998641	6	0.997932
D76	ROBERT/BOB CURTIS MEMORIAL	AK	LPV	4	0.998977	5	0.998687	28	0.996173
DLG	DILLINGHAM	AK	LPV	0	1	1	0.999996	3	0.999826
ELI	ELIM	AK	LPV	2	0.999306	3	0.999038	5	0.998570

2