



**U.S. Coast Guard Auxiliary**

District 11 Northern Region  
 Serving Northern California, Nevada, Utah

**District Navigation Systems**

Covering Aids to Navigation, Bridges, & Chart Updating Activities

*Accuracy - Credibility - Professionalism - Service to the Coast Guard & NOAA-NOS*

**DSO-NS Northern Region Report No. 2016-09**

Date: October 3, 2016  
 From: DSO-NS 11(NR)  
 To: DCAPT-RBS & All D11 Auxiliary Members for Immediate Action  
 Info: EXCOM, Board & Staff, SO-NS, FSO-NS & Aid Verifiers, D11 (dpw) & D11 (dpa-n)  
 Subject: DSO-NS September Report & Bulletin

**SO-NS please contact each FSO-NS to see that they receive a copy of this bulletin.**

**Additional copies can be downloaded at:**

<http://wow.uscgaux.info/content.php?unit=113&category=navigation-systems>

**CONTENTS OF THIS REPORT**

- 1. As Measured From The Center Of The Earth, What Is The Highest Mountain? Page 1
- 2. **PATON Verification Reports Are Past Due - Divisional Status:** Page 1
- 3. 2016 D11NR Navigation System September Report as of 10/03/2016: Page 2
- 4. **Notice To All Current District 11 Aid Verifier's:** Page 2
- 5. **UPDATED** National Positioning, Navigation, and Timing Resilience and Security Act of 2016, House Takes Action on Backup for GPS: Page 3
- 6. Have You Check Chart Dates Lately? Dates of Chart Latest Editions Table - Dated 10/03/2016: Page 5
- 7. Answer To Item Number 1. Page 6

**1. As measured from the center of the Earth, what is the Highest Mountain?**

You will be very surprised.

You will find the answer on page 6.

**2. DIVISION PATON VERIFICATION REPORTS ARE PAST DUE:**

D11 (dpw) had set the end of September for all 2016 PATON Reports to be completed and returned by October 4<sup>th</sup>. **They are now pass due.** We still have **42** of **736** PATON's to complete. Below is your Division status:

DIVISION	PATON ASIGNED	VERIFICATIONS COMPLETED	% COMPLETED	STILL TO COMPLETE
1	104	104	100%	0
3	41	41	100%	0
4	68	68	100%	0
5	103	100	76%	3
6	67	67	100%	0
8	5	5	100%	0
10	58	19	33%	39
11	140	140	100%	0
12	150	150	100%	0
<b>Totals</b>	<b>736</b>	<b>572</b>	<b>78%</b>	<b>42</b>

**Congratulations to the Divisions that completed this task on time. Job well done.**

### 3. 2016 NAVIGATION SYSTEMS REPORT:

This report activity table covers all ATON, PATON, Bridge, & Chart Updating activities & reports received by D11 (dpw), NOAA-NOS & AUXINFO through **October 3, 2016.**

#### 2016 DIVISIONAL, BRIDGE, ATON, & CHART UPDATING ACTIVITY SUMMARY REPORT

Div.	AIDS TO NAVIGATION ACTIVITY							Bridges Assigned				PATON's Assigned				2016	
	Bridge	Bridge AUX Data <small>Lead only</small>	ATON	ATON AUX DATA <small>Lead only</small>	PATON	PATON NO Permit	PATON AUX DATA <small>Lead only</small>	AOR	Check	% Done	Still to Do	AOR	Check	% Done	Still to Do	A V's	P Q S
1	4		1	1	104	4	40	4	4	100%	0	104	104	100%	0	3	5
3	21	10	3	1	41	20	7	15	15	100%	0	41	41	100%	0	2	3
4	2				68	1		2	2	100%	0	68	68	100%	0	1	1
5	13	9			101		78	11	11	100%	0	103	100	97%	3	5	4
6	2	2			67	3	27	2	2	100%	0	67	67	100%	0	1	2
8	1	1			5		5	1	1	100%	0	5	5	100%	0	1	0
10	12				19			9	9	100%	0	58	19	33%	39	0	3
11			1		140	4	60	0		NA	0	140	140	100%	0	3	3
12	8	3		3	150	8	178	8	8	100%	0	150	150	100%	0	2	4
Total	63	25	5	5	695	40	395	52	52	100%	0	736	694	94%	42	18	25
2016 D11NR Chart Updating Year Jan 1, 2016 to Mar 31, 2016			2016 D11NR Chart Updating Year April 1, 2016 to Dec 31, 2016			2016-2017 NOAA-NOS Chart Updating Year Apr 1, 2016 to Mar 31, 2017											
Div.	CU Reports	2nd Ob	CUC (26)	CU Reports	2nd Ob	CUC (25)	CU Reports	2nd Ob	CUC (25)								
1																	
3	5	.5	130	5	.5	130	5	.5	130								
4																	
5	1	.5	26	1	.5	26	1	.5	26								
6																	
8																	
10																	
11																	
12																	
Total	6	1	156	6	1	156	6	1	156								
Total D11 CU Reports 1/1/16 through 12/31/16 →				6	Total D11-NOAA CU & CUC 4/1/16 through 3/31/17 →				6	156							
Total Aids to Navigation Reports				803	Total Members Submitting ATON & CU Reports in 2016 →				42								
Total Aids to Navigation in AUXDATA*				425	425 out of 803 ATON & CU reports showing up in AUXDATA →				53%								
Total NOAA Chart Updating Reports				6	A= ATON, P= PATON, B= Bridges, U= Unauthorized, CU=Chart Updates CUC = Chart Update Points (Stop Gap) = 26 CUP awarded by D11NR DSO-NS for each confirmation of a Report you recently submitted via NOAA's Nautical Discrepancy Report System.												
Total ATON & Chart Updating				809													
<p>➤ Note: <b>Red numbers above is the information from AUXINFO as of October 2, 2016 update.</b></p> <p>➤ <b>NOAA-NOS Chart Updating Year is from - April 1 through March 31 each year????</b></p> <p>➤ <b>D11NR Chart Updating Year is from - January 1 through December 31 each year.</b></p> <p>➤ Note: The <b>Green</b> number under "2<sup>nd</sup> Ob" indicates secondary Chart Updating Observers.</p>																	
<p>✓ Note: "ALWAYS submit a 7030 for all ATON, PATON, Bridge, &amp; Chart Updating Activity. Your work is not completed until your 7030 is in your FSO-IS hands."</p> <p>✓ "Always check AUXINFO for your ATON, Bridge, &amp; Chart Updating activity. If you don't find your activity recorded and you have submitted the proper ANSC 7030, check with your FSO-IS or SO-IS for help." If you are not satisfied always contact the DSO-NS for help.</p>																	

**4. NOTICE TO ALL CURRENT DISTRICT 11 AID VERIFIER'S:** D11 is coming to the end of its 5 year Aid Verifier re-certification program period on December 31<sup>st</sup>. All District 11

aid verifiers [NOT “Auxiliary Aids to Navigation (ATON) Verifier PQS” certified] your Aid Verifier certification will end on December 31<sup>st</sup>.

Starting January 1, 2017 all District 11 Certified Aid Verifiers must hold the “Auxiliary Aids to Navigation (ATON) Verifier PQS” qualification & certification. We need your help so please complete your AV-PQS training before December 31<sup>st</sup>. Passed & current Aid Verifier’s maybe granted a waiver if you’re in AV-PQS training. If you need help or have any question please contact your FSO-NS, SO-NS or the DSO-NS.

Any Auxiliarist who would like to assist the Coast Guard in keeping our district waterways safe for navigation? We need your help in keeping all of our bridges & aids to navigation watching properly. The auxiliary is tasked with verifying annually around 750 private aids to navigation (PATON) and 52 bridges. We also report any non-permitted PATONs found and Coast Guards ATON discrepancies found. The only way we can carry out our district tasking is to have properly trained Aid Verifiers.

### **The training prerequisites to completing the AV-PQS:**

- 1) You are required to have a copy of the Auxiliary Aids to Navigation (ATON) Verifier PQS sign off booklet,
- 2) BQ or AX member,
- 3) Completion of the 4 or 8 hour TCT,
- 4) Completing ICS 100 and ICS 700,
- 5) **All Major Tasks can be signed off by any Certified Aid Verifier with the exception of Tasks 3.6, 5.1, 5.2, 5.3, 6.6. The exception tasks must be signed-off by the DSO-NS.**

The sign off booklet and training material can be downloaded from the National Navigation Systems web sites.

- 1) National Navigation Systems web site: <http://wow.uscgaux.info/content.php?unit=P-DEPT&category=navigation-systems>
- 2) D11NR Navigation Systems web site: <http://wow.uscgaux.info/content.php?unit=113&category=navigation-systems>
- 3) D1NR Navigation Systems web site: <http://www.uscgaan.com>

These three web sites can just about answer any and all of your questions about Aid Verifier PQS qualification, aids to navigation, bridges & chart updating. Take a good look at all three (3) by navigating through these excellent web sites.

## **5. UPDATED National Positioning, Navigation, and Timing Resilience and Security Act of 2016, House Takes Action on Backup for GPS:**

On September 26, the House of Representatives passed H.R. 5978, which includes language promoting the need for a complement of and backup for GPS. Section 106 (“Backup Global Positioning System”) provides that, Subject to the availability of appropriations “the Commandant of the Coast Guard, in consultation with the Secretary of Transportation, shall provide for the establishment, sustainment, and operation of a reliable land-based enhanced LORAN, or eLORAN, positioning navigation, and timing system to provide a complement to and backup for Global Positioning System (in this section referred to as 'GPS') to ensure the availability of uncorrupted and nondegraded positioning, navigation, and timing signals for military and civilian users in the event that GPS signals are corrupted, degraded, unreliable, or other unavailable.”

### **The Bill Status**

HOUSE SUBCOMMITTEE	HOUSE COMMITTEE	HOUSE FLOOR	HOUSE-SENATE CONFERENCE COMMITTEE	HOUSE FLOOR	PRESIDENT
9/14/2016 <u>H.R. 5978</u>	9/14/2016 <u>H.R. 5978</u>	9/26/2016 <u>H.R. 5978</u>		SENATE FLOOR	
SENATE SUBCOMMITTEE	SENATE COMMITTEE	SENATE FLOOR		SENATE FLOOR	

**6. HOW THE TIDE DATUM IS CREATED:** Ship captains must know the vertical clearance: how much room there is between the top of their ship and the bridges and power lines they pass under while navigating. Some ships carry very tall cargo like cranes or are piled high with hundreds of containers. Occasionally, ships break off antennae when passing under bridges. Mariners must also know how much room there is between the keel of their vessel and the seafloor; sometimes it is merely inches! That is why the Office of the Coast Survey need the times and heights of high and low tides.

There are more than 200 tide stations stand along the nation’s shoreline. Inside the stations tide gauges measure the rise and fall of the sea. A NOAA gauge in San Francisco has recorded the tide for more than 150 years

All charts give information on water levels. But how can you calculate the height of endlessly moving water? Oceanographers compute the average high- and low-water levels measured in an area over 19-year periods called tidal epochs. The averages remove anomalies like big storms, so steady water levels can be established.

The moving water levels are measured in between bronze discs on the ground called tidal benchmarks. They are like the markings on a football field. You can only measure a touchdown run if the markings don’t move and are the right distance apart. That is why NOAA checks the distance between benchmarks for any movement.

The cartographers use the information collected from tide gauges and benchmarks to create tidal datum. They record these different water-level averages on the charts. Ship captains can now clear bridges and overhead cables, mariners refer to Mean High Water (MHW) and to avoid underwater obstructions mariners, refer to Mean Lower Low Water (MLLW).

*James B. Duncan, DSO-NS 11(NR)*

[dvc.on@comcast.net](mailto:dvc.on@comcast.net)

<http://wow.uscgaux.info/content.php?unit=113&category=navigation-systems>

**“All auxiliary vessels when underway should be checking all Aids to Navigations for any type of Discrepancy and also should be checking the Charts, Coast Pilot & Shoreline for any type of Charting Errors as well as providing update reports on Charts, & Coast Pilot in your AOR”**

**DATES OF CHART LATEST EDITION TABLE**  
**In D11 Northern Region October 3, 2016**

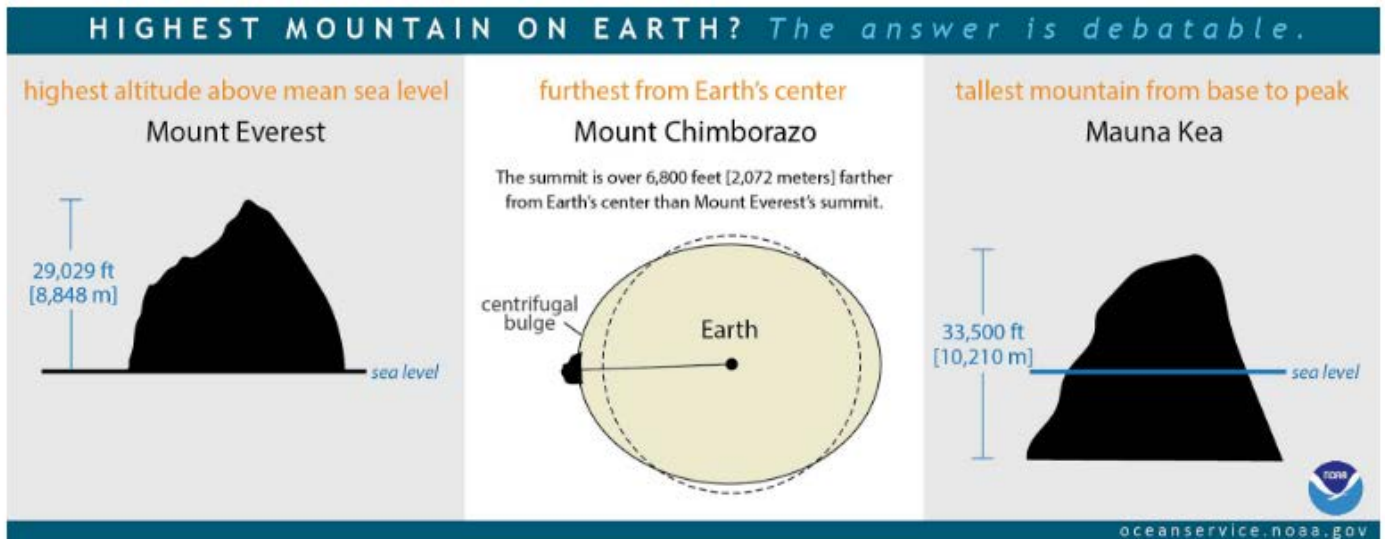
Chart No.	Chart Scale	Edition No.	Traditional Paper Chart Edition Date	Last Correction Date from LNM Update for NOAA On-Line-Viewer & RNC & ENC Navigational Charts	
18600	196,948	15	Mar 2011	LNM 38/16	9/20/2016
18020	1,444,000	39	Jan 2012	LNM 38/16	9/20/2016
18010	811,980	22	Sep, 2012	LNM 38/16	9/20/2016
18022	868,003	36	Jun 2012	LNM 38/16	9/20/2016
18601	40,000	14	Feb 2007	LNM 38/16	9/20/2016
18602	40,000	13	Feb 2012	LNM 38/16	9/20/2016
18603	40,000	17	Mar 2012	LNM 38/16	9/20/2016
18605	15,000	13	Dec 2010	LNM 38/16	9/20/2016
18620	200,000	24	Feb 2012	LNM 38/16	9/20/2016
<b>18622</b>	<b>25,000</b>	<b>56</b>	<b>APR 2016</b>	LNM 38/16	9/20/2016
18623	40,000	12	Jan 2012	LNM 38/16	9/20/2016
18626	40,000	16	Dec 2012	LNM 38/16	9/20/2016
18628	10,000	9	Oct 2012	LNM 38/16	9/20/2016
18640	207,840	27	Oct 2015	LNM 38/16	9/20/2016
18643	30,000	18	Dec 2009	LNM 38/16	9/20/2016
18645	100,000	28	May 2013	LNM 38/16	9/20/2016
18647	40,000	16	Mar 2009	LNM 38/16	9/20/2016
18649	40,000	68	Jun 2013	LNM 38/16	9/20/2016
18650	20,000	57	Dec 2013	LNM 38/16	9/20/2016
18651	40,000	45	Dec 2013	LNM 38/16	9/20/2016
18652 SC	40,000:80,000	36	Feb 2012	LNM 38/16	9/20/2016
18653	20,000	12	Oct 2012	LNM 38/16	9/20/2016
18654	40,000	45	Jan 2012	LNM 38/16	9/20/2016
18655	10,000	59	Oct 2006	LNM 38/16	9/20/2016
18656	40,000	56	Aug 2010	LNM 38/16	9/20/2016
18657	10,000	19	Nov 2005	LNM 38/16	9/20/2016
18658	10,000	31	Sep 2007	LNM 38/16	9/20/2016
18659	10,000	16	Jan 2012	LNM 38/16	9/20/2016
18660	20,000	3	Sep 2005	LNM 38/16	9/20/2016
18661 SC	40,000	30	Mar 2009	LNM 38/16	9/20/2016
18662 SC	40,000	22	May 2009	LNM 38/16	9/20/2016
18663	20,000	6	Apr 2006	LNM 38/16	9/20/2016
18664	20,000	12	Aug 26, 2000	LNM 38/16	9/20/2016
18665	40,000	11	Aug 2004	LNM 38/16	9/20/2016
18666	10,000	1	Nov 24, 2001	LNM 38/16	9/20/2016
18667	20,000	12	Aug 26, 2000	LNM 38/16	9/20/2016
18680	210,668	32	May 2013	LNM 38/16	9/20/2016
<b>18682</b>	<b>20,000</b>	<b>15</b>	<b>APR 2016</b>	LNM 38/16	9/20/2016
18685	50,000	34	Sep 2012	LNM 38/16	9/20/2016
18686	40,000	13	Jul 17, 1999	LNM 38/16	9/20/2016
18700	216,116	22	Jul 2003	LNM 38/16	9/20/2016
<b>Coast Pilot</b>	<b>Volume 7</b>	<b>48</b>	<b>Updated weekly</b>	<b>Last Corrected through 09/25/2016</b>	
<b>CG Light List Weekly Updates</b>	<b>Volume 6</b>	<b>2016</b>	<b>Updated weekly</b>	<b>Last Corrected though LNM 39/16 - Dated 9/27/2016</b>	

## 7. The Highest Mountain on the Earth as measured from the center of the Earth?

The top of Mount Chimborazo is farther from the Earth's center than Mount Everest. Mount Everest, located in Nepal and Tibet, is usually said to be the highest mountain on Earth. Reaching 29,029 feet at its summit, Everest is indeed the highest point above global mean sea level—the average level for the ocean surface from which elevations are measured. But the summit of Mt. Everest is not the farthest point from the Earth's center.

Earth is not a perfect sphere, but is a bit thicker at the equator due to the centrifugal force created by the planet's constant rotation. Because of this, the highest point above Earth's center is the peak of Ecuador's Mount Chimborazo, located just one degree south of the Equator where Earth's bulge is greatest. The summit of Mt. Chimborazo is 20,564 feet above sea level. However, due to Earth's bulge, the summit Mt. Chimborazo is over 6,800 feet farther from the center of the Earth than Mt. Everest's peak. That makes Mt. Chimborazo the closest point on Earth to the stars.

You may be surprised to learn that Mt. Everest is not the tallest mountain on Earth, either. That honor belongs to Mt. Mauna Kea, a volcano on the Big Island of Hawaii. Mt. Mauna Kea originates deep beneath the Pacific Ocean, and rises more than 33,500 feet from base to peak.



The highest point above earth's center is the peak of Ecuador's Mount Chimborazo, located just one degree south of the equator where Earth's bulge is greatest. | [Infographic Text](#)