



SCOPE

Palomar Amateur Radio Club

July 2018

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Hear Ye, Hear Ye
This months PARC
meeting will be
July 11th at VIASAT
6155 El Camino Real,
Carlsbad



It Appears By Spears



Greetings!
Congratulations to
Dennis and his crew for
a very successful Field
Day. There are lots of
pictures starting on
page 11. On page 10

we have an article by
John, WB6IQS on their
trip to the mountain to
repair the 447 antenna.
Thanks to John and his
crew for all the hard

work they do to keep
everything running.
Stay Cool!

73 de KM6CXW
Keith Spears
Editor

President's Report

Dear Fellow PARC
Members,
We had a
successful Field Day a
few weeks ago, thanks
so much to each of you
who help with setup,
tear down, and came
out to operate - and to
Dennis KD6TUJ for

organizing it. Summer is
here and I hope
everyone has some
extra free time to get
on the air and operate,
we love to hear your
stories so if you go on
any DXpeditions or
other trips that revolve
around operating,

please take pictures and
send them along with
your story to
scope@palomararc.org.
That's all for now, see
you on July 11th at
ViaSat for our July
General meeting!
73 de K6JPE



Fireworks Trivia

1. The earliest documentation of fireworks dates back to 7th century China. They were invented more than 2000 years ago in China.
2. China is the largest manufacturer and exporter of fireworks in the world. 90% of all fireworks originate from here.
3. In 1240 the Arabs acquired knowledge of gunpowder. A Syrian named Hasan al-Rammah wrote of fireworks using terms that suggested he derived his knowledge from Chinese sources.
4. The first recorded fireworks in England were at the wedding of King Henry VII in 1486.
5. The biggest occasion for fireworks in the UK is Guy Fawkes Night (5th November). It is a celebration of the failing of the Gunpowder Plot on 5 November 1605, an attempt to kill King James I at the Houses of Parliament.
6. The largest firework rocket is 13kg and was produced and launched in Portugal in 2010.
7. Queen Elizabeth was so fascinated with fireworks that she created an honorary title, "Fire Master of England" for the individual who created the best fireworks.
8. Amédée-François Frézier published a "Treatise on Fireworks" in 1706, covering the recreational and ceremonial uses of fireworks. The book became a standard text for fireworks makers.



Board Members and Committee Chairs

Board of Directors

President	Joe Peterson, K6JPE	(619) 630-8283
Vice President	Charlie Riistorcelli, NN3V	(619-) 68-7617
Treasurer	Tom Ellett, W0NI	(858) 546-1148
Secretary	Tony Zuppero, K5TZ	
Director 1	John Kuivinen, WB6IQS	(760) 727-3876
Director 2	Greg Gibbs, K16RXX	(760) 583-9668
Membership Chair	Glen Christensen, A16RR	(858) 735-1144
Repeater Technical Chair	Mark Raptis, KF6WTN	
Scope Editor	Keith Spears, KM6CXW	(858) 472-8442 Text Welcome

Non Voting Members

Repeater Site Chair	Mark Raptis, KF6WTN	(Acting)
Webmaster	Guido Sansonia, NO6I	(760)-224-6824
Trustee	Michelle Thompson, W5NYV	mountain.michelle@gmail.com

Committee Chairs

Boy Scouts	Michael Palugod	mpalugod@yahoo.com
Digital ATV	Michelle Thompson, W5NYV	mountain.michelle@gmail.com
Echo Link	Bernie Lafreniere N6FN	N6FN@niftyaccessories.com
HF Remote	HF Remote SIG	hfremote@palomararc.org
Mesh Networking	Michelle Thompson, W5NYV	mountain.michelle@gmail.com
Operating Day	Tom Martin K6RCW	k6rcw@amsat.org
SANDARC Representative	John Walker AC7GK	ac7gkjohn@gmail.com
SANDARC Representative	Paul Williamson KB5MU	kb5mu@amsat.org
SD Microwave Group Liaison	Kerry Banke N6IZW	kbanke@sbcglobal.net

Palomar Amateur Radio Club, Inc.
May 2018

Income
Expense

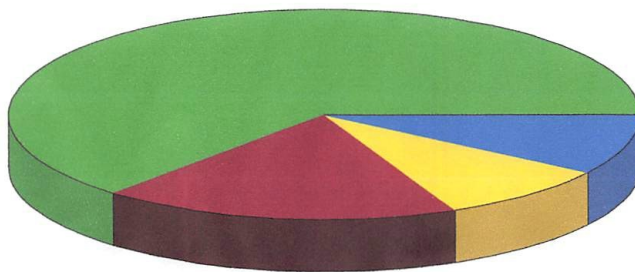
\$ in 1's
1,200
1,000
800
600
400
200
0

**Palomar Amateur Radio Club, Inc.
Income/Expense by Category
May 2018**

	May 18
Income	
Amazon Smile	44.62
Donations	311.00
Dues	774.76
Int Inc	8.62
Total Income	1,139.00
Expense	
Equipment Storage	245.00
Refund Dues	35.00
Rptr Electric	71.66
Rptr Phone	34.39
Total Expense	386.05
Net Income	752.95

Expense Summary
May 2018

Equipment Storage	\$245.00
Rptr Electric	71.66
Refund Dues	35.00
Rptr Phone	34.39
Total	\$386.05



By Account

July Program

In July KQ6RS (Randy Standke) will address the subject of Solar Panels in general. He will talk about the system level components of a solar power installation, the considerations about component quality and the intricacies of finding Solar Panel originated RFI. Randy has earned a solid reputation for this subject and has personal experience in driving manufacturers to comply with FCC regulations.



Scholarship Committee Report

Thanks to the incredible work by Gayle KG60, Michelle W5NYV, and Charlie NN3V we have funded a scholarship with ARRL Foundation under the Palomar Amateur Radio Club name! We will have further information on how your interested family and friends may apply, what the requirements are, and how the decision is made in the coming months. The first scholarship will be available for the 2018-2019 school year! We are still pushing for some additional funds to create a second scholarship, but that will be for the 2019-2020 school year. Keep an eye out for further information later in the year, and remember us when you're preparing your tax write-offs for 2018!

Upcoming Events

Wednesday, June 11th	7:30	PARC Meeting	VIASAT
Wednesday, July 18th	7:00	PARC Board Meeting	Poway Fire Station #3
Wednesday, August 1st	7:30	PARC Meeting	TBD
Wednesday, August 8th	7:00	PARC Board Meeting	Poway Fire Station #3

Repeater Status

This list includes W6NWX repeaters operated by PARC and other repeaters open to use by PARC members. All W6NWX repeaters are located on Palomar Mountain and are open to all amateurs.

Frequency	TX	Tone	Call sign	Remarks
52.680	-	107.2	W6NWX	Back on the air
146.730	-	107.2	W6NWX	System Fusion enabled. See Note 1
147.075	+	107.2	W6NWX	System Fusion enabled. See Note 1
147.130	+	107.2	W6NWX	System Fusion enabled. See Note 1
447.000	-	107.2	W6NWX	FM only for EchoLink Call Sign W6NWX
224.900	-	107.2	WD6HFR	Convair/220 ARC
224.380	-	107.2	KK6KD	HARS Hispanic Amateur Radio Society Open
224.940	-	107.2	KK6KD	HARS: Sharp Chula Vista Hospital, Open
145.260	-	107.2	KK6KD	HARS: San Diego Open
147.945	-	107.2	KK6KD	HARS: System Fusion Mt. Miguel Open
448.460	-	151.4	KK6KD	HARS: Mt. Miguel, San Diego Open
145.460	-	110.9	XE2DXA	HARS: Tijuana, Mexico Open
146.970	-	107.2	KA3AJM	Vista-Sponsored by MetroNET
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	-	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	s	N/A	W6NWX-1	Packet node; linked to metro 9600 net 1
146.700	-	N/A	W6NWX-3	Packet duplex repeater; Duplex 3

PARC operates an armature fast-scan television repeater. It's currently off the air. Currently there are not links to other ATV sites.

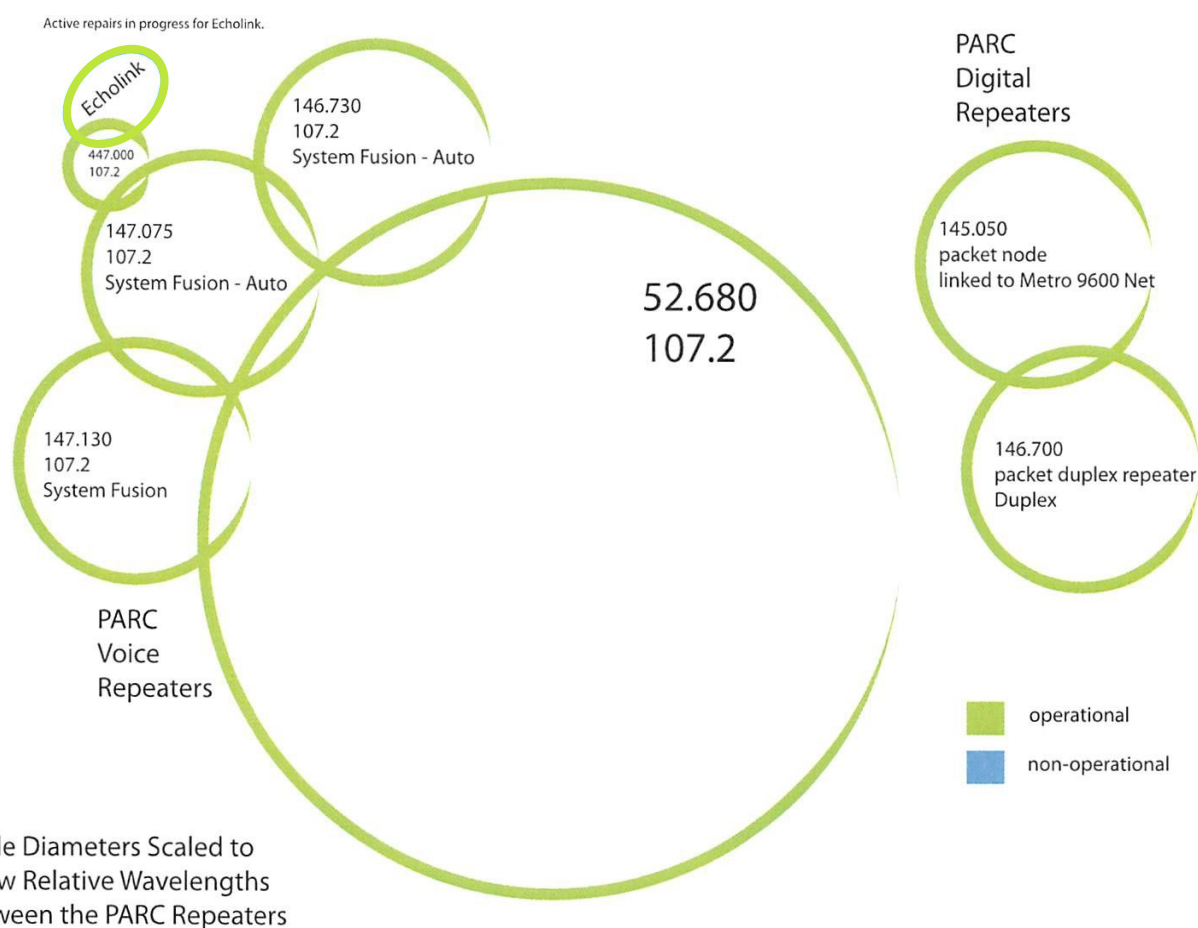
- ATV in: 915 MHz WBFM audio subcarrier 5.8 MHz
- ATV in 2441.5 MHz WBFM, audio subcarrier 6.0 MHz
- Intercom: 146.415 MHz NBFM simplex (tone 79.7). Currently not working.
- ATV out: 1241.25 MHz VSB, NTSC Standard

The PARC repeater site on Palomar Mountain is located at 5560 feet above mean sea level and 2132 above mean terrain. It covers most of San Diego County and beyond into Mexico and out to sea, and is shielded from the North.

Note 1: All Fusion enabled repeaters require a CTCSS tone of 107.2 Hz to access the repeater and also transmit a 107.2 Hz tone. Since the repeater output has a 107.2 tone you can enable CTCSS receive tone squelch on your transceiver which will eliminate interference from spurious noise and other repeaters. Control operators have the capability of setting the Fusion Repeaters to FM only operation. Consequently if you can't bring up the repeater in C4FM digital mode, try using normal FM mode. When in FM mode all Fusion repeaters have a 3 minute maximum transmit time, after which the repeater will cut off transmission until after the received signal drops. To prevent timing out the repeater after someone finishes talking, wait until you hear the courtesy beep which indicates that the 3 minute time has been reset. If a transmit timeout happens the repeater will provide a voice message indicating that the maximum transmit time has been exceeded.

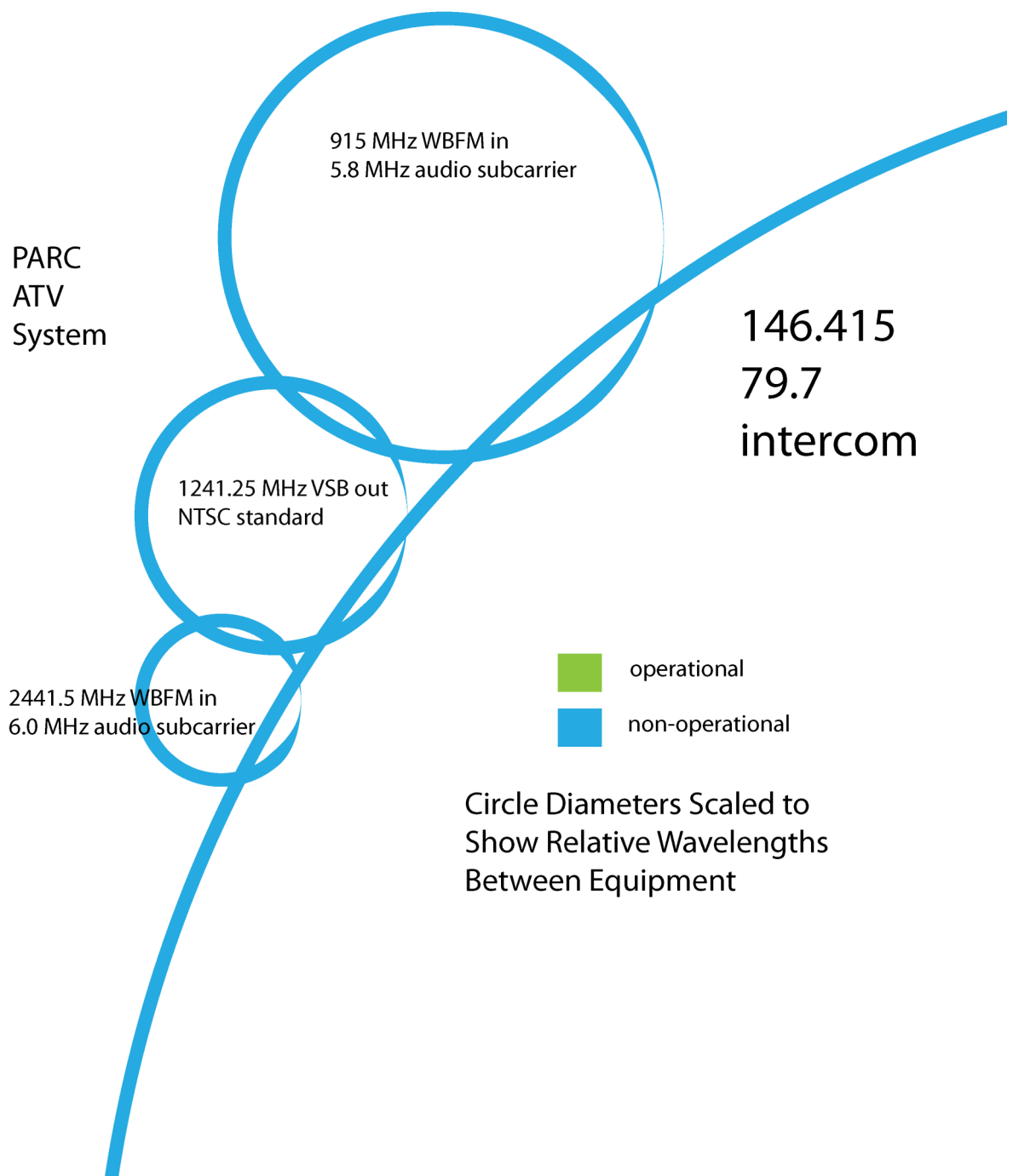
Note 2: PARC no longer operates an autopatch or packet BBS

Reported Repeater Status



Thanks to Michelle Thompson, W5NYV for the repeater status graphics.

Reported ATV Status



Membership Report

You can check the status of your membership 24/7 at Member List or go to the club's website and navigate to Join and click on "here" at the top of the page. Enter your call sign into the box and click the "Look up my membership status

now" button. To renew your membership or extend your membership, fill in the form on the Join page. Make sure you select the correct value from each of the drop-down menus (Type of Membership, How many years, I'm an ARRL Member,

Newsletter option and License Class). If you want to receive an email when your membership is coming due for renewal, please make sure that I have a valid email address for you. To do that, please send an email to Membership@palomararc.org.



Check the status of your membership 24/7 at [Member List](#). If you don't find your name and callsign on that page, then your dues have lapsed. If you have questions, send email to Membership@palomararc.org.

Donate to PARC by Shopping at Amazon

As publicized earlier this year, PARC is now a not-for-profit charity, and funds donated to PARC are deductible for income tax purpose if you itemize. PARC also announced

that in cooperation with Amazon, it is now possible to shop on Amazon at NO cost increase, and have Amazon distribute a percentage donation to PARC.

This is done by shopping on www.smile.Amazon.com. If you choose to avail yourself of this opportunity, when shopping on www.smile.amazon.com,



Polo Shirts

We're ordering Polo shirts! Some of you already have orders in with me from the last meeting, please be ready to pre-pay for them so we can get the order placed ASAP! We need

20 shirts to get the price I've been quoted. If we end up with 30+ then the price goes down and I'll have a little change for those who have pre-paid once your shirts come in! Base price: \$21.00 includes printing on the front, PARC logo on one

side and your name/ callsign over the pocket. Add \$2.00 for 2XL, \$3.50 for 3XL, or \$5.00 for 4XL. Add \$5.00 if you also want the logo printed large on the back.

73 de K6JPE



Antenna Replacement

The 447.000 MHz repeater's performance for a number of months has been very poor. During the winter I noticed that the output level was down and that the sensitivity was weak. Mark Raptis KF6WTN and I did a number of tests at ground level and verified that the coaxial cable and/or antenna was bad.

An "antenna party" was organized. I had a known good replacement antenna on site waiting to be installed. John NU6Y and Glen AI6RR joined in the fun.

John NU6Y removed the weatherproofing tubing and found water in the connector. We verified that the VSWR of the 447.000 antenna was terrible ($>3:1$) and that the coaxial cable power loss was also very bad. The antenna was lowered and I found a missing section of antenna matching harness (see pictures). Each dipole

element was connected to a hardline phasing harness and these sections are added together electronically to in-

crease the gain of the antenna. With a harness section missing the antenna is unbalanced and the output impedance is not to specifications.

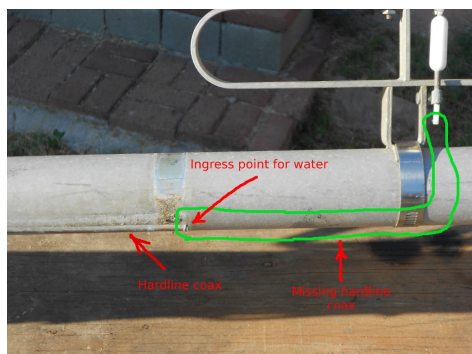
We replaced the antenna with a rebuilt Station Master Fiberglass antenna. However, the Andrews Helix coaxial cable was still very lossy. A nearby unused section

of 7/8" hardline was commandeered and we moved this feedline over to the 447.000 repeater's lightning arrestor. The new VSWR at the transmit frequency is 1.1:1 (nearly perfect) and initial test shows a big improvement in signal strength. The old 1/2" coaxial cable was "red tagged" and will eventually have to be removed from the tower.

A broken section of PVC pipe antenna was found to be unused and un-needed. It was evidently an experimental 6 meter vertical dipole. The 6 meter repeater now has its' own galvanized steel & stainless steel ground plane antenna mounted on a different tower at the site. These sections of PVC pipe were removed and discarded.

Many thanks to John NU6Y and Glen KI6RR for all their assistance.

John Kuivinen, WB6IQS



Field Day Wrap Up-Dennis KD6TU

Field Day has now passed. It was an enjoyable event, though the Club members put in a lot of work.

Palomar Amateur Radio Club was running 5A, SDG responses for the 24 hour period. That means there were 5 HF transmitters working from San Diego section. There were 74 sign ins over the three days, and more who did not sign in.

PARC was joined by Valley Center CERT members, who also brought their new communications vehicle. There was also a demonstration of equipment of the Coast Guard communication response trailer.

The site provided by Valley Center Municipal Water District is very visible to the public. Help also came from the Valley Center Fire Department.

Next year's Field Day is now in the recap/early planning stages. Let the Board or Field Day chair know of any concerns or comments to improve the event for the Club members and the public.

THANKS to all who helped and participated. Without YOU the Club event would not go as well.

Publicity was available in the online world through several news sources. (Three that I could find real fast are below.) This helped bring in community members to visit, ask questions, learn, and use amateur radio. One person who logged in was from Illinois. Others were a little closer, and we may see them again.

Field Day June 23rd & 24th Valley Center



Field Day Pictures



Don WD6FWE, Gregg KI6RXX and Dennis KD6TUJ discuss setting up an antenna



Glen AI6RR, and others take a break from all the hard work.



Richard KJ6WUY, and Don WD6FWE set up one of the antennas

Dennis KD6TUJ, Doug AI6QA, & Gregg KI6RXX work on finishing the setup



Field Day Pictures



Richard KJ6WUY,
Don WD6FWE

Dennis
KD6TUJ, Don
WD6FWE,
Tom KI6IET,
Mark
KF6WTN &
Brian KF6C
take a break.



Field Day Pictures



Richard
KJ6WUY &
Bob AK6R



Paul W6KI

Field Day Pictures



Don KD6FWE &
Jim NE6O



SCOPE
PUBLISHED BY THE
PALOMAR AMATEUR RADIO
CLUB

EDITOR
KEITH SPEARS
KM6CXW

Editorial Policy

The Scope welcomes and encourages members to submit articles, photos, stories, equipment reviews and any other items of interest to ham radio.

The Palomar Amateur Radio Club reserves the right to edit all submissions for content and length.

Please submit documents in MS Word format and photos as JPEG or GIF. Flyers may be submitted in PDF.

All submissions need to be received by the 20th of the month.

Send submissions to:

scope@palomararc.org



Palomar Amateur Radio Club

The Back page is a place for humor. If you have a joke, cartoon or just a fun story about ham radio, please share it with me. Please remember

4TH OF JULY TRIVIA

1. John Hancock was the only member of the Continental Congress to formally sign the Declaration of Independence on July 4th, 1776.
 2. The Fourth of July was not declared a federal holiday until 1938.
 3. The first White House Fourth of July party was held in 1804.
 4. Around 150 million hot dogs are consumed on Fourth of July (wonder if this statistic includes the hot dogs consumed during the annual Nathan's Fourth of July Hot Dog Eating Contest?)
 5. Back in 1776, when the Declaration of Independence was signed, 2.5 million new people lived in the U.S. Now 240 years later, 311 million live here
 6. The now American-celebrated song, Yankee Doodle, was originally written by officers of the British army to make fun of backwoods Americans.
 7. Three United States presidents died on the Fourth of July: John Adams, Thomas Jefferson, and James Monroe.
 8. July 4th is also celebrated in the Philippines, because in 1946, the country was recognized as an independent nation.
 9. In one year, \$600 million is spent on fireworks alone in the U.S.
- Most of the signers of the Declaration did not formally sign until August 2, 1776.
11. Though it is no treasure map as predicted by Nicholas Cage in "Treasure Hunt", the message "Original Declaration of Independence dated 4th July 1776" is written upside down on the back of the Declaration of Independence.
 12. More than 14,000 firework displays are put on across the country on Fourth of July!
 13. Bristol, Rhode Island is home to the world's oldest Independence Day celebration. It dates back to 1785!