MOUNTAIN
SPARK
GAPS

NPARC—The Radio Club for the Watchung Mountain Area

Website: http://www.nparc.org
Club Calls: N2XJ, W2FMI

UPCOMING EVENTS

Regular Meetings

Mon. 10/14 7:30
Recreation Dept. Conference room
10/28 7:30 PM
Salt Brook School Cafeteria

Holiday Luncheon
Saturday 12/9
Keep the Date Open

Meeting Schedule

Regular Meeting: 7:30—9:00 PM
2nd Monday of each month at the
Salt Brook School Cafeteria
Springfield Ave. and Maple St.
New Providence

Informal Project Meeting: 7:30—9:00 PM
4th Monday of each month at the
Salt Brook School Cafeteria
Springfield Ave. and Maple St.
New Providence

Everyone is Welcome
If a normal meeting night is a holiday,
we usually meet the following night.
Call the contacts below.
When Schools are closed,
Meetings are held in the Recreation
Department Meeting Room in Borough Hall

Club Officers for 2013
President: K2MUN David Berkley
908-500-9740
Vice President:KC2WUF David Bean
973-747-6116
Secretary: KC2HLA Hillary Zaenchik
908-244-6202
Treasure: K2YG Dave Barr
908-277-4283
Activities: W2PTP Paul Wolfmeyer
201-404-6914

On the Air Activities
Club Operating Frequency
145.750 MHz FM Simplex

Sunday Night Phone Net
Murray Hill Repeater (W2LI) at 9:00 PM
Transmit on 147.855 MHz
With PL tone of 141.3 Hz
Receive on 147.255 MHz
Net Control K2AL
Digital Net
First & Third Mondays 9 PM
Details as announced.

Club Internet Address
Website:http://www.nparc.org
Webmaster K2MUN David Berkley
Reflector: nparc@mailman.qth.net
Contact K2UI, Jim

MOUNTAIN SPARK GAPS
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Contributing Editors:
WB2QOQ Rick Anderson
WB2EDO Jim Brown

Weather data for August not currently available

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TEMPERATURE –
Maximum temperature this July, 98 deg. F
(July 19)
Last July(2012) maximum was      102 deg. F.
Average Maximum temperature this July, 87.9
deg. F
Minimum temperature for this July, 58 deg.
F (July 30)
Last July(2012) minimum was 61 deg. F.
Average Minimum temperature this July, 69.6
deg. F
Minimum diurnal temperature range,   7 deg.
(68-61 deg.) 7/25
Maximum diurnal temperature range, 24 deg.
(86-62 deg.) 7/27; (82-58 deg.) 7/30;

          (83-59 deg.) 7/31.


Average temperature this July, 78.8 deg. F
Average temperature last July, 78.0 deg. F

PRECIPITATION –
Total precipitation this July – 3.69" rain
Total precipitation last July – 2.29" rain

Maximum one day precip. event this July;
July 1, 1.09" rain.
Measurable rain fell on 13 days this July,
13 days last July.
This July there were 13 days of 90 degree
or higher temperatures.
There were two official heat waves; July 5-
9(5 days), 14-21(8 days).

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Rick Anderson
          8/1/13
243 Mountain Ave.
New Providence, NJ
(908)464-8912
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rick243@comcast.net
Lat = 40 degrees, 41.7 minutes North
Long = 74 degrees, 23.4 minutes West
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Elevation: 380 ft.
CoCoRaHS Network Station #NJ-UN-10
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PRESIDENTS COLUMN
By K2MUN

President's Column - David Berkley, K2MUN, September, 2013

This was a busy month since I unexpectedly gave two talks at NPARC meetings (September 9 and 23), about Propagation. Preparation for the talks pre-empted my original plans for this month's column.

The first talk (see http://nparc.org/2013/Propagation%20Talks%202013/ PropagationToolsPartI20130909.ppt.htm) introduced a number of propagation prediction tools including DX Toolbox (discussed briefly in August); VOACAP, a tool used for statistical prediction of propagation based on monthly average sunspot number and the N0NBH tool that appears on almost all of our NPARC website pages (lower left column). The latter two are free for online use and, in the case of VOACAP can be run locally as well. I also reviewed the basics of propagation that have been the subject of the past couple of columns.

The second talk (http://nparc.org/2013/Propagation%20Talks%202013/ PropagationToolsPartII20130915.ppt.htm) was intended to focus on how well the tools did and how they compared. Unfortunately, the Sun was very quiet, exceptionally so, in the middle of the month when I was attempting my experiments and this meant that statistical tools were at a disadvantage. It was also hard to do the experiments I had proposed. The result was that all I could do was confirm, at least for myself, that the tools are comparable and all are basically statistical in nature. That is, they can give an overall sense of what a month or a few weeks are going to be like but little in terms of real-time behavior.

Instead, I tried to answer the question: "What if you want to Know Now?" I.e. what real-time tools are available. My high-level answer is that spotting tools are the most effective. Also, I was reminded by a club member that there have been beacons around for many years. The first was operated in 1970 and there are now roughly 18 in operation in a coordinated worldwide network. I say 'roughly' since at any time there are several out of service for a variety of reasons. Local beacons are operated in various parts of the world, as well. There is a useful article on beacons in the amateur-radio-wiki at: http://www.amateur-radio-wiki.net/index.php?title=Beacon. Beacons can be tracked in realtime with a variety of tools including a dynamic Grayline map in DX Toolbox, which I demonstrated during the talk.

There are also a number of spotting networks used widely for DX'ing. Some of the most extensive are the DXSpider networks, which replaced packet clusters about a decade ago and which can be linked nation- and world-wide. Much of the input to the clusters is manual (although some automatic tools can post as well, such as CWSkimmer). In my talk, I spent more time discussing the newer spotting tools including WSPR, a network of very low power transmitters and receivers using weak signal software (from K1JT). The JT and PSK modes have their own spotting networks that have been brought together by VK3AMA in the HamSpots website which has a great variety of sections for other specialized modes and chat (http://hamspots.net/). My explanation of these tools was helped greatly by David, KC2WUF (our NPARC Vice President), who uses them extensively

The major problem with most of these spotting tools (much better with beacons and somewhat better with WSPR) is that the end conditions are generally random (e.g. power and antennas) and unknown. However, the conglomerate of the information can give a pretty good picture of what is open and where there is lively activity. Overall, my best advice is 'listen, look and enjoy!'

Much of the rest of my ham radio time this month, when not focussed on propagation experiments, has been trying to figure out why my antennas are behaving strangely. Again, part of this is a matter of having the proper tools and using them. If things pan out, I hope to talk about this in next month's column.

In the meantime, the Hudson Division Awards Luncheon is first week in November (11/2) and I hope that some of you will be going. Also make sure our NPARC Holiday Luncheon is on your calendars. This year the Luncheon will be held at Chimney Rock in Gillette, as it was last year, on Saturday, December 7. James, KB2FCV has been organizing and will send out more information shortly.

SCIENTIFIC TIDBITS

Fast 3D Chip Design

Chipmakers looking for ways to beef up performance may want to check out a new design. Today[s chips have millions of transistors on a sliver of silicon. Features are less than 200 atoms wide and scientists say they'll hit a "wall" soon because they will not be able to shrink chips without making them unstable. North Carolina State University scientists have created a chip design that looks like a "nano-shish-kebab. It comprises layers of materials spiked on a nanowire. The new 3D design will mean much faster chips in the very near future.

Animal Training

Mildly electrified fences have long been used to keep cattle from wandering. The U.S. Department of Agriculture wants to take it a step further; building virtual fences to lead cattle to water and food while at the same time provide feedback to ranchers. This system would require each animal to wear a wireless device that makes noise or gives a mild electric shock to guide the animal in the desired direction. It would also let the rancher keep track of each individual animal. I wonder if this system could be modified to work for young children.

Meteor Explosion

The recent meteor explosion in Russia and fly-by of Asteroid 2012 DA14, whose orbit will cross earth's orbit again in the future, raised fears about space object collisions. A team of scientists in Santa Barbara, California has for the past year been working on a proposal they call DE-STAR, that would use orbiting devices that harness solar energy to direct a massive laser impulse at an incoming object to destroy it or nudge it off course. That sounds wonderful, but the question immediately pops into mind concerning the military uses of such a "laser cannon." It sounds to me that such a device would go a long way to make an impenetrable missile shield. Since the idea has been released to the public, it is probably well along in development. Ah yes, Star Wars is really here!

Jim WB2EDO