Manhattan Area Amateur Radio Society

Monthly Newsletter — August 2010

MAARS Monthly Meeting
August 6 th 7:30 PM
Manhattan Church of Christ
2510 Dickens Ave.

The President's Corner

Brian Carter KC0DWX

I'd like to start off by apologizing for having to cancel last months meeting. It seemed like the thing to do as 3 our of the 4 officers would be unable to attend and thus the group didn't have access to the meeting location.

Next I'll bring to your attention that this month we are moving the meeting up a week. Our meeting is Friday the 6th of August, we will hope we are lucky enough that it isn't one of the hotter evenings we've seen lately.

Francis(W0EVJ) will be presenting a program on transitors for the group and I think most people will learn something if not a lot, Francis does a great job of explaining thing in his programs.

I suggest if you don't normally you keep an eye on the 27 day outlook, the sun seems to becoming more active which can mean some good things for those into radio propagation. However I've read some stories that suggest we are due for a huge solar maximum comparable to one that actually caused fires in equipment during the days of telegraph. That thought seems a bit scary with today's solid state electronics a communications methods. In today's world we have a lot of antennas connected to our homes that run for a great many miles.

I hope we will see many of you at the meeting on Friday and feel free to join us for dinner at the Sirloin Stockade at around 5:30 PM. If you aren't sure where to go jump on the repeater and ask for help.

73's
KC0DWX

Active Sun Could Cause Havoc

ARRL August 02, 2010

It was quite a busy weekend for our Sun. During the late hours of Friday, July 30, a magnificent coronal mass ejection (CME) billowed away from the eastern limb of the Sun; the source of the blast was apparently sunspot 1092. On Sunday, August 1 at approximately 0855 UTC, Earth-orbiting satellites detected a C3-class solar flare, and again, the blast came from sunspot 1092. At about the same time as the solar flare, an enormous magnetic filament erupted, stretching across the Sun's northern hemisphere, a complex global eruption involving almost the entire Earth-facing side of the Sun.

According to NASA, if a CME like this hit Earth, polar sky watchers would likely see bright auroras. In this case, however, the cloud is not aimed in our direction. At most, it would deliver a glancing blow to Earth's magnetic field around August 2, producing only minor geomagnetic activity. Future CMEs could be more geo-effective as the sunspot turns to face Earth in the days ahead. Auroras are glowing, dancing curtains of light that appear in the upper atmosphere of a planet and are caused by the interaction between the planet's magnetic field and charged particles from Earth's magnetosphere.

High speed coronal mass ejections produce major disturbances in the solar wind. Often loop-like in appearance, CMEs rise as massive clouds of material from the solar atmosphere. Dangerous, high energy, charged particles are often produced in these disturbances and, when they are directed toward Earth, often produce large magnetic storms in the magnetosphere.

A solar flare is an explosion

Continued on page 2

This Months Events

August

6 . . . . .MAARS Dinner Sirloin Stockade 5:30 PM
6 . . . . .MAARS Meeting 7:30 PM
13 . . . .The Palace 6:00 PM

Weekly Nets

MAARS 147.2550

Club net	
Tuesdays	9:00 PM CST
Youth net	
Thursdays	8:00 PM CST

27 Day Solar Predictions

Date	Flux 10.7 cm	A Index	Kp Index
Aug 04	82	22	5
Aug 05	84	25	5
Aug 06	84	12	3
Aug 07	84	7	2
Aug 08	84	5	2
Aug 09	80	5	2
Aug 10	78	8	3
Aug 11	78	8	3
Aug 12	78	8	3
Aug 13	80	5	2
Aug 14	82	5	2
Aug 15	86	5	2
Aug 16	86	5	2
Aug 17	86	5	2
Aug 18	86	5	2
Aug 19	86	5	2
Aug 20	84	5	2
Aug 21	84	5	2
Aug 22	84	8	3
Aug 23	83	15	4
Aug 24	83	10	3
Aug 25	85	8	3
Aug 26	85	5	2
Aug 27	82	5	2
Aug 28	80	5	2
Aug 29	80	5	2
Aug 30	80	5	2

Solar Flux: This flux number is measured from the amount of radiation on the 10.7cm band (2800MHz). It is closely related to the amount of ultraviolet radiation, which is needed to create an ionosphere. The lowest possible number for this solar flux is 63.75. Single hop propagation already starts at 70 in lower latitude areas. Worldwide long distance propagation (DX) may turn up already with a solar flux at 120. From experience, an average solar flux of 170 seems to be ideal for 10m-20m bands QRP DX with good possibilities during these conditions to reach every possible part of the globe with a simple dipole running as low as 5 Watts!

Your membership in MAARS is important to help keep the club alive and maintain equipment. If you haven't already done so please consider joining MAARS at a prorated fee. We also have a student rate available. Dues should be mailed to MAARS, P.O. Box 613, Manhattan, KS 66505.

THE TREASURER'S REPORT
July 1st 2010 to August 1st 2010
Submitted by: Christine Chainey KCØYJN, Treasurer

As of July 1, 2010

Cash on Hand	$110.00
Checking account	$153.35
Savings account	$1,087.02
TOTAL	$1,350.37

Expenditures:

AT&T	$35.68
Marsh	$85.00

As of August 1, 2010

Cash on Hand	$110.00
Checking account	$ 32.67
Savings account.	$1,087.02
TOTAL	$1,229.69

Continued from page 1

on the Sun that happens when energy stored in twisted magnetic fields (usually above sunspots) is suddenly released. Flares produce a burst of radiation across the electromagnetic spectrum, from radio waves to x-rays and gamma-rays. Scientists classify solar flares according to their x-ray brightness in the wavelength range 1-8 Angstroms. There are 3 categories: X-class flares are big; they are major events that can trigger planet-wide radio blackouts and long-lasting radiation storms. M-class flares are medium-sized; they can cause brief radio blackouts that affect Earth's polar regions and minor radiation storms sometimes follow an M-class flare. Each category for x-ray flares has nine subdivisions (C1-C9, M1-M9 and X1-X9). Compared to X- and M-class events, C-class flares are small with few noticeable consequences here on Earth.

According to Spaceweather.com, the timing of these events suggests they are connected, and a review of movies from NASA's Solar Dynamics Observatory (SDO) strengthens that conclusion. Despite the ~400,000 km distance between them, the sunspot and filament seem to erupt together; they are probably connected by long-range magnetic fields. In this movie (171 Å) from SDO, a shadowy shock wave (a "solar tsunami") can be seen emerging from the flare site and rippling across the northern hemisphere into the filament's eruption zone. That may have helped propel the filament into space.