Does this really need a caption?

The Aero Aerial

The Newsletter of the Aero Amateur Radio Club
Middle River, MD
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Editor Georgeann Vleck KB3PGN

Website: http://w3pga.org
Facebook: https://www.facebook.com/pages/Aero-Amateur-Radio-Club/719248141439348

About the Aero Amateur Radio Club

Meetings

The Aero Amateur Radio Club meets at 7:30 pm on the first and third Wednesdays of the month at Essex SkyPark, 1401 Diffendall Road, Essex. Meetings begin at 7:30 p.m. local time. Meetings are canceled if Baltimore County Public Schools are closed or dismiss early.

Repeaters

W3PGA **2 M :** INPUT : 147.84 MHz, OUTPUT : 147.24 MHz, PL 123.0
W3PGA **70 Cm:** INPUT : 444.575 MHz, OUTPUT : 449.575 MHz, PL123.0
W3JEH **1.25 M:** INPUT : 222.24 MHz, OUTPUT : 223.84 MHz

Club Nets

Second Wednesday Net – 70 Centimeters (449.575 MHz Repeater) @ 8 p.m. Local Time
Fourth Wednesday Net – 2 Meters (147.24 MHz Repeater) @ 8 p.m. Local Time
Fifth Wednesday Net – 10 Meters (28.445 MHz) @ 8 p.m. Local Time

Radio License Exams

The Aero Amateur Radio Club sponsors Amateur Radio License Exams with the ARRL VEC. Examination sessions are throughout the year. Walk-ins are welcome; arrive no later than 30 minutes after start time. $15 charge.

2019 Examination Schedule

Time:	1:15 pm		
Dates:	Sunday, Sept. 22		
Where:	White Marsh Library		

White Marsh Library, 8133 Sandpiper Circle, White Marsh, MD
Contact: Patricia Stone AC3F, email: ac3f@juno.com, landline: 410-687-7209

LOCAL AREA NETS

Day	Time	Freq. (MHz)	Net Name
Daily	9 – 10 am	145.330	Oriole Net
Daily	6 pm	3.820	Maryland Emergency Phone Net
Daily	6:30 – 7 pm	145.330 no PL	Balto. Traffic Net (b/u 146.670 PL 107.2)
Daily	7 pm & 10 pm	3.643	MD/DC/DE Traffic Net
2nd Tue	7:30 pm	146.670	Baltimore County RACES Net
2nd Wed	8 pm	28.445	Aero ARC Net
4th Wed	8 pm	147.240	Aero ARC Net
5th Wed	8 pm	449.575	Aero ARC Net
Fridays	7:30 pm	145.330	Back in the Day Net
When activated by NOAA		147.030	SkyWarn (primary)

Reminder: New club net schedule

OLD Net	New Net
2nd Wed 10 meters	2nd Wed 440 Net
4th Wed 2 meter net	4th Wed 2 meter net
5th Wed 440 net	5th wed 10 meter net

Any questions pls give Joe Miko a call. 443-956-0197

Upcoming Aero Club Events

Saturday, September 14: Essex Skypark Wings and Wheels Fly-In
This event has airplanes and vintage cars on display. There are aircraft rides for a fee, and food for sale. The Aero Club will also set up a communications display, running a radio, and information on Skywarn. We also need Aero member support for this event to staff and setup and breakdown. Cost is $5.00 a carload.

Hamfests

10/06/2019, 6 am – 2 pm, CARAFest 2019
Location: Howard County Fairgrounds, 2210 Fairgrounds Road, West Friendship, MD 21794
Website: http://www.carafest.org
Sponsor: Columbia Amateur Radio Association
Type: ARRL Hamfest
Talk-In: 147.390/R+ (PL 156.7)
Public Contact: David Parkison , KB3VDY, P.O. Box 911 Columbia , MD 21044, 410-977-1249
Email: vendorsales@carafest.org

10/27/2019, Mason Dixon Hamfest/Convention
Location: Sportsman's Hall Roller Skating Center, 15500 Hanover Pike, Upperco, MD 21155
Website: https://k3pzn.net/hamfest/
Sponsor: Carroll County Amateur Radio Club
Type: ARRL Hamfest
Talk-In: 145.410 (PL 114.8)
Public Contact: Rich Mitchell, N3III, 1722 Brooks Rd., Freeland, MD 21053, 443-280-1871
Email: n3iiipa@gmail.com

For further information go to:
http://www.arrl.org/hamfests-and-conventions-calendar

NET REPORTS

7-4-19: 449.575r, 20:00 to 20:21 local.

W3PGA NCS Joe Essex, N3RES Ray Baltimore Co, AC3EO Dave Baltimore City, AC3F Pat Middle River, KB3QWC Larry Middle River, KC3FBM Franklin Parkville, W3JEH Ron Perry Hall

7 members on the net

7-17-19: 147.24r, 20:00 to 21:02 local.

W3PGA NCS Joe Essex, W3JEH Ron Perry Hall, KB3QWC Larry Middle River, KB3JVP Ken Middle River, AC3DX William Rosedale, KC3CMS Dan Baltimore City, KC3NMT Lou Baltimore City, K3TEL Arnold Towson, N2NFR David Mt. Washington, Balto City, TD3TP Steve Harford Co

10 radio operators on the net

7-31-19: 28.445 MHz, 20:00 to 20:05 local.

The Aero ARC did not have a full 10 meter net on 7/31. I brought up the net at 20:00 Pat AC3F checked in and reported lighting strikes on her weather station. She listened for other stations "None on the Air" the net was closed at 20:05 due to the impending weather conditions. *Joe*

VE CORNER

by Pat Stone, AC3F

The AERO VE Team held annual Field Day session of 2019 on June 22nd. We served 5 applicants. Congratulations to new Extra Scott Hutchinson KA2MXV and new Techs: Dan Prince KN4VMM, Kay Hutchinson KN4VMN, Kevin Kreiner KC3NSJ, and Grun Von Jolt KC3NSK.

Many thanks to VEs Dave KB3KRV, Richard KB3VAE, Steve KD3TP, Jim KC3FBL Frank KC3FBM, Lou AB3QK, and Dave AC3EO who served his first session with us. It's always a pleasure working with all of you. We can't do this without you folks.

Our next test session will be held on Sunday, September 22nd, at 1:15pm at the White Marsh Library. Hope to see you then.

Feature Article

Climate vs. Weather

Weather is the day-to-day state of the atmosphere in a region, and its short-term (minutes to weeks) variation whereas **Climate** is defined as statistical weather information that describes the variation of weather at a given place for a specified interval. They are both used interchangeably sometimes but differ in their measure of time, and trends that affect them.

Weather is the combination of temperature, humidity, precipitation, cloudiness, visibility, and wind. In popular usage, climate represents the synthesis of weather; more formally it is the weather of a locality averaged over some period (usually 30 years) plus statistics of weather extremes.

In a 2012 survey, a majority of Americans blamed global warming (or "climate change") for erratic weather patterns in the country, especially heat waves.

Time factor in climate and weather

The difference between weather and climate is a measure of time. Weather refers to the atmospheric conditions of a specific place over a short period of time, usually 24 hours. Climate refers to the average atmospheric conditions over relatively long periods of time, usually 30 years. In other words, when one talks about the climate, then they're talking about the pattern over a long term while when weather is referred to then the conditions of short term are being spoken of.

Components of weather and climate

There are several aspects to weather. Weather includes **sunshine**, rain, cloud cover, winds, hail, snow, sleet, freezing rain, flooding, **blizzards**, ice storms, **thunderstorms**, steady rains from a cold front or warm front, excessive heat, heat waves and more. Climate may include precipitation, temperature, humidity, sunshine, wind velocity, phenomena such as **fog, frost**, and hail storms **over a long period of time.**

Comparison chart

	Climate	Weather
Definition	Describes the average conditions expected at a specific place at a given time. A region's climate is generated by the climate system, which has five components: atmosphere, hydrosphere, cryosphere, land surface, and biosphere.	Describes the atmospheric conditions at a specific place at a specific point in time. Weather generally refers to day-to-day temperature and precipitation activity
Components	Climate may include precipitation, temperature, humidity, sunshine, wind velocity, phenomena such as fog, frost, and hail storms over a long period of time.	Weather includes sunshine, rain, cloud cover, winds, hail, snow, sleet, freezing rain, flooding, blizzards, ice storms, thunderstorms, steady rains from a cold front or warm front, excessive heat, heat waves and more
Forecast	By aggregates of weather statistics over periods of 30 years	By collecting meteorological data, like air temperature, pressure, humidity, solar radiation, wind speeds and direction etc.
Determining factors	Aggregating weather statistics over periods of 30 years ("climate normals").	Real-time measurements of atmospheric pressure, temperature, wind speed and direction, humidity, precipitation, cloud cover, and other variables
About	Climate is defined as statistical weather information that describes the variation of weather at a given place for a specified interval.	Weather is the day-to-day state of the atmosphere, and its short-term (minutes to weeks) variation
Time period	Measured over a long period	Measured for short term
Study	Climatology	Meteorology

Changes in climate vs. weather

Weather may change from minute-to-minute, hour-to-hour, day-to-day, and season-to-season. Climate, however, is the average of weather over time and space and changes in overall climate tend to be gradual.

Forecast and Measurement

Weather forecasts are made by collecting data that describe the current state of the atmosphere (particularly the temperature, humidity and wind) and using physically-based mathematical models to determine how the atmosphere is expected to change in the future. The chaotic nature of the atmosphere means that perfect forecasts are impossible, and that forecasts become less accurate as the range of the forecast increases. Climate is measured based on the weather statistics. A general period of 30 years is taken to forecast climate of an area as patterns over a period of time have to be observed. The standard classification of the earth's climatic zones is mainly based on the annual cycles of temperature and rainfall. The time frame makes it possible for weather forecasts to usually be easier and more accurate than forecasts about climate change.

Human impact and changes on climate and weather

There is extensive evidence that human activity such as agriculture and industry results in inadvertent weather modification. Acid rain, caused by industrial emission of sulfur dioxide and nitrogen oxides into the atmosphere, adversely affects freshwater lakes, vegetation, and structures. Anthropogenic pollutants reduce air quality and visibility. The effects of inadvertent weather modification over the long term may pose serious threats to many aspects of civilization, including ecosystems, natural resources, food and fiber production, economic development, and human health. Climate change caused by human activities that emit greenhouse gases into the air is expected to affect the frequency of extreme weather events such as drought, extreme temperatures, flooding, high winds, global warming and severe storms. Global Warming is often euphemistically referred to as “Climate Change”.

Study of climate vs. study of weather

Climatology is the study of climate, scientifically defined as weather conditions averaged over a period of time and is a branch of the atmospheric sciences. Meteorology (from Greek: μετέωρον, meteoron, "high in the sky"; and λόγος, logos, "knowledge") is the interdisciplinary scientific study of the atmosphere that focuses on weather processes and forecasting.

References

- http://www.nasa.gov/mission_pages/noaa-n/climate/climate_weather.html
- http://nsidc.org/arcticmet/basics/weather_vs_climate.html
- http://www.mpimet.mpg.de/en/presse/faq-s/was-ist-der-unterschied-zwischen-wetter-und-klima.html
- http://en.wikipedia.org/wiki/Weather#Weather_modification_and_human_impact
- http://en.wikipedia.org/wiki/Climate#Climate_change

Statistics compiled by Joe Miko:

Aero ARC W3PGA Field Day Weather

updated-06-26-2019

Year	Date	Temp			Date	Temp			Notes	
		Low - Hi	Prec	Wind		Low - Hi	Prec	Wind		
	Sat				Sun					
1970	6/27	64 - 74	0	11 - 18	6/28	53 - 79	0	6 - 12		
1971	6/26	73 - 90	0.01	6 - 8	6/27	69 - 91	0	5 - 8	R1	
1972	6/24	51 - 73	0.03	10 - 14	6/25	57 - 72	0.07	8 - 14	R2	
1973	6/23	64 - 81	0.09	4 - 13	6/24	64 - 79	0	5 - 12	R1	
1974	6/22	68 - 86	0	9 - 14	6/23	61 - 69	0.51	10 - 17	R1	
1975	6/28	70 - 82	0.61	5 - 12	6/29	69 - 79	0.50	5 - 16	R2	
1976	6/26	72 - 89	0.02	9 - 14	6/27	64 - 91	0.05	7 - 12	R2	
1977	6/25	66 - 78	0.04	7 - 12	6/26	66 - 87	0	6 - 16	R1	
1978	6/24	61 - 82	0	6 - 13	6/25	59 - 84	0	4 - 12		
1979	6/23	66 - 84	0.21	9 - 15	6/24	55 - 72	0.21	9 - 14	R2	
1980	6/28	68 - 90	0	6 - 15	6/29	71 - 91	1.12	5 - 9	R1	
1981	6/27	55 - 78	0	8 - 14	6/28	55 - 82	0	6 - 10		
1982	6/26	66 - 86	0	5 - 10	6/27	64 - 87	0	5 -10		
1983	6/25	66 - 84	0	8 - 16	6/26	57 - 84	0	5 - 10		
1984	6/23	62 - 75	0	6 - 10	6/24	68 -78	0.50	9 - 18	R1	
1985	6/22	60 - 82	0	7 - 15	6/23	68 - 84	0.01	7 - 13	R1	
1986	6/28	73 - 86	0	11 - 17	6/29	73 - 93	0	10 - 20		
1987	6/27	70 - 84	0.16	7 - 20	6/28	55 - 80	0	8 - 14	R1	
1988	6/25	61 - 84	0	8 - 17	6/26	68 - 93	0	12 - 22		
1989	6/24	69 - 82	0	5 - 13	6/25	68 - 88	0	3 - 7		
1990	6/23	69 - 84	0.01	5 - 14	6/24	62 - 78	0	8 - 16	R1	
1991	6/22	66 - 78	0.01	7 - 16	6/23	61 - 66	0.08	10 - 14	R2	
1992	6/27	62 - 84	0	8 - 17	6/28	61 - 84	0	8 - 12		
1993	6/26	62 - 90	0.03	9 - 17	6/27	66 - 91	0.09	7 - 10	R2	
1994	6/25	72 - 89	0	9 - 21	6/26	64 - 90	0	8 - 16		
1995	6/24	66 - 81	0.38	7 - 10	6/25	72 - 88	0.15	5 - 10	R2	
1996	6/22	64 - 90	0	4 - 10	6/23	64 - 84	0	6 - 13		
1997	6/28	57 - 88	0	2 - 9	6/29	61 - 87	0	3 - 10		
1998	6/27	72 - 90	0	6 - 20	6/28	66 - 80	0.07	8 - 16	R1	N/A
1999	6/26	66 - 90	0	3 - 12	6/27	68 - 87	0	3 - 12		
2000	6/24	64 - 86	0	3 - 10	6/25	73 - 90	0	6 - 14		
2001	6/23	66 - 78	0.27	8 - 12	6/24	61 - 82	0	4 - 9	R1	
2002	6/22	61 - 86	0	3 - 10	6/23	61 - 90	0	4 - 12		
2003	6/28	64 - 82	0	5 - 8	6/29	68 - 87	0	4 - 9		
2004	6/26	61 - 81	0.01	5 - 14	6/27	55 - 81	0	5 - 14	R1	
2005	6/25	64 - 91	0	6 - 14	6/26	65 - 90	0	5 - 13		
2006	6/24	71 - 87	0.53	14 - 22	6/25	69 -78	2.71	5 - 13	R2	
2007	6/23	50 - 82	0	4 - 15	6/24	57 - 85	0	5 - 14		
2008	6/28	68 - 90	T	4 - 33	6/29	69 - 88	T	5 - 20	T2	
2009	6/27	67 - 85	0	6 - 16	6/28	61 - 80	T	3 - 13	T1	

2010	6/26	67 - 94	0	3 - 12	6/27	72 - 100	0	6 - 18		
2011	6/25	68 - 83	0	7 - 14	6/26	60 - 84	T	4 - 15	T1	Canceled grass
2012	6/23	68 - 90	0.11	4 - 15	6/24	64 - 92	T	4 - 13	R1T1	W48
2013	6/22	61 - 86	0	4 - 13	6/23	66 - 83	0.04	4 - 9	R1	W48
2014	6/28	62 - 82	0	3 - 10	6/29	59 - 82	0	3 - 10		W48
2015	6/27	64 - 70	3.11	9 - 21	6/28	63 - 77	T	8 - 21	R1T1	W48
2016	6/25	69 - 82	0	7 - 14	6/26	59 - 84	0	3 - 13		W48
2017	6/25	63 - 86	0	20 - 26	6/26	58 - 82	0	17 - 22		W48
2018	6/23	66 - 80	0.06	5 - 15	6/24	66 - 89	0.08	5 - 23	R2	W48
2019	6/22	83 - 59	0	13 - 25	6/23	83 -59	0	5 - 13	0	W48
2020										
2021										

> 4" Rain

Weather Data from "Weather Underground" or "BWI NWS Stats"
Event Dates 1970 thru Present Early Summer
R Rain one day R2 Rain two days T Trace < 0.01 inch

From the Skies over Mt. Essex

SKY Events for August 2019

Aug 1st – New Moon, First flight of the SR-71 in 1955

Aug 7th – First Quarter Moon

Aug 9th - Jupiter 2° S of the Moon, Mercury greatest elongation W (19°) 19:00 EDT (23 UT)

Aug 12th- Saturn 0.04° N of Moon 06:00 EDT, Pluto 0.1 S° Moon at 19:00 EDT.

Aug 13th – Perseid meteors peak.

Aug 15th - Full "Dog Day's " Moon, for Traditional and the "Moon when things ripen " for the Dakota Sioux American Indian.

Aug 23rd – Last Quarter Moon

Aug 24th – Pluto downgraded from Planet to Dwarf Planet in 2006.

Aug 28th – Moon 0.3° N in Beehive Cluster (M44) 08:00 EDT

Aug 30th – New Moon (2nd New Moon in a month called a "Black Moon")

.Planet Lookout at mid-Month

Sunrise 06:18 EDT and Sunset 19:54 EDT

Mercury Morning Rise 04:52 EDT, Sets 19:00 EDT**;**
Mag - 0.6 and 6.5 arc seconds.

Venus Evening Rise 06:19 EDT, Sets 20:00 EDT,
Mag -3.9, Arc Sec 9.7

Mars Too close to the Sun to be seen.

Jupiter Evening, rises 15:28 EDT, Sets 1:13 EDT;
Mag-2.3 size 41.0 arc seconds.

Saturn Evening. Rises 17:39 EDT Sets 03:23 EDT;
Mag 0.2 size 18.1 seconds.

Uranus Evening 22:59 EDT Sets 12:29 EDT;
Mag 5.8 size 3.3 arc seconds.

Neptune Morning Rises 20:57 EDT Sets 08:26 EDT;
Mag +7.9 size 2.4 arc seconds

When Is The Next Black Moon?

There are several definitions of a Black Moon. It can be the third New Moon in an astronomical season with four New Moons or the second New Moon in the same calendar month. Same Rules as for a Blue Moon!

Black Moon is not a well-known astronomical term. In recent years, the term has been made popular by social media, astrologers, and followers of the Wiccan religion.

No Single Definition

There is no single accepted definition of a Black Moon. The term has been commonly used to refer to any of the following phenomena associated with the New Moon:

Second New Moon in the same month: These Black Moons are the most common ones, and they occur about once every 29 months. Because of time zone differences, the month they happen in can vary, like the Black Moon in August 2019.

Third New Moon in a season of four New Moons: These Black Moons are a little rarer, and occur about once every 33 months. We divide a year into four seasons - spring, summer, fall (autumn), and winter. Usually, each season has three months and three New Moons. When a season has four New Moons, the third New Moon is called a Black Moon. This is the exact counterpart to the original definition of a Blue Moon, except that Blue Moons are Full Moons.

No New Moon in February: About once every 19 years, there is no New Moon in February. This can only happen in February, as this is the only month which is shorter than a lunar month (lunation). When this occurs, both January and March have two New Moons, instead of just one, which is the norm.

No Full Moon in February: About once every 19 years, February does not have a Full Moon. Instead, there are two Full Moons in January and March, also known as a double Blue Moon.

The next Black Moon by this definition will occur in 2037, while the last one was in 2018. Because of time zone differences, these Black Moons may not happen all over the world.

Next Black (New) and Blue (Full Moons)*

August 2019	October 2020
April 2022	August 2023
December 2024	May 2026
August 2027	December 2028

*USNO Phases of the Moon 2019-2029