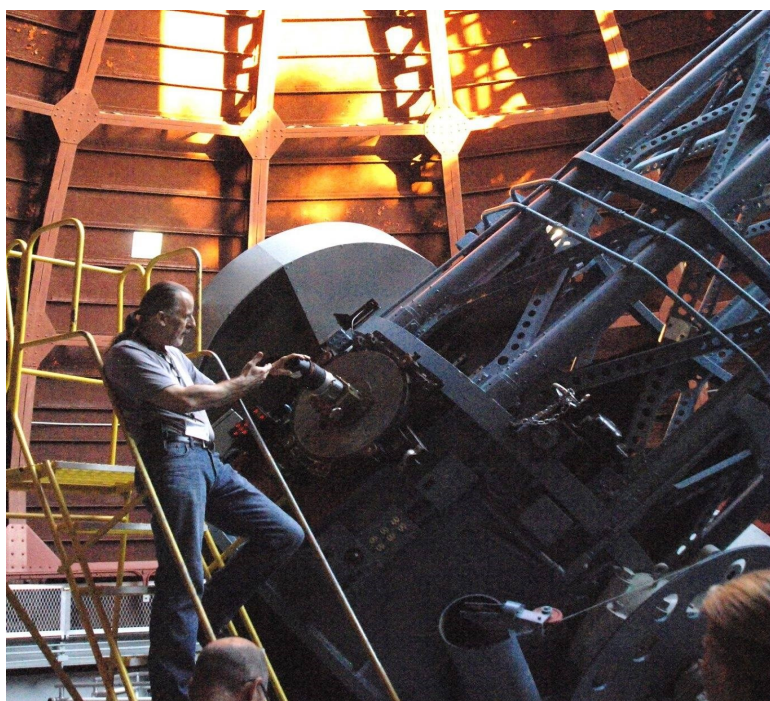




# THE LOS ANGELES ASTRONOMICAL SOCIETY

MARCH 2023  
VOLUME 97, ISSUE 3

# THE BULLETIN



The image above shows our club president and Mt. Wilson Coordinator, Darrell Dooley working on the 60 Inch telescope in 2017.

Learn more about 60 and 100 Inch Nights at Mt. Wilson on Page 2. These special nights are available for all club members and friends.

## Upcoming Club Events

- Board Meeting, Mar. 8**
- General Meeting, Mar. 13**
- Dark Sky Night: Mar..18**
- Public Star Party: Mar. 25**

## In This Issue

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## Update Your Contact Information

Please send any contact info changes to the club secretary at

[secretary@laas.org](mailto:secretary@laas.org).

**Garvey Nights** -The Garvey Ranch Observatory is open to the public every Wednesday night from 7 PM to 10 PM, weather permitting. Masks are required inside the facilities.

# Mt. Wilson Nights - Schedule For 2023

## 60 Inch and 100 Inch Nights

### 60 Inch Dates:

**(All on Saturday and are HALF-nights only.)**

April 22

May 20

June 17

July 15

August 12

September 16

October 14

### 100 Inch Nights:

April 15

September 9



### The Cost per person, per session:

60 Inch Night - \$65.00

100 Inch Night - \$145.00 (Booked/Waiting List only)

There will be 20 people, per session.

Learn more about these incredible events by visiting Mt. Wilson Observatory's website:

<https://www.mtwilson.edu/60-telescope/>

<https://www.mtwilson.edu/100-telescope-observing/>

### How to Make a Reservation?

Please contact Darrell Dooley **BEFORE** you pay for your reservation.

*Darrell is our Mt. Wilson Coordinator and the **ONLY** contact available.*

Darrell's Email Address:

[Mtwilsoncoordinator@laas.org](mailto:Mtwilsoncoordinator@laas.org)

*Darrell will answer all of your questions and concerns.*

Reserve your spot by paying by credit cards or PayPal using the following link:

<https://fs30.formsite.com/LAAS/MtWilson/index.html>

# Crackling Solar Storms Spew Plasma & Charged (Ionized) Particles

By Ray Blumhorst

With increased sunspot activity now raging, solar astronomers are having greater astro-imaging opportunities. Unfortunately for some, trying to capture these events can be challenging to their skills and their luck. But the possibilities are abundantly there – at least for a little while.



Sunspots in the solar photosphere swim in a hellish sea of roiling, undulating granulation.

You don't have to be a professional solar astronomer to record recent solar activity. All you'll need is a good small telescope like a 6-inch refractor, a tracking mount, a white light solar filter, a good DSLR camera, and of course adherence to all safety rules for solar observing and imaging. The heliopod solar finder, or a similar solar finder, will protect precious eyesight, while bringing the solar image safely onto the DSLR screen.

Getting all details ironed out to where you're getting on target, in focus, and successfully capturing images can be challenging so patience and some fine-tuning will likely be required. All images in this article were taken 02-09-2023 with the camera set to ISO 100 and the shutter speed set to 1/4000.



Sunspots tend to form closer to equatorial regions than the sun's poles, roughly between  $\pm 40^\circ$  latitude.

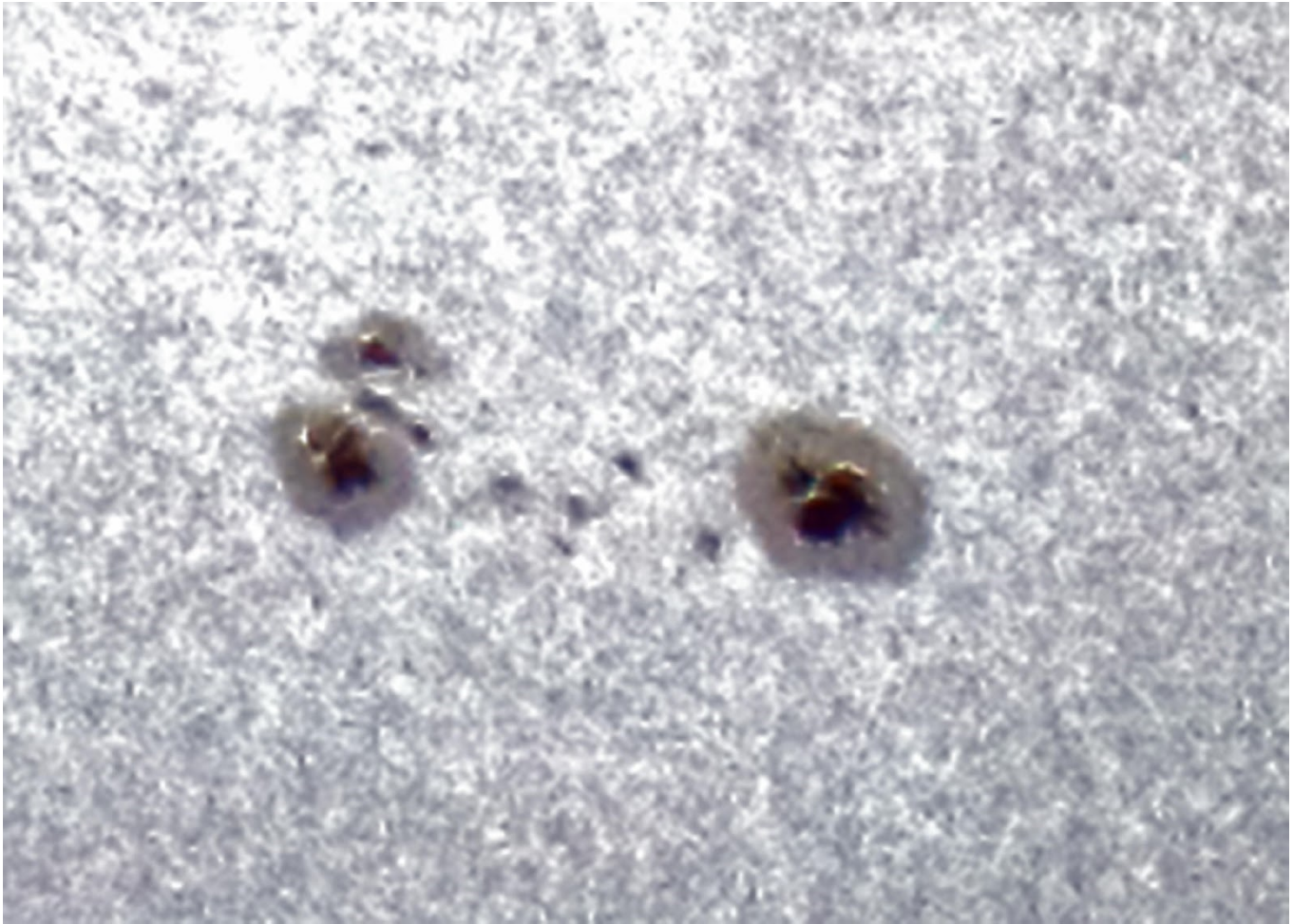
“Sunspots appear relatively dark because the surrounding surface of the sun (the photosphere) is about  $10,000^\circ\text{F}$ ., while the [sunspot] umbra (center of the sunspot) is about  $6,300^\circ\text{F}$ ,” said the National Weather Service. “Sunspots are quite large as an average size is about the same size as the Earth.”

Due to the sun being a fluid in its outer shells, and not a solid, it rotates at different rates at different latitudes. Looking down on the sun from above, the sun rotates counterclockwise and completes one rotation every 35 days at the poles and every 25 days at the equator.

Due to the rate of rotation differing at different latitudes, magnetic fields are present on the sun. The rotation causes the magnetic field lines to get “twisted,” resulting in sunspots with positive and negative magnetic/electrical poles. That’s the simple explanation, for sunspots. Covering all their details would require a far more complex explanation.



Facula (singular) are very faint, wispy, cloud-like features seen in active solar regions. They are pale splotches of off-white against the darker background of the solar surface and are most noticeable near the limb (edge) of the sun where they rotate into view, or rotate out of view. The limb of the sun is darker than the rest of the solar surface thus aiding the visibility of the lighter and whiter faculae (plural).



Very small, but very bright white markings within crackling sunspots are actually micro flares. Within 24 hours of micro flares appearing in this very active region of the sun, “material from a northern prominence broke away from the main filament & was circulating in a massive polar vortex around the north pole of our star,” according to Spaceweather.com.

With our star’s solar maximum still not at its peak, more sensational events like these will likely occur in the months ahead.

“The latest forecast says that solar maximum—when the number of sunspots peaks and our star is at its most active—will occur between November 2024 and March 2026, but most likely around July 2025,” said Forbes.com’s Jamie Carter. “It now looks more like November 2024.” <https://tinyurl.com/mt9ummus>

# Comet 2022 ED

## By Spencer SooHoo



I had an hour or so before moonrise so I tried to image Comet/2022 E2 (the Green Comet) from my driveway under Bortle 6 skies. I was pleasantly surprised to catch the comet and Mars. (The Bortle scale is a measure of light pollution and goes from 1 to 9. Lockwood is about Bortle 3 and downtown LA is a 9. The 2nd image was taken at Lockwood 2 weeks ago.

Photo Credit: Spencer SooHoo

Feb. 9, 2023

# Monthly Sky Report

By Dave Nakamoto

This month Daylight Saving Time begins at 2:00 a.m., PST, on the 12<sup>th</sup>. You'll need to set all clocks forward one hour, according to the saying "Spring forward, Fall back". The sun reaches the Spring or Vernal Equinox on the 20<sup>th</sup>, when day and night are the same length, then daytime will increase until the Summer Solstice in June. The moon is full on the 7<sup>th</sup>, last quarter on the 14<sup>th</sup>, new on the 21<sup>st</sup>, and at first quarter on the 28<sup>th</sup>. Lunar-X is visible on the 28<sup>th</sup>. It is a small white X shape on the moon, on the dark side of the terminator, the line between the lighted and dark portions of the moon. It's visible from approximately 10:00 p.m., PDT, to 12:00 a.m., PDT.

On the 1<sup>st</sup> Mercury rises at 5:56 a.m., PST while the sun rises at 6:22 a.m., PST. On the 2<sup>nd</sup>, Mercury is within one degree of Saturn. From the 7<sup>th</sup> through the 27<sup>th</sup>, the planet is close to the sun and not observable. On the 31<sup>st</sup>, the sun sets at 7:13 p.m. PDT, and Mercury sets at 8:22 p.m., PDT, 69 minutes later. You'll need a telescope with a magnification of 150x to see the planet's diminutive disk. **DO NOT** observe any planet when it comes close to the sun, for the danger to the eyes is great.

**Venus** sets at 8:14 p.m., PST on the 1<sup>st</sup>, and the sun sets at 5:49 p.m., PST. On that date, Venus and Jupiter appear to be close to each other, separated by about 30 arcminutes or the apparent width of the full moon. Actually, they are over 400 million miles apart on that date. On the 31<sup>st</sup>, Venus sets at 10:13 p.m., PDT. You'll need a small telescope to see its disk, which is a wide gibbous phase. Again, **DO NOT** observe any planet when it comes close to the sun, for the danger to the eyes is great.

**Mars** moves from Taurus the Bull to Gemini the Twins. On the 1<sup>st</sup>, the planet sets at 1:48 a.m., PST. On the 31<sup>st</sup> it sets at 1:51 a.m., PDT. Mars continues to recede away from earth and diminish in size for the rest of this year. This month it reduces from eight arcseconds wide to six arcseconds.

On the 1<sup>st</sup>, **Jupiter** sets at 8:14 p.m., PST. On the 31<sup>st</sup>, the planet sets at 7:49 p.m., PDT. Jupiter's disk is 34 arcseconds wide. The Red Spot is visible with a magnification of 50x. The four bright Galilean moons move back and forth, roughly in a line centered on Jupiter.

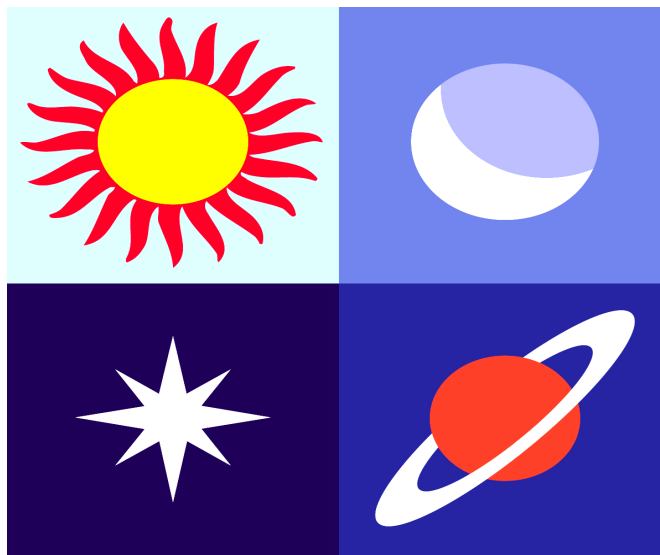
**Saturn** rises at 5:57 a.m., PST, on the 1<sup>st</sup>. On the 31<sup>st</sup> the planet rises at 5:09 a.m., PDT. The rings and Saturn's largest moon Titan may be seen with a small telescope with a magnification of 50x.

**Uranus** is in Aries the Ram. On the 1<sup>st</sup> the planet sets at 10:55 p.m., PST. On the 31<sup>st</sup> Uranus sets at 10:03 p.m., PDT. On the 15<sup>th</sup>, Uranus is located at Right Ascension 2<sup>h</sup> 54<sup>m</sup> 39<sup>s</sup> and declination +16° 19' 20". Uranus' disk is 3.5 arcseconds in width, so a magnification of 150x is needed to even see it as a disk.

**Neptune** moves from Aquarius the Water Bearer to Pisces the Fishes on the 5<sup>th</sup>. It is within 13 degrees of the sun all month long and is not observable.



# Almanac



**March 7 - Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 12:42 UTC. This full moon was known by early Native American tribes as the Worm Moon because this was the time of year when the ground would begin to soften and the earthworms would reappear. This moon has also been known as the Crow Moon, the Crust Moon, the Sap Moon, and the Lenten Moon.

**March 20 - March Equinox.** The March equinox occurs at 21:17 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of spring (vernal equinox) in the Northern Hemisphere and the first day of fall (autumnal equinox) in the Southern Hemisphere.

**March 21 - New Moon.** The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 17:25 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

## Source:

<http://www.seasky.org/astronomy/astronomy-calendar-2023.html>

## Looking for astronomy resources:?

The LAAS shares many links to outstanding resources on our website.

Follow this link to our Resource Page:

<https://www.laas.org/resources>



## Additional Resource Links:

[Earthsky.org](http://Earthsky.org)

NASA: [The Solar System and Beyond](#)

[Space Weather News](#)

[Global Astronomy News](#)

[The World At Night](#)

[Griffith Observatory](#)

# March 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Garvey Night	2 OUTREACH Pasadena	3 OUTREACH Woodland Hills	
5	6	7	8 Garvey Night Board Mtg.	9	10	11
12	13 General Mtg.	14	15 Garvey Night	16	17	18 Dark Sky Night
19	20	21	22 Garvey Night	23 OUTREACH Pasadena	24	25 Public Star Party
26	27	28	29 Garvey Night	30	31	

# Meet The New Members

## Welcome to the LAAS!



Doug Bell	Mila Hursey	Brad Marsh	Tristan Santiago	Taila Tarason
Sarah Ashley	Kevin Koch	Jessica Mirmak	Elizabeth Sarabia	David Thomas
Joanne Branch	Alan Kopp	Brian Morey	Ram Sripracha	
Esther Chae	David Litov	Brendan Mullins	David Steinmeier	
Krystal Davie	Shang Lui	Brenda Perry	Michael Sterling	
David Pinto	Srinivas Mandyam-Komar	Manju Reddy	T	

## LAAS Board Meetings

.Due to the pandemic, all Board Meetings are now held online, live on Zoom. Please check the information posted in the IO Group Forum for any current news related to these meetings. If you wish to attend a board meeting, please send a request to [secretary@laas.org](mailto:secretary@laas.org) for a link to Zoom.

## Volunteer Opportunities

Every LAAS member is a volunteer at some point. Some members volunteer to share telescopes with the public, while others tackle administrative duties, help out at our community and public events, or join a club committee. Taking photos at our events and writing articles about events for our club newsletter are great ways to volunteer and become more involved in the LAAS as a member.

Volunteers are always welcome to write articles for our monthly newsletter or share images captured of the night sky. Members are also welcome to come up with new ideas and future activities for the membership which can be shared in Board meetings. If you are artistic and enjoy creating posters or flyers, or printable astro-educational handouts for further star parties, please let us know.

## Time To Renew Your Membership?

Please remember to renew your membership once you receive notice from the Club Secretary in your email inbox. The secretary will send you a link to a form created just for you for your renewal.

Please send any new contact information to the club secretary at [secretary@LAAS.org](mailto:secretary@LAAS.org).



# Outreach Team Volunteers

***“We are dedicated to advancing the knowledge of astronomy, optics, telescope making, and the wonders of our universe.”***



One of the ways the LAAS advances the knowledge of astronomy and the wonders of our universe is to visit local schools in our area with telescopes. The telescope operators are current members of the club. Many schools invite us to their campus to provide views of the objects in the night sky for not only the children but for the staff and parents, too. Some schools invite us on scheduled “Science Nights” while other schools plan a special evening of astronomy education on their campus. Other activities may be planned by the school during the event while our members are stationed in one specific location with telescopes to share with students and other school guests. These special members are part of our Outreach Team.

Our Outreach Coordinator is Heven Renteria. He and the others on his team have been attending outreach events on campuses throughout Los Angeles county and beyond.. Many of them travel great distances (and after a full day of work) to share astronomy with children and the public. The LAAS is also invited to attend special community events or events at state or city parks, libraries, and other venues. Recently, the club could not accept additional requests for outreach events because the team’s schedule was full.

The LAAS needs more members to join the outreach team. Some of these events may be local to you. Outreach members are greatly appreciated by the school administrators and students at every event.

You don’t need to be an expert using a telescope as the members of the team will help you set up and find objects in the sky to share with the students. You can attend an outreach event without a telescope and help the team with their telescopes or help with the long lines of children who are excited to look through a telescope for the first time.

These events are fun and rewarding in many ways. The enthusiasm shared by the children is infectious, in the best way possible. If you enjoy attending Public Star parties at the Griffith Observatory, you will enjoy a school outreach event.

The Outreach Team really needs your support and participation.

Please contact Heven at [outreach@laas.org](mailto:outreach@laas.org) to learn more.

Thank you for volunteering!

Andee Sherwood  
Communications



*John O’Bryan shows a student the Sun at Overland Elementary, 2021.*

*Photo credit: Van Webster*

## LAAS Outreach Program

The mission of LAAS is to promote interest in and advance the knowledge of astronomy, optics, telescope making and related subjects. In furtherance of its mission, LAAS conducts public star parties and other outreach events that are intended to enhance the public's understanding of astronomy and its enjoyment and appreciation of the beauty and wonders of our universe.



We provide outreach events at local schools, Griffith Observatory, Mt. Wilson Observatory, various state and county parks, and community events.

Join our Outreach team of volunteers today.

Contact Heven Renteria, our Outreach Coordinator at [Outreach@LAAS.org](mailto:Outreach@LAAS.org) for more information.



Want to include astronomy outreach at your school's science night or open house? Follow the link below to access the request form:

[Outreach Request Form](#)

## LAAS Club Merchandise

### LAAS T-SHIRTS, HOODIES, MUGS, AND MORE!

To find new merchandise from our store, please use the following link: [Shop Here](#)

Please note all prices listed are subject to change and include all shipping and handling costs. All items will be shipped directly to the address you provide on your order form.



LAAS Hoodie



**Donate**



**Disclaimer:** The Los Angeles Astronomical Society, Inc. is a public charity, as defined by Internal Revenue Code Section 501(c)(3) and all contributions to the Society are deductible for Federal and State Income tax purposes.

John O'Bryan, Jr.

Treasurer

# Astronomy Magazines

Discounts for astronomy magazines can be found on the internet. Look for the best deals possible. Send a copy of your LAAS membership card with your check or payment to receive a club member discount.



[Click here to subscribe to Sky and Telescope Magazine.](#)



Subscribe or renew to the McDonald Observatory's StarDate Magazine and receive a special discount. Follow this link to subscribe and press "Add to Cart" under the type of subscription option: <http://stardate.org/store/subscribe>

On the Checkout form, enter "network" in the Coupon Code box.



As a member of the Night Sky Network, you may use the above link to renew your Astronomy Magazine subscription (or enter a new subscription) at the club discount rate. If this is a renewal, Astronomy Magazine will match your entered name and address and extend your subscription. For inquiries, please contact Astronomy Magazine customer service & sales at 1-800-533-6644.

Use [this link](#) to begin the subscription process.



[Join the Astronomical Society of the Pacific](#) and help support the cause of advancing science literacy through engagement in astronomy. Member benefits include a subscription to [Mercury Magazine](#), published quarterly.

## Club Contact Information

President: Darrell Dooley

[President@laas.org](mailto:President@laas.org)

Vice President: Alecia Hurst

[hurst.alecia@gmail.com](mailto:hurst.alecia@gmail.com)

Treasurer: John O'Bryan, Jr.

[treasurer@laas.org](mailto:treasurer@laas.org)

Secretary: Spencer Soohoo

[secretary@laas.org](mailto:secretary@laas.org)

Outreach Coordinator: Heven Renteria

[outreach@laas.org](mailto:outreach@laas.org)

Club Communications: Andee Sherwood

[communications@laas.org](mailto:communications@laas.org)

Mt. Wilson Coordinator: Darrell Dooley

[mtwilsoncoordinator@laas.org](mailto:mtwilsoncoordinator@laas.org)

Bulletin Editor: Andee Sherwood

[communications@laas.org](mailto:communications@laas.org)



Find astronomy outreach activities by visiting NASA's Night Sky Network:

<https://nightsky.jpl.nasa.gov/about.cfm>

## Club Contacts

### Club Phone Numbers

LAAS Message Phone:

213- 673-7355 (Checked daily)

Griffith Observatory:

213-473-0800

Sky Report:

213-473-0880



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