



# Safety and Environmental Newsletter

April 2023 — 132nd Edition

## CELEBRATE EARTH DAY

**Saturday, April 22, 2023, Earth Day at the Salisbury Zoo, Salisbury, MD**

Representatives from GSFC will present information on Sustainability, Environmental Awareness, Urban Meadow development and demonstrate Citizen / Volunteer Earth Science data collection using GLOBE Observer.



**Tuesday, April 25, 2023 12:00-1:00 PM David Katzenberg from Code 220 will be presenting as part of the series of Earth Day Presentations how NASA is looking into embodied carbon in our construction materials**

When we think of CO2 emissions, we tend to think of emissions resulting from our electricity use, gasoline consumption, and even our food choices. Just like how the processes for creating gasoline or meat are well-known carbon intensive processes, some of the materials we use to create our buildings and infrastructure result in a significant amount of carbon emissions from their production, transportation, installation, maintenance, and disposal – this is commonly referred to as their “embodied carbon”. To make more informed decisions related to our carbon footprint at NASA from our construction and renovation projects we are evaluating embodied carbon emissions in concrete and other construction materials.

[Join Meeting](#) **Tuesday, April 25th, 2023 (12:00-1:00 PM)**

**Wednesday May 3, 12:00-1:00 PM Wallops Earth Day Walk Back by popular demand for the 2nd year.**



Get outside and join a narrated one mile walk around Wallops. Code 250 staff will describe trees along the walk and add a few historical facts as well.

**Meet on the sidewalk in front of the cafeteria (Building E-2) at 12:00 on Wednesday May 3.**

National Aeronautics and Space Administration

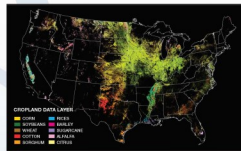


## DISCOVER YOUR WORLD! | EARTH DAY

Since its inception, NASA has been studying the most important planet in the universe: Earth.

Our home planet is made up of a vibrant web of interconnected threads that grow up and out and weave together into a rich tapestry. Pull on one thread and it sends reverberations through the rest. Where it rains, or doesn't, affects the height of rivers, water supplies, and the health of crops. Smoke from fires a thousand miles away affects the air we breathe. Melting glaciers at the poles contribute to rising sea levels on coasts around the globe.

For more than 50 years, scientists at NASA have been using the view from space to discover our world and how air, rain, ice, land, and sea interact with each other. Through that process of discovery, scientists have developed a greater understanding of our planet's climate and how it is changing over time. While climate change is a global challenge, its effects are local and communities' experiences differ depending on where they are located. That is why NASA takes the next step and partners with communities around the world to put its Earth observations to work to address local environmental challenges.



**AGRICULTURE**  
Landsat Croplands Data Overview

Since 2009, the United States Department of Agriculture's National Agricultural Statistics Service, or NASS, has drawn on Landsat data to monitor dozens of crops in the lower 48 states as part of NASS's Cropland Data Layer program. The Cropland Data Layer uses Landsat and similar sensors to identify which crop is growing where in the country. Separately, NASS uses instruments aboard the Aqua and Terra satellites to monitor daily vegetation health and growth stage, all indicators of crop yield.

<https://go.nasa.gov/2uHZZLJ>

**NIGHT LIGHTS**  
Power Outages in New Orleans

Three days after Hurricane Ida brought fierce wind, rain, and storm surges to Louisiana, large swaths of the state endured electric power blackouts. A team of scientists from NASA's Goddard Space Flight Center and the Universities Space Research Association (USRA) mapped the outages using satellite data. The images above show nighttime lights data acquired by the Suomi NPP satellite on August 9 (before the storm) and August 31 (after). The base maps make use of data collected by the Landsat 8 satellite.

<https://go.nasa.gov/3WVZL5>

**AIR QUALITY**  
Nitrogen Dioxide Over the United States

Nitrogen dioxide (NO<sub>2</sub>) can impact the respiratory system, and it also contributes to the formation of other pollutants including ground-level ozone and particulates. Air pollution has decreased even though population and the number of cars on the roads have increased. The shift is the result of regulations, technology improvements, and economic changes, scientists say. The images above show concentrations of nitrogen dioxide as detected by NASA's Aura satellite, averaged yearly in 2005 and 2022.

<https://go.nasa.gov/40WV1y>

**The World Is Yours To Discover**

Being able to measure something allows you to better understand it. When you understand it, you can do something about it.

This Earth Day, NASA celebrates the millions of people who use Earth observations. In turn, our researchers are working to make NASA data, science, and tools more accessible and easy to use, whether you are a scientist, student, farmer, water manager, mayor, or just interested in learning more about your world.

NASA invites everyone to join us on a journey of discovery through our Citizen Science programs. To learn more, scan the QR code below or visit <https://go.nasa.gov/40t9o26>.



**NASA's Citizen Science Programs**

Join us on our Journey of Discovery!



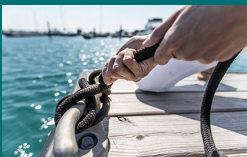
# Safety and Environmental Newsletter

April 2023 — 132<sup>nd</sup> Edition

## TIPS FOR DOCKING A BOAT

Docking a boat can often be intimidating and stressful, especially for those just getting started with boating. Docking a boat doesn't have to be difficult, and boaters new and old can quickly master the task by following a few simple steps.

- Before hitting the water, make sure you know how to tie a proper knot around pilings or cleats
- Prepare dock lines on your bow and stern and attach fenders
- Line up your approach and survey the docking area
- Judge the current, wind, and water conditions
- Take your time, proceed slowly towards the dock using intermittent acceleration
- Practice in a known and controlled environment prior to docking around other boaters
- When having a friend/family member help you dock, prior to docking, communicate the plan for the boat and the helpmate. Include positioning and what to do if conditions require another attempt.
- If you're docking by yourself, remember to take it slow and don't be afraid to stop, pull back and circle around to try again.
- Navigate into the boat slip or turn to come alongside the dock
- Never put a body part between the boat and the dock
- Tie off your boat onto cleats, posts, or pilings using your docking lines
- Never get a part of your body wrapped around the rope where it could get pinched/broken
- Periodically check dock lines so that weather and tide effects are adjusted for





## TIPS FOR ANCHORING A BOAT

Anchoring a boat is a basic skill that every boater should master, even if you don't anticipate anchoring very often. Understanding how to set the anchor and retrieve an anchor is important. An anchor can hold your boat in place for a few hours of fishing or swimming or an overnight stay, but it's also an essential piece of safety gear. If your boat engine fails, an anchor will keep wind or current from drifting your disabled boat ashore, where it could be damaged.

- Determine the water depth where you want to drop anchor
- Calculate the correct amount of anchor scope (7:1 ratio is recommended - seven feet of scope to one foot of water depth) For example, the water depth is 10 feet, motor into the wind or current about 70 feet beyond the point where you want the boat to lie on anchor.
- Lower the anchor and let out enough scope, then secure the rope to a bow cleat
- Never get a part of your body wrapped around the rope where it could get pinched or broken
- Ensure there is no drag - use landmarks or onboard electronics to measure movement
- If needed, reset the anchor
- To retrieve the anchor, slowly motor toward the anchor while pulling in the rope. Consider using proper lifting techniques when pulling the anchor off the bottom.
- Best practice is to tie off the anchor to the bow of the boat. Anchoring from the stern has the potential for getting the prop wrapped around the anchor line and pulling the back of the boat under water/sinking the boat.





# Safety and Environmental Newsletter

April 2023 — 132<sup>nd</sup> Edition

## SAFETY EQUIPMENT FOR YOUR BOAT

Whether you're using your boat for fishing, diving, day cruising or overnighting, remember to pack essential safety gear. If you keep it onboard, inspect it periodically and keep it in good working order. Although the U.S. Coast Guard requires different items for different kinds and sizes of vessels, there is some basic gear that will help keep you safe and out of trouble with authorities.

- Life jackets and wearable personal flotation devices (PFDs) must be available for each person on board the vessel. [Visit the USCG](#) for additional information and resources.
- Throwable flotation devices that you can throw to an individual in the water in case of trouble. This could be a cushion, ring buoy or other device.
- Fire extinguishers
- Visual signaling devices such as flares, strobe light or flag
- Sound signaling devices such as fixed horn, bell or whistle
- Medical kit for scrapes, cuts, sickness or small emergencies
- Bailing device or bucket to remove water and stay afloat
- Cellphone to call for help
- VHF radio to call for help
- Knife to cut a rope tangled on propeller
- Flashlight and high powered spotlight
- Working running lights
- A way to get weather updates because things can change quickly
- Pack clothing layers in case you have to spend the night on the boat
- Don't forget to have your boaters safety certification card handy





# Safety and Environmental Newsletter

April 2023 — 132<sup>nd</sup> Edition

## TOWING TIPS

---

Skiing, tubing and wakeboarding are popular water sports, but they can also be dangerous with participants traveling at high speeds. Below is a few tips to minimize risk.

- Plan your day ahead of time, considering weather conditions and location for activities
- Inspect your tow lines prior to each use, and ensure connection points are in good condition
- Wear a life vest
- Do not use a rope or other device for unintended purposes (example: looping excess line in skier/boarder's hand)
- Learn how to get up out of the water and how to safely use the tow rope
- Be aware of your surroundings (example: other boat traffic, swimmers or piers)
- Always have a spotter, and ensure everyone understands hand signals
- Turn the motor off when skier/boarders are entering/exiting the water
- Skiing and boating should be avoided in shallow water
- When the boat changes direction, the skier will not turn in the same path as the boat and will generally make a wider turn
- Boat operator should make sure that any maneuvers will not put skier/boarder in danger
- Falling is inevitable, be prepared, and best to fall backward to avoid falling on skis

