
GSFC-Greenbelt
Environmental Awareness
Training

Course Objectives

After this training, you should understand:

- **GSFC's environmental commitment:**
  - GSFC's environmental policy;
  - Environmental priorities
- **Your environmental responsibilities to:**
  - Comply with laws, regulations, and permits;
  - Reduce pollution and conserve resources;
  - Manage waste and hazardous materials;
  - Report spills; and
  - Plan projects.

GSFC's Environmental Policy

- **Comply with requirements**
  - Federal, State, Local, Territorial, Executive Orders
  - NASA's policy and requirements
  - Agreements with other agencies
- **Reduce environmental risk**
  - Project life cycle tracking, programs, initiatives
- **Consider environmental factors and impacts**
- **Prevent pollution**
- **Internal and external communication**
- **Maintain an environmental management system (EMS)**
- **Develop collaborative partnerships**

and

- **Continually improve!**

Full text is available in GPD 8500.1

GSFC's Environmental Management System (EMS) assesses risk to the mission and the environment, identifying these High Priorities

Water Quality

GSFC has two effluent water systems: the sanitary and storm water sewers. As an employee, you interact with each of these systems on a daily basis.

Sanitary Sewer

- The sanitary sewer carries sewage from bathrooms, sinks, kitchens, and other building drains to a wastewater treatment plant off site where it is treated before being discharged.
- Certain types of effluent can negatively impact the wastewater treatment plant; therefore, there are restrictions and limits on what can be disposed of via the sanitary system (drains) in your building/lab area.
- If you are unsure whether the wastewater from a process in your area can go down the drain, contact the Medical and Environmental Management Division (MEMD).

Storm Sewer

- Storm water (i.e. rain and snowmelt runoff) flows into the storm sewer system and eventually to waters of the State.
- Storm water runoff **is not** treated before release into waters of the State. Unfortunately, storm water runoff can become contaminated with pollutants as it flows over parking lots and roads and is then deposited directly into local waterways where it can cause flooding, erosion, decreased water quality, and imminent danger to aquatic life. Polluted storm water is a significant cause of pollution in the Chesapeake Bay.

What Can You Do?
Water Quality

Regulatory notification and approval may be required before discharging water to the sanitary or storm water systems. *If the constituents of the wastewater will change due to new chemicals or processes, contact the MEMD for evaluation before implementation*.

Sanitary Sewer

Examples of things that cannot go down the sink (not an exhaustive list):

- Chemicals
- Food waste
- Grease
- Oil

Storm Sewer

Examples of things that cannot go down a storm drain (not an exhaustive list):

- Oils
- Hydraulic fluid
- "Clean"/potable water from a pipe break
- Rinse water from cleaning of equipment outdoors
- 

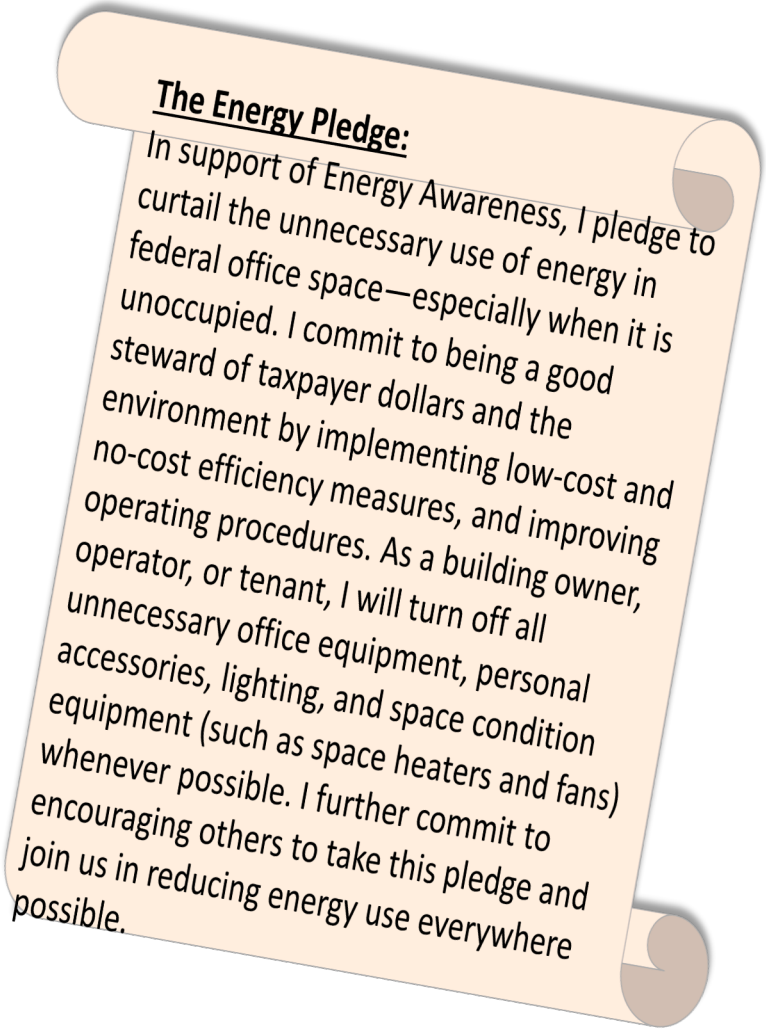
If you see anything other than rainwater or snow melt entering a storm drain, **call 911 from a GSFC phone or 301-286-9111 (cell phone) to report it**; this is considered a spill.

**Don't forget to take GSFC's Stormwater Pollution Prevention Training in SATERN.*

What Can You Do?
Energy Consumption

You can help the Center meet its energy reduction goals by taking the following actions:

- Turn off lights, computers, and other equipment when not in use;
- Minimize energy consumption as much as possible when notified that 'Code Gold' is in effect (generally in the summer);
- Use the energy saver settings on electronic equipment;
- Dress for the weather: put on a sweater and warm shoes instead of turning on a space heater;
- Call 6-5555 if your building or room is too hot or cold; and
- Take the Energy Pledge.



Find out more information about GSFC's energy management program accomplishments and future projects at Energy Management Program.

Site Restoration

Contamination not only poses a risk to human health and the environment, it can also affect the mission. The Environmental program works to ensure these sites are properly managed through

- **Remediation of historic contaminated sites**
- **Protection of human health and the environment**
- **and returning the land for mission use**

Land Use Controls are in place to protect our work force and natural resources.

Drilling during Site Investigation

What Can You Do?

Click “Submit New Project” under MOSI Environmental and Safety Review before scoping a project location. Call the Environmental Office for support.

Air Quality

GSFC's air quality permit regulates pollutants emitted by operations and equipment:

- Boilers and generators
- Solvent cleaning machines
- Surface coating operations
- Processing equipment
- Fuel storage tanks
- Semi-conductor facility

Trained and certified personnel keep records for these operations and equipment. The environmental office monitors and reports operational limits and pollutant emissions levels.

What Can You Do?
Air Quality

- Maintain records for purchase, use, and storage of refrigerants, chemicals, and fuels.
- Always submit process changes, new equipment proposals (before purchasing!), and equipment replacements through the Environmental & Safety Review checklist https://mosi.ndc.nasa.gov/EnvironmentalSafetyReview/index.xhtml
- Conserve energy as much as possible. Do not leave motor vehicles idling.
- Do not vent any refrigerant to the environment. Report any refrigerant release by **calling 911 from a GSFC phone or 301-286-9111 from a cell phone**.
- Ensure only trained and certified technicians maintain, repair, or dispose of appliances or motor vehicle air conditioners containing refrigerants.

Regulated Waste Management

GSFC has special requirements for the management of certain wastes depending on how they are regulated. The most common types of regulated waste include:

Hazardous waste

A wipe contaminated with hazardous material

Spent chemicals/solvents

Empty aerosol cans

Universal Waste

Fluorescent lamps

Rechargeable batteries

Mercury thermometers and thermostats

Other Regulated Waste

Antifreeze

Detergents/ Cleaners

Used oil

Cooking grease

DIFFERENT TYPES OF WASTE

GSFC's hazardous waste management requirements and responsibilities are defined in GPR 8500.3, Waste Management.

Regulated Waste Management
Hazardous Waste

Hazardous waste is dangerous or potentially harmful to human health or the environment and is regulated under the Resource Conservation and Recovery Act (RCRA), which imposes ***civil and criminal penalties*** for improper management. If you use hazardous materials, you most likely generate hazardous waste.

If You Generate Hazardous Waste:

- Take the required Hazardous Waste Management Training (GSFC-SH-HWMT14) offered in SATERN annually;
- Request waste containers from Code 250 ***before*** generating waste; you must use code 250 issued containers and they must be labeled with a code 250 provided label.
- Manage waste properly by keeping containers closed, labeled, and in good condition;
- Use safe practices when handling hazardous materials and waste; and
- Submit a MOSI ticket under Code 250 services to request a material characterization or waste pickup (https://mosi.ndc.nasa.gov).

Regulated Waste Management
Hazardous Materials

Maintain an accurate hazardous material (HM) inventory by managing yellow inventory bar code stickers.

- Turn in empty HM containers to Code 270 at https://mosi.ndc.nasa.gov or turn in yellow stickers from empty containers to GSFC-HMMS-Support@mail.nasa.gov or call 6-4667. ***This must be done monthly at minimum.***
- If the HM container is not empty and you do not need it any longer, turn in the container to Code 250 by submitting a MOSI ticket (select "Request for material characterization").
- Report HM containers without yellow stickers to GSFC-HMMS-Support@mail.nasa.gov or 6-4667.
- Find Safety Data Sheets at
- https://code200-external.gsfc.nasa.gov/250/environmental/hazardous-material-data#find

Impending TSCA §6 Requirements

New TSCA requirements will impact the mission by the banning of **50+ chemicals**.

Most uses are banned: Look for alternatives

VERY FEW exemptions: Come with onerous requirements.
•Exposure monitoring at levels MUCH lower than OSHA apply to ALL Potentially Exposed Personnel
•Exposure Plans
•Notifications
•Training
•Controlled spaces

Consequences of Non-Compliance
•Fines
•Felony if found to be intentionally non-compliance
•Exemption could be removed, and chemical ban implemented NASA-wide

Impending TSCA §6 Requirements

Final rule as of 2025: methylene chloride, TCE, PCE, carbon tetrachloride, PIP 3:1

Chemical formulations may change

MEMD will review TSCA 6 updates and work with affected codes to implement the results of chemical rulings.

For more information and an updated list of chemicals please refer to TSCA §6 Chemical List & Information

Regulated Waste Management

Universal Waste

The universal waste regulations streamline collection and management requirements for certain widely-generated hazardous wastes to facilitate environmentally sound collection and proper recycling or treatment. Universal wastes include the following categories:

- Fluorescent lamps
- Batteries
- Mercury thermometers or thermostats

Fluorescent lamps contain mercury and must be managed properly:

- Lamps may be stored in marked containers for **up to one year**. Use MOSI (https://mosi.ndc.nasa.gov) to request a labeled container or a pickup from Code 250.

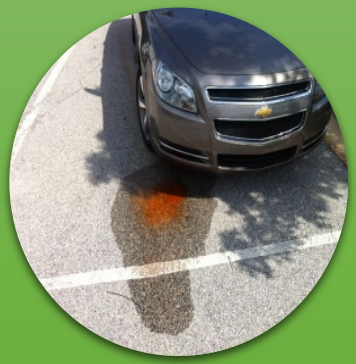
Regulated Waste Management

Universal Waste

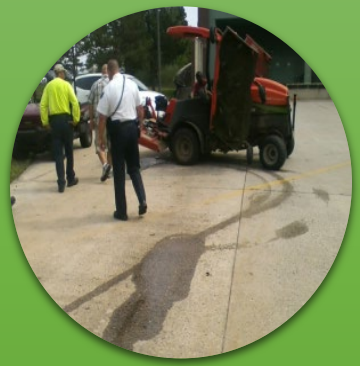
- **Rechargeable** batteries require special handling.
- **Alkaline** batteries can be safely disposed of with regular office trash. **Do not place them in the battery recycling centers.**
- If your building does not have a recycling bin, submit a MOSI ticket (https://mosi.ndc.nasa.gov) for "Universal Waste Pick-up".
- **No personal batteries.** The government pays for collection, disposal, and recycling of ***work related batteries ONLY.***
- Do not dispose of vapes or other e-cigarette products. These are not work related and **regulated as a hazardous waste** for nicotine. These place a significant burden on NASA resources.

Spills and Releases to the Environment

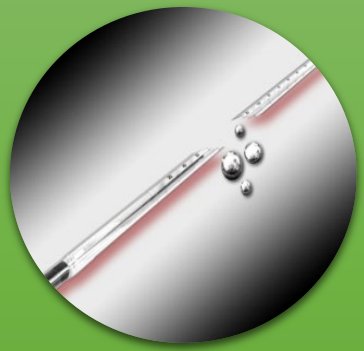
As a Goddard employee or contractor, it is important for you to understand the definition of a spill or reportable release and what to do if one occurs. A spill or reportable release *is any impermissible release of a solid, liquid, or gaseous compound to the environment* (e.g., on the floor, to the air, on the ground, down a drain). Examples include the following:



Antifreeze or oil leaking from a car



Hydraulic fluid leaking from equipment



Broken mercury thermometer, fluorescent lamp or other mercury-containing device

Chemicals, paint, cooking oil, or petroleum products down a drain or sink

What Can You Do?

Spills and Releases to the Environment

If you are involved in or notice an impermissible release to the environment or within your building*, take the following actions:*

- Protect yourself and those in the vicinity from the release.
- Report ALL onsite hazardous material and oil or petroleum product spills/releases:

Call 911 from a GSFC phone or 301-286-9111 from a cell phone.

If you are unsure whether a spill is reportable, err on the side of caution and report it.

Recycling

GSFC has implemented a Single Stream Recycling Program.

- Use the recycle bins that are located in every building.
- Remove foam packaging from large cardboard boxes and leave boxes near recycling bins. The foam is not recyclable.
- Package laser toner cartridges and mark for recycling.
- Do not recycle napkins or other materials with food contamination.
- Scrap metal can be recycled by contacting GSFC-05-Disposal@mail.nasa.gov, or the excess warehouse for more details - at 301-286-7330 or 301-286-7717.
- See https://nasa.sharepoint.com/sites/GSFCRecycle for more information.

When in doubt, leave it out!

What Can You Do?

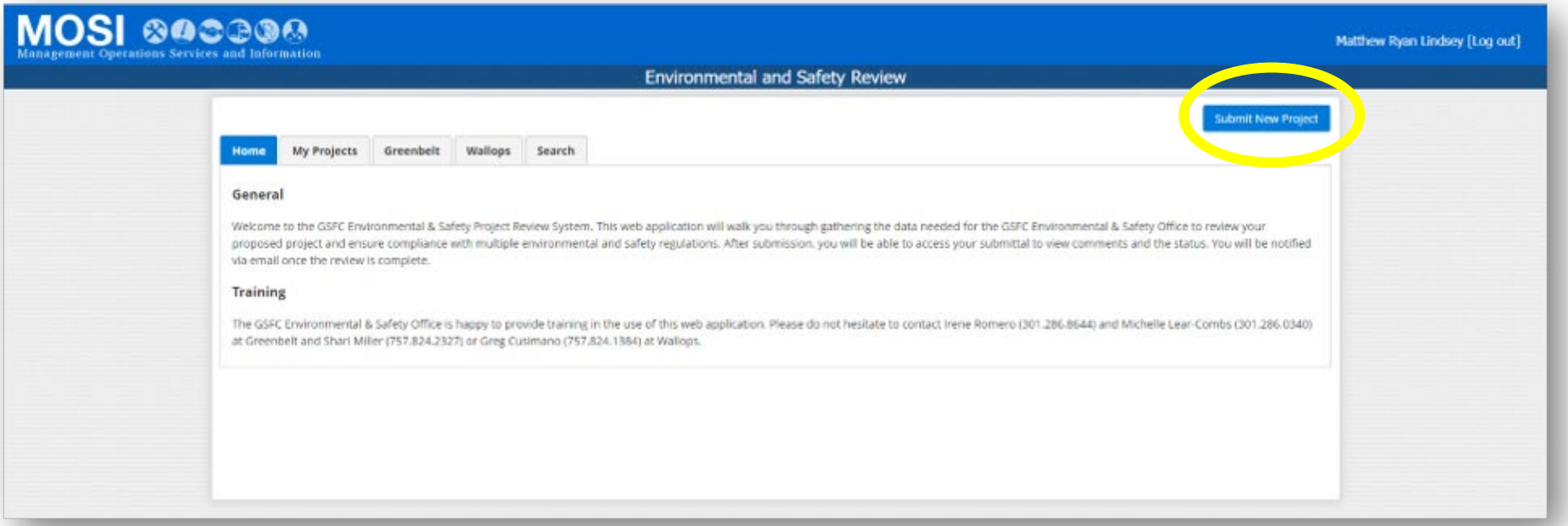
Waste Reduction and Recycling

- Freecycle@NASA (https://freecycle.nasa.gov) provides a forum to share unneeded office supplies that could be used by others on Center.
- For surplus items with barcoded property ID tags, talk to your property custodian or contact Supply and Equipment Management at ext. 6-7644 to arrange for the removal and redeployment.

Find ways to repurpose your unneeded supplies instead of throwing them away!

Environmental Planning

Submit projects for Environmental and Safety review at https://mosi.ndc.nasa.gov/EnvironmentalSafetyReview/



Completing an E&SR Submittal

Complete The Projects Details Page

Include the MOSI ticket number, title, location, and detailed explaination of the project

Complete The Checklists for Occupatonal Saftey and Environmental Concerns

Reach out the environmental and saftey staff for clarification on occupational and environmental questions

Check for Environmentally Sensitive Areas on The Map

GIS Maps: The Wallops Environmental GIS and Greenbelt Environmental GIS maps can be used to identify Environmentally Sensitive Areas.

Add Attachments

Select the "**Attachments"** tab and upload any documents pertaining to your project. **DO NOT** include any Controlled Unclassified Information (CUI).

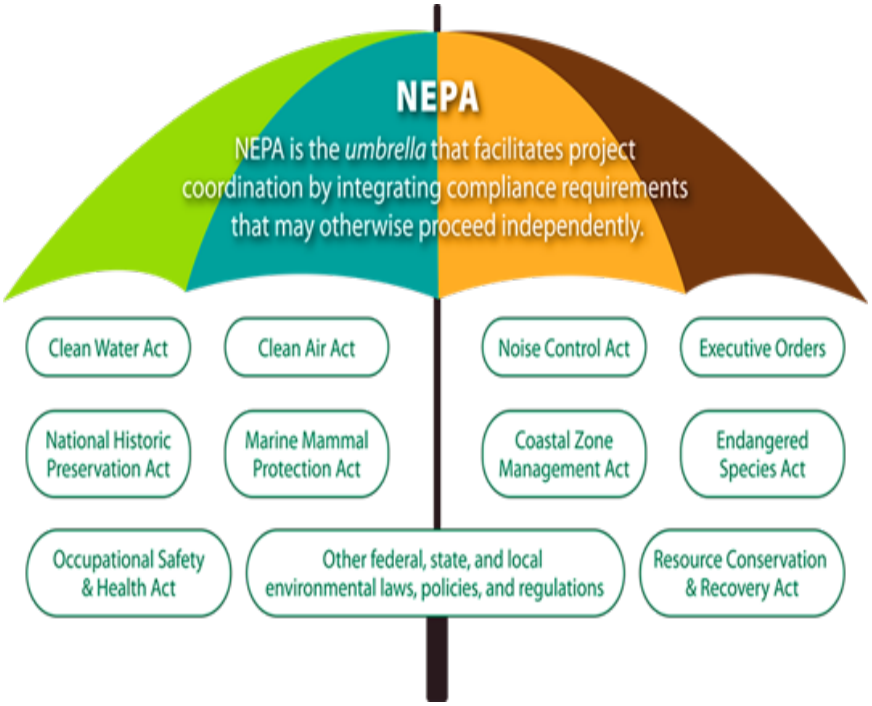
Incorporate Requirements from Environmental and Safety Staff

Environmental and Safety reviewers may supply comments or requirements in the "**Reviewer Assessment**" tab. These comments **MUST** be incorporated into designs, drawings, plans, specifications, etc.

Environmental Planning

Early submission of the project for review can help:

- Identify potential environmental impacts of a project so they can be addressed and minimized;
- Identify environmental legal and regulatory requirements, such as permits;
- Avoid potential schedule delays and cost impacts later; and
- Ensure compliance with the National Environmental Policy Act (NEPA), a federal law which requires the consideration of environmental impacts as part of planning and decision making.



Environmental Planning

All proposed new installations, modifications, and connections to existing GSFC systems (e.g., facilities) must be reviewed and approved by the **FMD** (Code 220) and **MEMD** (Code 250).

Project managers, leads or planners should submit their projects for review ***as early as possible*** after the scope of work of a facilities, flight, or research project is known.

What Else Can You Do To Help Protect GSFC's Environment?

Know where to get additional information:

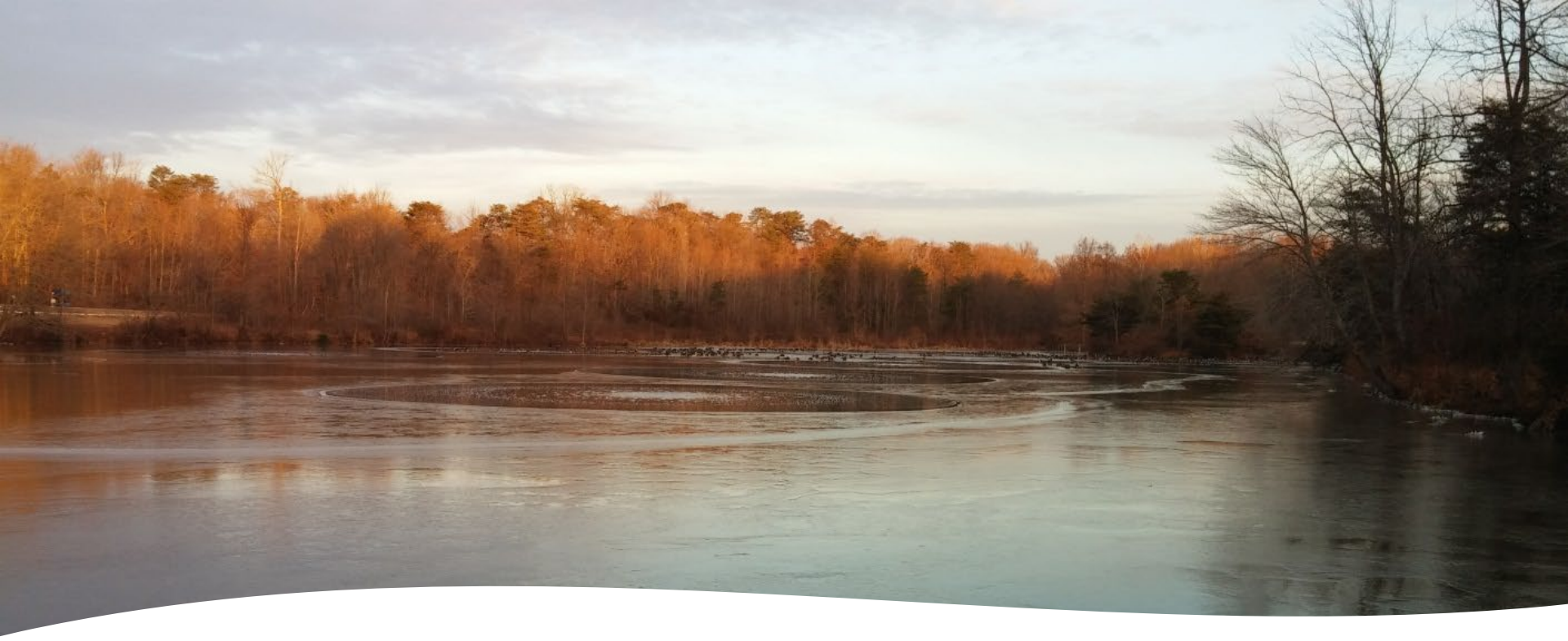
- GPD 8500.1, Environmental Program Management
- GPR 8500.1, Environmental Planning and Impact Assessment
- GPR 8500.3, Waste Management
- GPR 8500.4, Air Quality Management Program
- GPR 8500.5, Water Management
- GPR 8500.8, Site Investigation and Remediation

Take appropriate environmental training for your job, such as:

- Integrated Contingency Plan
- Stormwater Pollution Prevention Plan
- Hazardous Waste Management

Ask your supervisor or contact the Medical and Environmental Management Division (Code 250)

- Wallops: Email wff-dl-enviro@mail.nasa.gov
- Greenbelt: Email gsfc-dl-enviro@mail.nasa.gov



Summary

Commitment to environmental excellence helps the Center minimize negative environmental impacts and ensures we are all good stewards of federal land.

Need More Information?

- **Visit https://code200-external.gsfc.nasa.gov/250/ for environmental program information and points of contact**
- **Wallops: Email wff-dl-enviro@mail.nasa.gov**
- **Greenbelt: Email gsfc-dl-enviro@mail.nasa.gov**