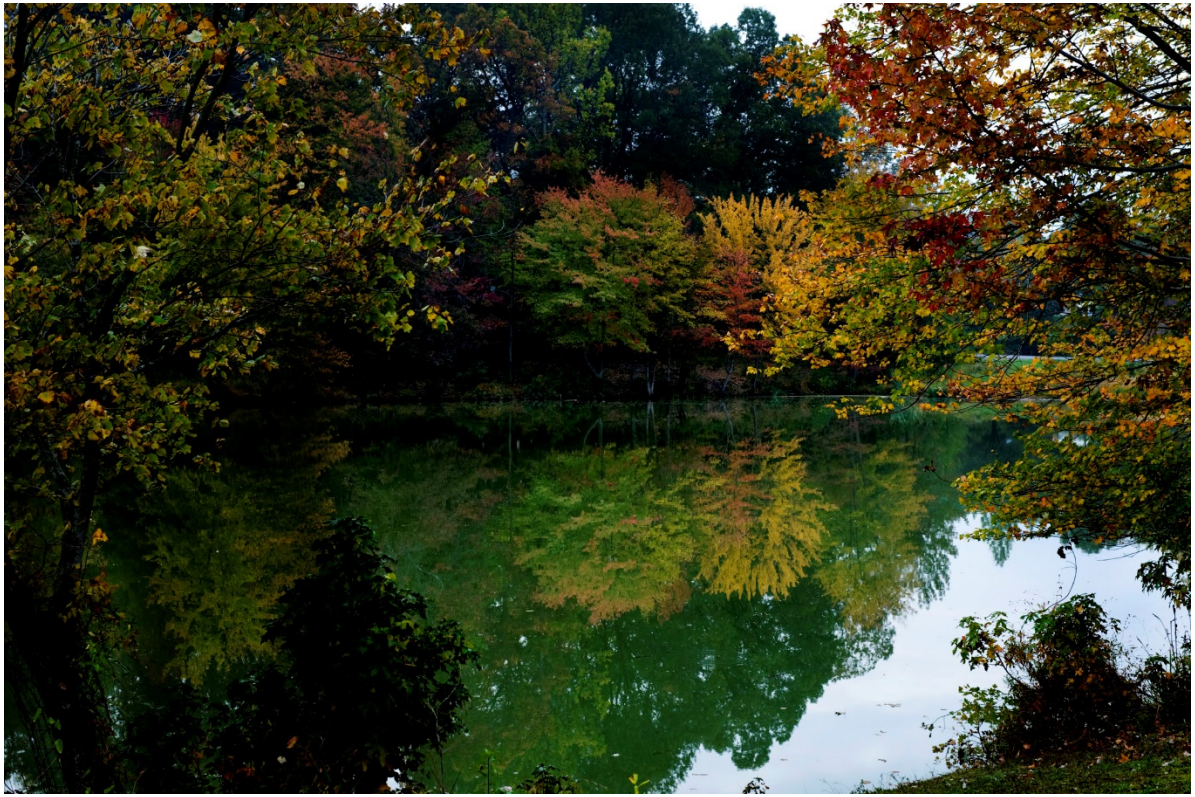
GSFC-Greenbelt Environmental Awareness Training



Course Objectives

After this training, you should understand:

- **GSFC's environmental commitment:**
  - GSFC's environmental policy;
  - Environmental priorities for the Greenbelt campus

- **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

The Goddard Space Flight Center's (GSFC) missions expand knowledge of the Earth and its environment, the solar system, and the universe. To maintain our nation's leadership in this endeavor, GSFC commits to conducting missions in a manner that promotes environmental stewardship. As an integral part of all mission planning and implementation, GSFC's environmental policy is to:

- Comply with applicable Federal, state, and local legislation and regulations, Executive Orders, NASA policies, and other requirements;
- Prevent pollution, conserve natural resources, and consider the environmental impacts of Center actions during planning;
- Implement pragmatic and cost effective solutions to environmental challenges;
- Communicate with the GSFC community, our partners, and the public;
- Continue to improve our environmental performance by:
  - Promoting awareness through education and training;
  - Integrating environmentally sustainable best management practices into our daily work activities;
  - Exploring advances in environmental technology; and
  - Providing a framework for setting objectives and targets through our Environmental Management System (EMS).

These commitments demonstrate GSFC's environmental stewardship in our community.

GSFC's Environmental Management System

The GSFC Environmental Management System (EMS) consists of the following goals aimed at reducing Goddard's environmental impacts and risks through compliance with environmental regulations, employee involvement, and best management practices:

- Implement the Center's environmental policies defined in GPD 8500.1;
- Identify and prioritize the Center's environmental impacts;
- Integrate environmental considerations into daily operations;
- Lower costs and conserve resources; and
- Continually improve environmental performance to reduce negative impacts, risks, and liabilities.

GSFC's Environmental Priorities

GSFC uses the risk assessment process described in NPR 8553.1, *NASA Environmental Management System (EMS),* to evaluate how our mission and services impact the environment. Objectives and targets are set to reduce environmental liabilities and improve compliance.

Goddard's mission-focused, high-priority environmental impacts are:

- Water Quality
- Energy Consumption

Water Quality

GSFC has two effluent water systems: the sanitary and storm water sewer. As an employee, you interact with each of these systems on a daily basis, without even realizing it.

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 waste water 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 MEMD.

Storm Sewer

- Storm water (i.e. rain and snowmelt runoff) flows into the storm sewer system and eventually into 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 a substance other than rain water 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.

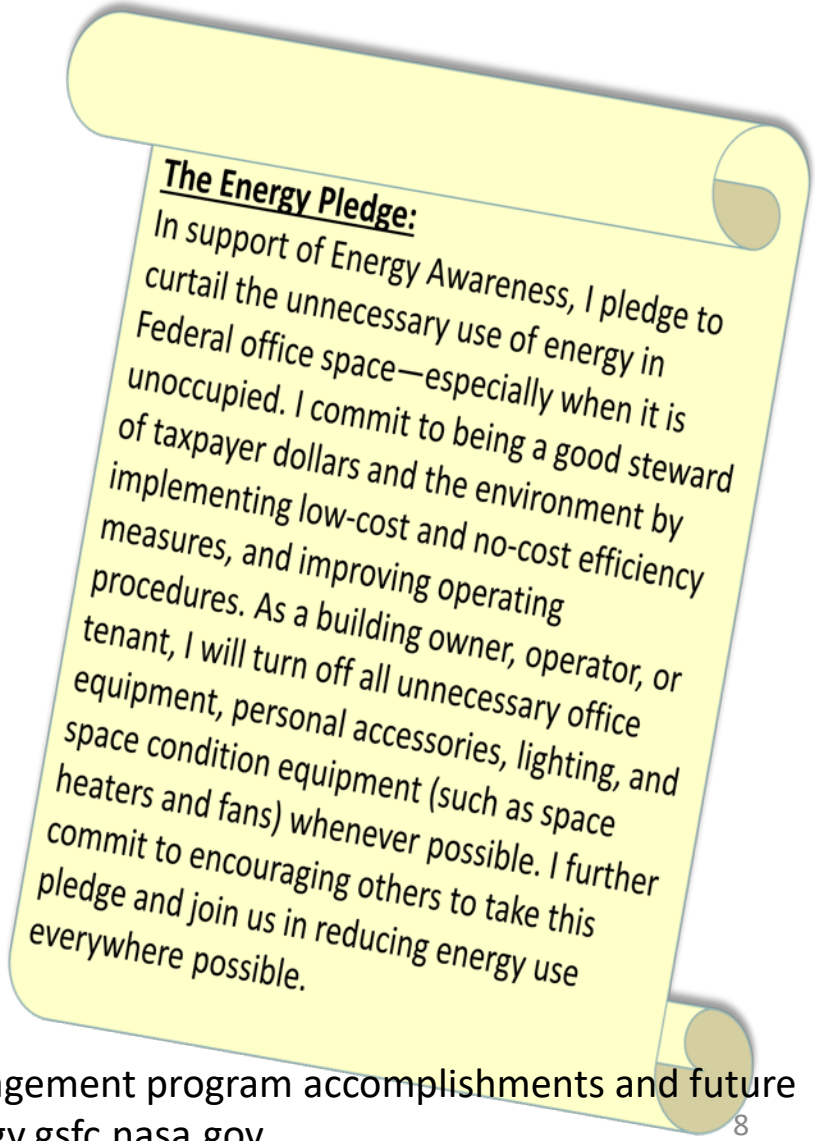
**Don’t forget to take GSFC’s Stormwater Pollution Prevention Training in SATERN.*

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 http://energy.gsfc.nasa.gov.

Air Quality

Our air quality permit regulates pollutants emitted by operations and equipment:

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

Trained and certified personnel keep records for these operations and equipment. The environmental team 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.
- Do not leave motor vehicles idling.
- Conserve energy as much as possible.
- 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.
- Only trained and certified technicians may 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 offered in SATERN annually;
- Request waste containers from Code 250 before generating waste.
- 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/services/).

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/services/ or turn in yellow stickers from empty containers to GSFC-HMMS-Support@mail.nasa.gov or call 6-4667.

- 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

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/services/) to request a labeled container or a pick up from Code 250.

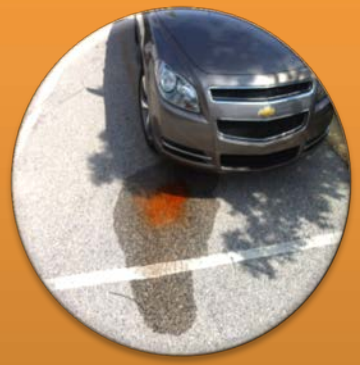
Regulated Waste Management

Universal Waste

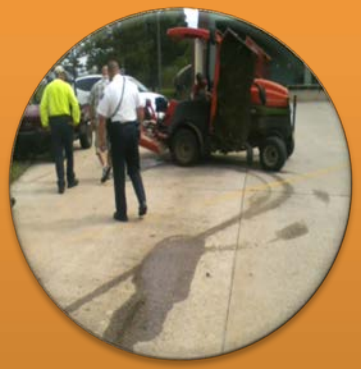
- **Rechargeable** batteries require special handling.
- **Alkaline** batteries can be safely disposed of with regular office trash. **Do not place them in the battery recycling centers.**
- **Separate** different battery types (lead acid, NiCad, lithium, silver, etc.). Visit https://recycle.gsfc.nasa.gov/ for more information.
- If your building does not have a recycling bin, submit a MOSI ticket (https://mosi.ndc.nasa.gov/services/) for "Universal Waste Pick-up".
- **No personal batteries.** The government pays for collection, disposal, and recycling.

Spills and Releases to the Environment

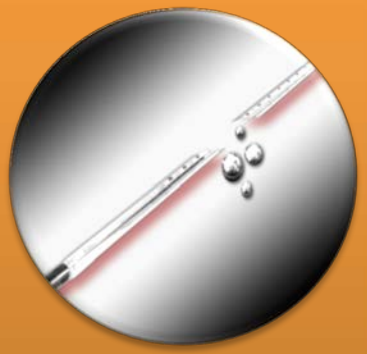
As a Goddard employee or contractor, it is important for you to understand the definition of a spill or reportable release and what to do if one occurs. A spill or reportable release is any impermissible release of a solid, liquid, or gaseous compound to the environment (e.g., on the floor, to the air, 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 near recycling bins.
- Package laser toner cartridges and mark for recycling.
- Leave out food contamination and napkins.
- See https://recycle.gsfc.nasa.gov 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

GSFC implements an environmental review process for Center projects and activities to minimize environmental impacts and ensure compliance with environmental laws and regulations. Project managers, leads or planners should complete an environmental checklist as early as possible after the scope of work of a facilities, flight, or research project is known.

- Environmental Checklists (Form **GSFC23-73** for facility projects and **GSFC23-74** for flight projects) are available online at https://nef.nasa.gov/.
- Email the completed checklist to MEMD (Code 250) at **gsfc-s-and-e-checklist@lists.nasa.gov**.
- Early submission of the checklist 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.

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).

Contact the NEPA Program Manager at 6-0469 for assistance.

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

Know where to get additional information that may be important to your job to understand and comply with all NASA and GSFC environmental directives, as well as federal, state, and local environmental regulations.

- Goddard's Environmental Policy 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

When in doubt, talk to your supervisor and call the MEMD (Code 250) at 6-7442 (onsite) or 301-286-7442 (from an offsite or cell phone).

Summary

Commitment to environmental excellence helps the Center minimize negative environmental impacts and be a good steward of federal land.

Need More Information?

- Visit https://code200-external.gsfc.nasa.gov/250/ for environmental program information and points of contact.