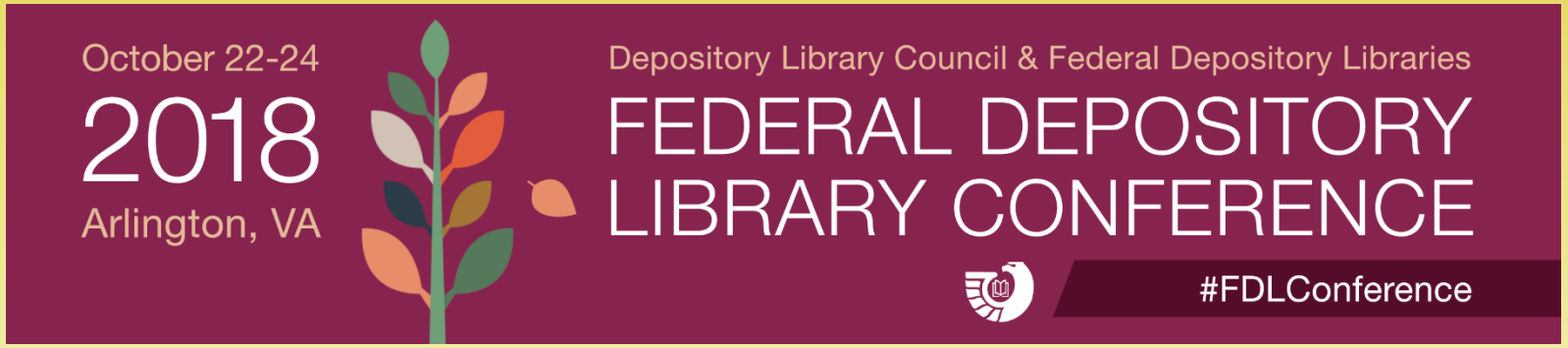

Energy & Water Web Guides Featuring U.S. Government Web Sites

Naomi Lederer

MORGAN LIBRARY
COLORADO STATE UNIVERSITY

Energy & Water Web Guides Featuring U.S. Government Web Sites

Naomi Lederer, Colorado State University
Professor, College Liaison Librarian
Art, Design & Merchandising, English, History, Interdisciplinary Liberal Arts
Government Information Librarian

Depository Library Conference October 22, 2018

MORGAN LIBRARY
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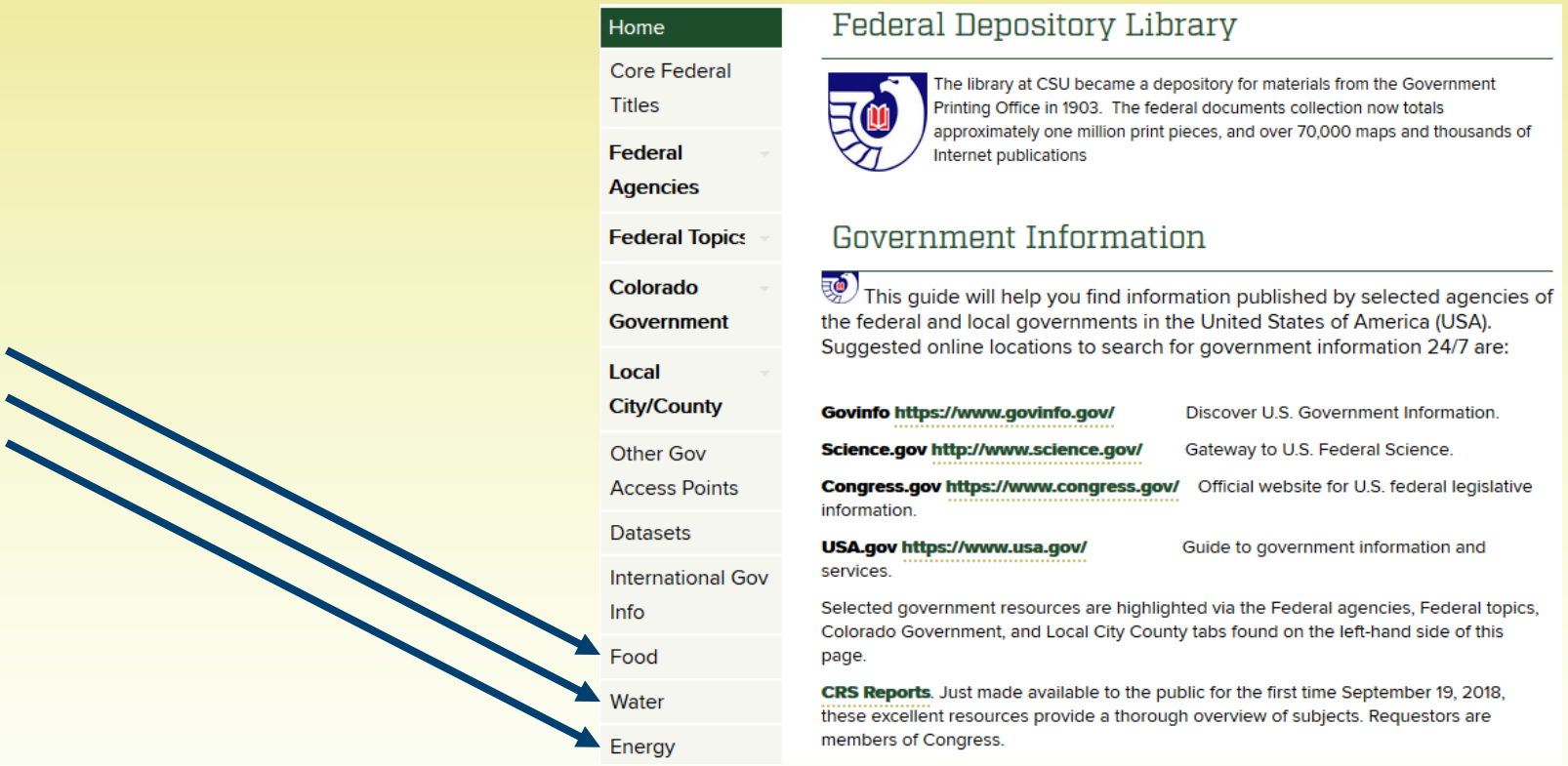
Outline

1. Food—Brief Review & Page Use
2. Energy & Water Guides
3. Identifying Opportunities
   and what to do
4. Q & A & Discussion

Gov Info Off of Comp Guide

Government Information Guide

http://libguides.colostate.edu/govinfo



Food—Brief Review & Use http://libguides.colostate.edu/govinfo/food

Topical theme for many of the first year composition courses (2016-17 and 2017-18)

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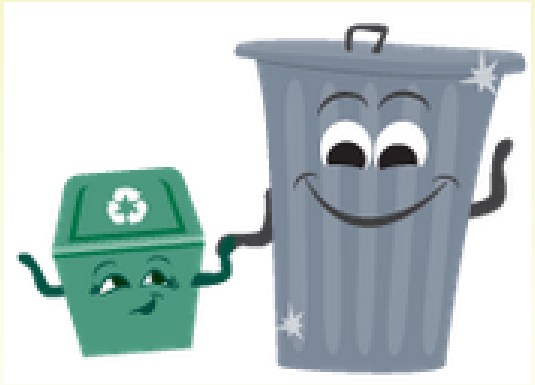
COLORADO STATE UNIVERSITY

Food--Table of Contents

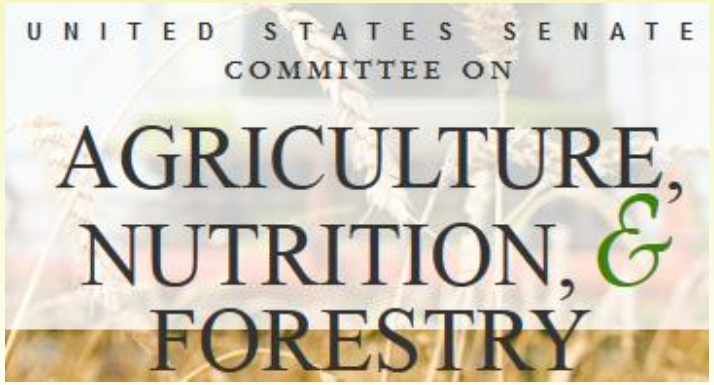
Sections on this page are:

Food Waste

https://www.choosemyplate.gov/lets-talk-trash



Growing and Harvesting



Growing and Harvesting 2

https://catalog.data.gov/dataset?groups=agriculture8571#topic=food_navigation

Food July 1, 2016-Jun 30, 2017

- 3593 pageviews
- 2562 unique pageviews
- Gov Info (pageviews) 4852 / (unique) 3622:

Food Jan 1-Dec 31, 2017

- 3339 pageviews [by page title]
- 2431 unique pageviews

Top Pages 2017 at CSUL

1. A-Z Databases
2. Home Res. Guides
3. A-Z Databases (Research Guides)
4. Aerial & Sat. Photos
5. Search Res. Guides
6. CO150
7. Your Mission AGRI116
8. Historic Colorado Maps
9. **Food** Gov Info (!)

Naomi Lederer

MORGAN LIBRARY
COLORADO STATE UNIVERSITY

2017

CSU Libraries > Research Guides > A-Z Databases

A-Z DATABASES

1/3

Find the best library databases for your research.

Starting Points

Don't know where to start? Try one of these databases

- Academic Search Premier
- Business Source Complete
- Google Scholar
- News Bank
- Web of Science

Need basic information? Try a reference collection

- Gale Virtual Reference Library

All Subjects | All Database Types

Help

- Ask Us
- Research Guides
- Find a Subject Librarian
- Report a problem
- Off-campus Access

CSU Libraries > Research Guides > Home

RESEARCH GUIDES

2/5

ALL GUIDES | BY GROUP | BY SUBJECT | BY TYPE | BY OWNER

Enter Search Words | Search

CO150 - COLLEGE COMPOSITION

Home

Colorado State University Morgan Library Tour

6

Home
Terminology & Finding Aids
Internet Map Resources
Geology Maps
Historic Colorado Maps
Topographic Maps
Aerial & Satellite Photos

4

Aerial & Satellite Photos Online

- **Aerial & Satellite Photographs Online:**
- **Google Earth**
  Free download version allows for worldwide search and zoom
- **Google Maps**
  Zoom in to US locales for maps, satellite images, or hybrids of
- **MapQuest**
  Enter a US address, then select "aerial image" from the resultir
- **TerraServer-USA**
  Images worldwide, usually with multiple choices; US coverage 15 m.
- **Aerial Photographs of Colorado** (University of Colorado) US I mountains, 1938-1947.
- **Cooperative Institute for Research in the Atmosphere** (CSU)

Home
Terminology & Finding Aids
Internet Map Resources
Geology Maps
Historic Colorado Maps
Topographic Maps
Aerial & Satellite Photos
Hydrology & Water
Tribal Nations Maps
GIS

Historic Colorado Maps

Emphasis on this page is upon Colorado historic maps, either in the collection at the Colorado State University Libraries or online. The arrangement is from newer maps to older.

7.5' (1:24,000) USGS Topographic Maps:
This has been the standard detailed mapping series since the 1950s. A listing of CSU library holdings can be found by a number search in the **library catalog** of the SuDoc call number I19.81:CO. This list is not complete nor does the library own all editions and printings.

County Maps (1:50,000) USGS:
This map series was published in the 1970s. A listing of CSU library holdings can be found by a number search in the **library catalog** of the SuDoc call number I19.108:CO.

Older 20th-Century Topographic Maps:
Most of these maps from the USGS were published 1890 through 1960. Some from the Defense Mapping Agency date from the 1980s. Scales are usually 15' or 30'. A listing can be found by a number search in the **library catalog** of the SuDoc call number I19.81/2:CO. These maps are inter-shelved alphabetically with the 7.5' Colorado maps.
A number of these and other historical topographic maps can be found at these websites:
Colorado Historic Quadrangle Maps; from the Historical Maps Archive, University of Alabama Libraries.
Fort Collins History Collection - Historic Maps
Broer Map Library

See also the **USGS Historical Topographic Map Explorer**

8

Food--

9:
actually 7

AGRI116 - PLANTS AND CIVILIZATIONS

Research help for AGRI116 students.

7

Your mission
Starting your search
Taking your search to another level
Processing what you find
Citing
Putting your pen to

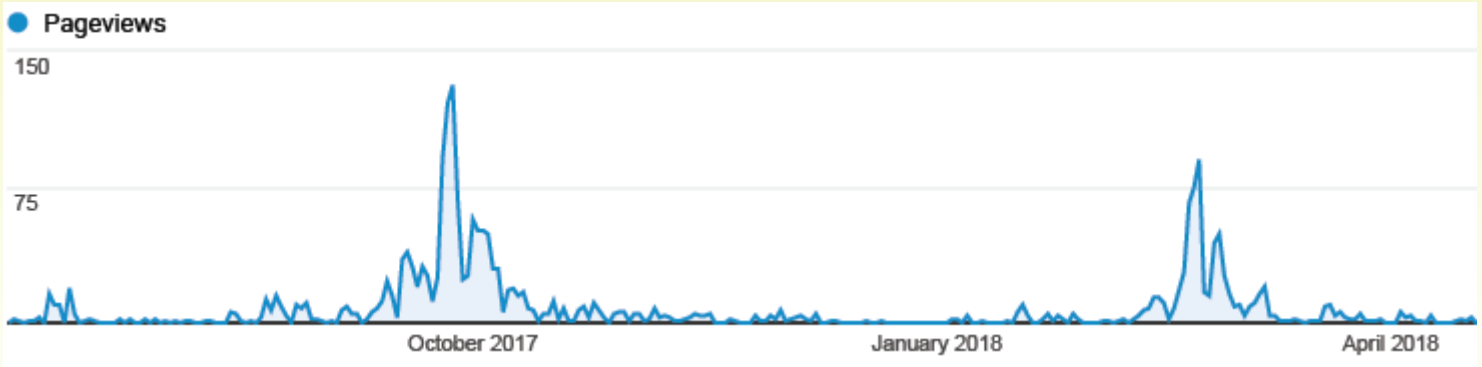
Your mission: Library Research Assignment

Pick a plant and find 10 **unique** references on applicable aspects including the:

- Biology / Natural history
- Social / Cultural
- Economic
- Historical
- Human health
- Policy / legal aspects of your plant and how it has interacted with humans or human cultures

Food Pages Use

- July 1, 2017-June 30, 2018 (#16 / 14)
- 2,289 pageviews
- 1,853 unique pageviews:



CSU Libraries > Research Guides > A-Z Databases

A-Z DATABASES 1/3

Find the best library databases for your research.

CSU Libraries > Research Guides > Home

RESEARCH GUIDES 2/5

CO150 - COLLEGE COMPOSITION 8

Home | Colorado State University Morgan Library Tour

AGRI116 - PLANTS AND CIVILIZATIONS 9

Research help for AGRI116 students.

Your mission | Your mission: Library Research Assignment

Home
Terminology & Finding Aids
Internet Map Resources
Geology Maps

Historic Colorado Maps

Emphasis on this page is upon Colorado historic maps, either in the collection at the Colorado State University Libraries or online. The arrangement is from newer maps to older. 10

7.5' (1:24,000) USGS Topographic Maps:
This has been the standard detailed mapping series since the 1950s. A listing of CSU library holding found by a number search in the **library catalog** of the SuDoc call number I19.81:CO. This list is not c nor does the library own all editions and printings.

HOW TO DO LIBRARY RESEARCH

This set of pages has information on how to do library research. In all cases, once you have located sources, be s

How to Evaluate Journal Articles

How to Evaluate Journal Articles 13

To evaluate a journal article look for:

PRIMO HELP 14

Getting Started | What is Primo?

Home
Terminology & Finding Aids 4
Internet Map Resources

Aerial & Satellite Photos Online

- **Aerial & Satellite Photographs Online:**
- **Google Earth**
  Free download version allows for worldwide search and zoom
- **Google Maps**
  Zoom in to US locales for maps, satellite images, or hybrids of

July 2017-June 2018

HOW TO DO LIBRARY RESEARCH 6

This set of pages has information on how to do library research. In all cases, once you have located sources, be sure to evaluate them, using the evaluation guides.

ENGLISH LANGUAGE & LITERATURE (26)

This guide has links to resources for doing literary research. Some give general research advice and others are specific to an author or subject.

CO150 - COLLEGE COMPOSITION 11

Home
Getting Started
Scholarly vs. Popular Resources
Search Strategy
Academic Search

Academic Search Premier

Academic Search Premier is a broad, interdisciplinar wide range of subjects. It includes a mix of scholar publications, and a little bit of newspaper coverag point for the kind of research you will need to do i Search Premier is one of many databases that our EBSCOhost. If you learn this database well, you'll b databases with ease.

Searching: Academic Search Premier | Choose Databases

Language Research Topics

There are many influences upon language. Subject terms used in recommended reference sources for the issues listed below are provided under each topic. However, keep in mind that there are additional terms that you will want to try and that you will need to combine concepts in many of the databases or be overwhelmed with search results. Try to narrow your searches so that you are looking at smaller sets (of under 75). Some terms listed under one issue may be useful in others, so you might want to look under more than one of these for ideas. 7

- **Double Talk, Euphemisms, & Professional Jargon**
- **Language and Advertising**
- **Language and Community**
- **Language and Cultural Identity**
- **Language and Culture**
- **Language and Gender**
- **Language and Literacy**
- **Language and Power**
- **Language and Sexism**
- **Language and the Media**
- **Language of Politics**

DISTANCE LEARNERS 12

Assist distance learners with access to library resources

Home
Library Accounts
Books
Access from Off Campus
Help with Resources

Before you begin

Course registration establishes yo
You will generally need to have ac setting up any library accounts.
You will also need to know your C
If you already have a Ram Card, y

PSYCHOLOGY 15

Home
Books+
Encyclopedias+
Databases and Journals

PsycINFO

PsycINFO (1887-present) Citatio psychological aspects of related d book chapters, books, dissertation

Quick Reference Guide (pdf)

Video tutorials:

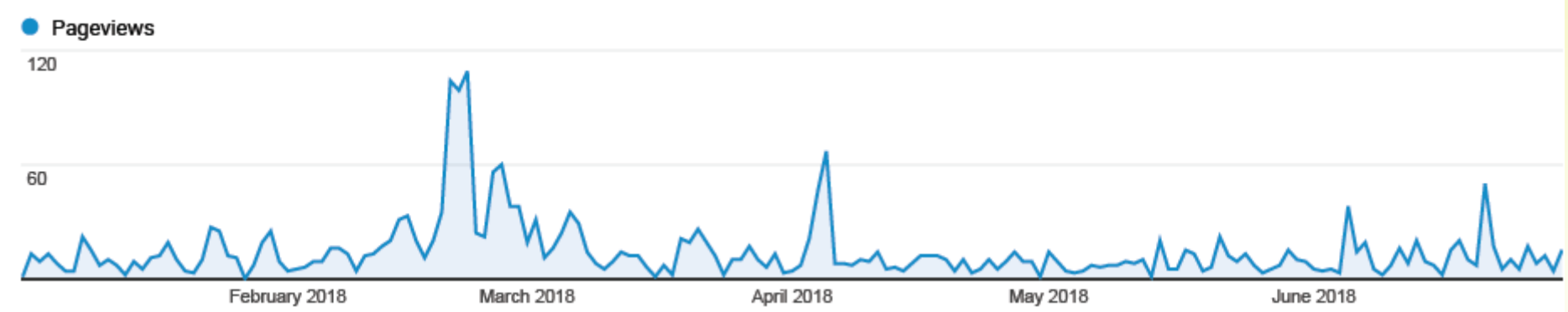
Food--

16: actually 14

MORGAN LIBRARY
COLORADO STATE UNIVERSITY

Food: Jan 1-Jun 30, 2018

- 778 pageviews (30% of Gov Info)
- 627 unique pageviews (29%)
- Gov Info site (pageviews) 2577 / (unique) 2130:



Average Time on Page

- July 1, 2017-June 30, 2018: 2:42
- Jan 1, 2018-June 30, 2018: 2:25

- So—for everyone who jumped on and left immediately, someone stayed close to or over 5 minutes

Food Pages: Success!

- Heaviest Government Information page use
- Jan-Jun 2018, next heaviest has less than half as many hits (279 vs. 778)
- Looking forward to seeing how Energy & Water do!

Variables to Consider

- Number of sections with Food as a topic
- Number of sections with Food, Water, & Energy as a topic
- Instructors or course may choose a different topic after the first year

Food, Energy, & Water

Topical theme for many of the first year composition courses 2018-19

MORGAN LIBRARY
COLORADO STATE UNIVERSITY

Topical Documents on Display

Hearings . . . the covers might be dull, but the contents are golden!

Most of the hearings on display are also available online via the library catalog.

Photo credits (both): Kristy Nowak & Christine Pawliuk

Energy

Energy--Information from Various Governmental Sites

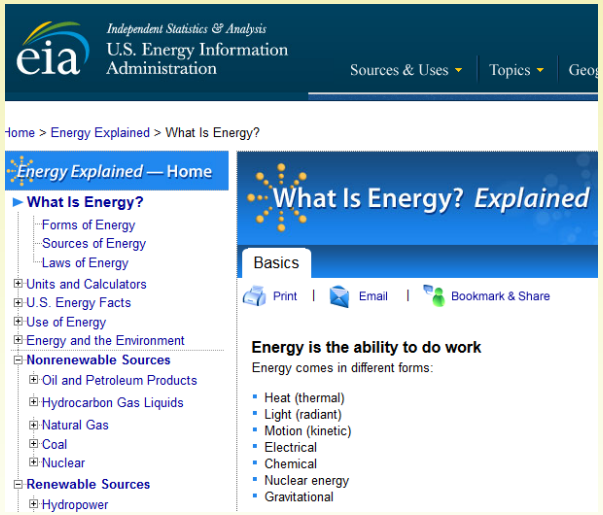
One thing to note about these Web sites, and any others for that matter, is that content can change at any time. Be sure to save any content that you might use later. Some of the links below go to the same larger organization, but are listed separately for faster locating.

NASA ClimateKids

COMMITTEE ON SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman
About | Legislation | Hearings | News | Subcommittees

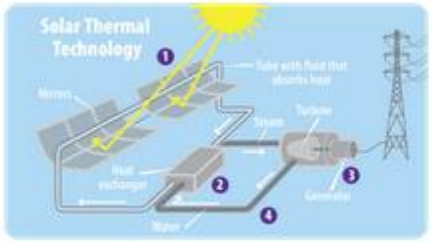
ENERGY STAR

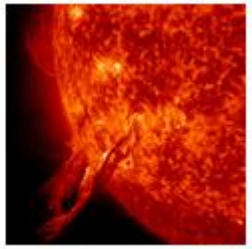
USGS science for a changing world
Energy Resources Program
Oil & Gas | Coal | Other Energy | Environmental Aspects



Solar Energy

See the guide prepared by the **Library of Congress on Solar Energy**. It has subject headings, recommended readings, and more.





ENERGY.GOV | SCIENCE & INNOVATION | ENERGY ECONOMY | SECURITY & SAFETY

NREL
Transforming ENERGY

Solar Energy Basics

Solar is the Latin word for sun—a powerful source of energy that ca
and light our homes and businesses. That's because more energy f
earth in one hour than is used by everyone in the world in one year.

eia
Independent Statistics & Analysis
U.S. Energy Information Administration
Sources & Uses

Home > Energy Explained > Renewable Sources > Solar

Energy Explained — Home
- What Is Energy?
- Units and Calculators
- U.S. Energy Facts
- Use of Energy
- Energy and the Environment

Solar *Explained*
Basics

USDA United States Department of Agriculture
National Agricultural Library

Solar Energy

The sun's light and heat can supply usable power such as heat or electricity. Find information about solar energy technologies, ongoing research, policies and programs.

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Home > Programs > Programs Overview > Energy and Minerals

RENEWABLE ENERGY

SOLAR ENERGY

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Home | Subjects | Data Tools | Publications | Econom

Green Jobs

BROWSE GREEN JOBS
GREEN JOBS HOME

Careers in Solar Power

Thermal/Geothermal Energy

This section has information on thermal/geothermal energy. "Geothermal energy is heat within the earth." (Geothermal Explained.)

Radiant/Electromagnetic Energy

Radiant energy is energy from **electromagnetic waves**. "The visible light from the Sun is only one type of radiant energy. The other types of radiant energy are known as gamma rays, x rays, ultraviolet, infrared, microwaves, and radio waves."*

National Aeronautics and Space Administration
Goddard Space Flight Center

IMAGINE THE UNIVERSE!

Home
Science
Astronomer's Toolbox
Cosmic Objects
Big Questions
How Scientists Get

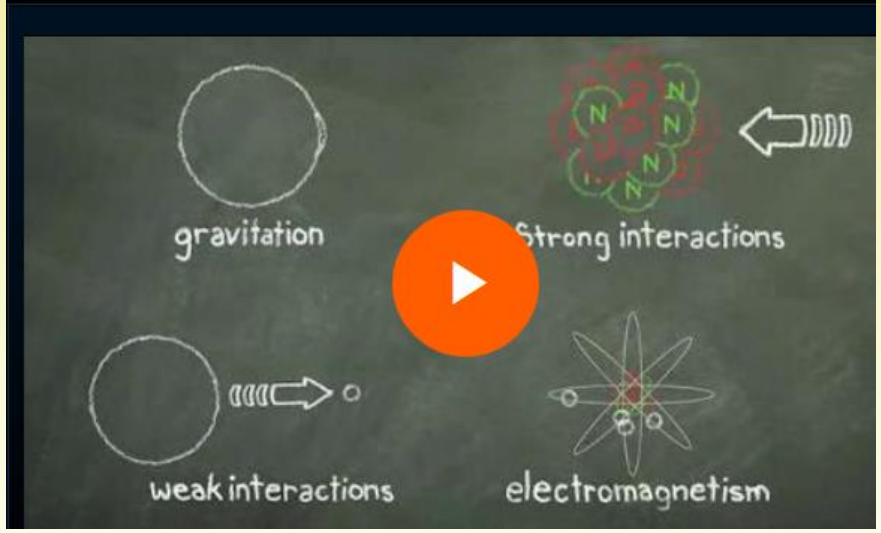
Astronomer's Toolbox
Search search this site

Basic Advanced

The Electromagnetic Spectrum

science360 VIDEO

VIDEO HOME TOPICS SERIES ABOUT NEWS

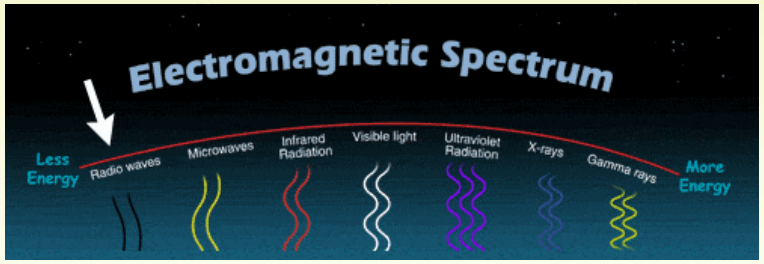


NIH NATIONAL CANCER INSTITUTE

Electromagnetic Fields and Cancer

ON THIS PAGE

- What are electric and magnetic fields?
- What are common sources of non-ionizing EMFs?



FDA U.S. FOOD & DRUG ADMINISTRATION

Home Food Drugs Medical Devices Radiation-Emitting Products Vaccines, Blood & Biologics

Radiation-Emitting Products

Home > Radiation-Emitting Products > Radiation-Emitting Products and Procedures > Tanning

Tanning
Ultraviolet (UV) Radiation
Your Skin
The Risks of Tanning
Tanning Products

Ultraviolet (UV) Radiation

SHARE TWEET LINKEDIN PIN IT EMAIL PRINT

- What is UV Radiation?
- How is radiation classified on the electromagnetic spectrum?
- What are the different types of UV radiation?

Kinetic/Motion/Hydrokinetic Energy

"Kinetic energy is the motion of waves, electrons, atoms, molecules, substances, and objects." (Energy Kids.)

ENERGY.GOV | Energy.gov Offices | National Labs | Search Ene

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY | About Us | Initiatives | SERVICES | EFFICIENCY | RENEWABLES | TRANS

Energy 101: Marine and Hydrokinetic Energy

energy KIDS
U.S. Energy Information Administration

What is Energy?
Energy Basics
Forms of Energy

What Is Energy?

*Energy forms are either **potential** or **kinetic**. **Potential** energy comes in forms that are stored including chemical, gravitational, mechanical, and nuclear. Kinetic energy is energy in movement and includes electrical energy, heat, light, and sound.*

Full . Published Online: 10 September 2012

Cars and Kinetic Energy – Some Simple Physics with Real-World Relevance

The Physics Teacher **50**, 395 (2012); https://doi.org/10.1119/1.4752039

Raghuveer Parthasarathy

U.S. Fish & Wildlife Service
Energy Development

Search

ES Home | About Us | Species | Wildlife & Habitat Conservation | Developm

ES Home » Energy Development » Energy Technologies and Impacts – Hydrokinetic Energy

Overview
Energy Project Review
Policies, Permits, and Authorities
Energy Technologies and Impacts »
Documents

Hydrokinetic Energy

Hydrokinetic energy is the energy generated by the movement of a body of water. The earth's tides, waves, ocean currents and free-flowing rivers contain an untapped, powerful, highly-concentrated and clean energy resource. Traditional hydropower (river dams and conduits) is also produced by moving water, but is described here. A variety of hydrokinetic energy sources are described below.

In-stream Hydrokinetic Energy: In-stream hydrokinetic projects

BOEM
Bureau of Ocean Energy Management

Calendar | Contact Us | Employment | Operating St

About BOEM | Regions | Newsroom | Oil & Gas Energy | Renewable Energy | Envi

Renewable Energy
- Rules Development and Interim Policy
- Regulatory Roadmap
- Regulatory Framework
- National and Regional Guidelines
- Lease and Grant Information

Home | Renewable Energy

Ocean Wave Energy

Ocean wave energy is captured directly from surface waves or from pressure fluctuations below the surface.

Waves are caused by the wind blowing over the surface of the ocean. In many areas of the world, the wind blows with enough consistency and force to provide continuous waves along the shoreline. Ocean waves contain tremendous energy potential. Wave power devices extract energy from the surface motion of ocean waves or from pressure fluctuations below the surface.

Ocean Wave Energy Resource

Electrical Energy

See a detailed definition of **electricity in *The Gale Encyclopedia of Science***, also relevant and useful are **electricity in *Energy: Supplies, Sustainability, and Costs***, electricity in ***Energy: In Context***, and electricity in ***Encyclopedia of Energy*** (all CSU affiliates only); look for bibliographies in these resources.

EPA United States Environmental Protection Agency

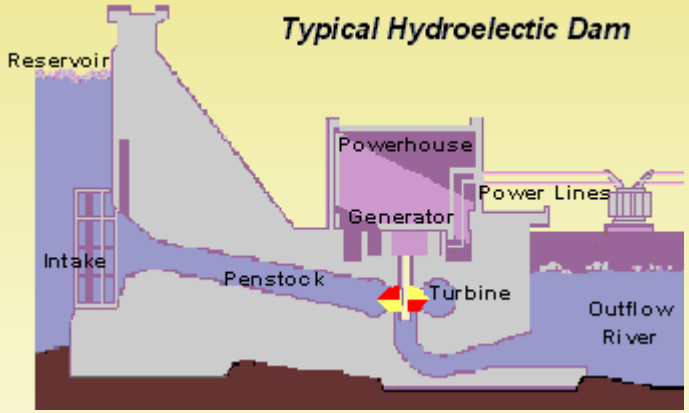
Environmental Topics | Laws & Regulations | About EPA | Search EPA.gov

CONTACT US | SHARE

Energy and the Environment

- Energy & the Environment Home
- Learn about Energy & the Environment
- The Electricity System

About the U.S. Electricity System and its Impact on the Environment



eia Independent Statistics & Analysis
U.S. Energy Information Administration
+ Sources & Uses | + Top

ELECTRICITY

OVERVIEW | DATA | ANALYSIS & PROJECTIONS

‹ SEE ALL ELECTRICITY REPORTS

Electric Power Annual

With Data for 2016 | Release Date: December 7, 2017 | Next Release Date: November 2018

full report | CORRECTION

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

EERE

Alternative Fuels Data Center

FUELS & VEHICLES | CONSERVE FUEL | LOCATE STATIONS | LAWS & INCENTIVES | Maps & Data | Case Studies | Public

EERE » AFDC » Fuels & Vehicles » Electricity

- Electricity Basics
- Benefits & Considerations
- Stations
- Vehicles
- Laws & Incentives

Electricity

Electricity can be used to power plug-in electric vehicles (PEVs), including all-electric vehicles and plug-in hybrid electric vehicles. These vehicles can draw electricity directly from the grid and other off-board electrical power sources and store it in batteries. In contrast, hybrid electric vehicles are fueled with liquid fuels, like gasoline, but use batteries to recapture energy otherwise lost during braking (ultimately boosting fuel economy). Using electricity to power vehicles can have significant energy security and emissions benefits.

FERC Federal Energy Regulatory Commission

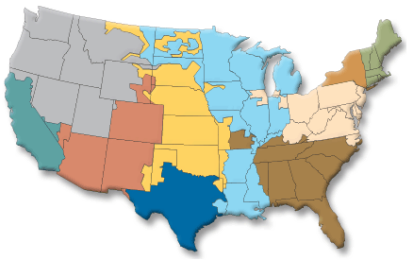
Enter Search Term(s):

ABOUT | MEDIA | DOCUMENTS & FILINGS | INDUSTRIES | LEGAL RESOURCES | MARKET OVERSIGHT | ENFORCEMENT | CAREERS

- Reports & Analyses
- Market Snapshots
- Electric Power Markets
  - National Overview
  - Archives
  - California (CAISO)
  - Midcontinent (MISO)
  - New England (ISO-NE)
  - New York (NYISO)
  - Northwest
  - PJM
  - Southeast
  - Southwest

Market Oversight » Electric Power Markets

Electric Power Markets: National Overview



ENERGY.GOV

Test your Power Grid IQ

Do you know your synchrophasors from your microgrids? Test your knowledge of the electric grid with our grid IQ test.

https://www.energy.gov/maps/quiz-test-your-grid-iq

Wind Energy

Find an introduction to **wind energy in *Alternative Energy***. Find more on **wind energy in *Energy: In Context***, or **wind energy in *Environmental* Encyclopedia**, or **wind energy in *Berkshire* Encyclopedia of Sustainability**. See also **wind energy in *Encyclopedia of Contemporary American Social Issues***. The bibliographies in these reference articles will also be useful.

eia *Independent Statistics & Analysis*
U.S. Energy Information Administration

Wind *Explained*
History of Wind Power

People have been using wind energy for thousands of years

People used wind energy to propel boats along the Nile River as early as 5,000 BC. By 200 BC, simple wind-powered water pumps were used in China, and windmills with woven-reed blades were grinding grain in Persia and the Middle East.

Traditi

USDA United States Department of Agriculture
National Agricultural Library

Wind Energy

The force of the wind can be converted into mechanical or electrical power. Find information about wind power technologies, research, policies and programs.

The Library of Congress >> Researchers
Science Reference Services
SCIENCE, TECH BUSINESS

Home >> Tracer Bullets Find in Science Tracer Bullets

SCIENCE TRACER BULLETS ONLINE

Wind Power

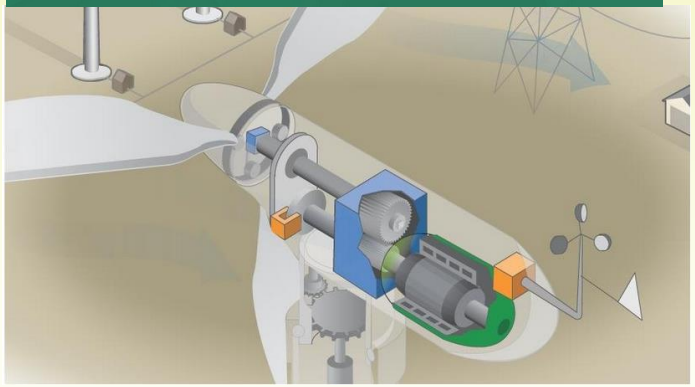
Tracer Bullet 07-7

- Scope
- Introductions to the Topic
- Subject Headings
- General Texts
- Additional Titles
- Specialized Titles
- Related Titles
- Handbooks
- Technical Reports
- Selected Technical Reports and Government Publications
- Dissertations
- Selected Dissertations
- Abstracting and Indexing Services
- Journals
- Representative Journal Articles
- Selected Materials
- Selected Internet Resources
- Additional Sources of Information

Photo: Wind turbine field.
From the Sandia National Laboratories Web site.

ENERGY.GOV

How Do Wind Turbines Work?



ENERGY.GOV

QUIZ: Test your Wind Energy IQ

Think you know a lot about wind power? Here's your chance to test your knowledge!

https://www.energy.gov/maps/quiz-test-your-wind-energy-iq

EHP Environmental Health Perspectives

HOME CURRENT ISSUE ARCHIVES COLLECTIONS AUTHORS ABOUT

News

Wind Turbines: A Different Breed of Noise?

Nate Seltenrich

First Published: 1 January 2014 | **Cited by:** 3

Nuclear Energy

Get an overview and information about nuclear energy in reference books: ***Alternative Energy*** (2006); ***Energy : Supplies, Sustainability, and Costs*** (2015); ***Energy: In Context*** (2016); **Encyclopedia of Contemporary American Social Issues** (2011); ***Encyclopedia of Climate Change*** (2016); ***UXL Encyclopedia of U.S. History*** (2009); ***Encyclopedia of American Environmental History*** (2011); and others. The bibliographies will also be useful, so do not overlook them.

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Glossary

See also the Full-Text Glossary.

Nuclear power plant

Nuclear Radiological Incident Annex

Nuclear reactor

Nuclear steam supply system

Nuclear waste

a student's guide to
GLOBAL CLIMATE CHANGE

Nuclear Energy

Atoms are tiny particles that make up every object in the universe. The bonds that hold atoms together contain a huge amount of energy. When atoms are split apart, this energy can be used to make electricity. This process is called nuclear fission.

In a nuclear power plant, fission takes place inside a reactor. Most nuclear power plants use uranium as fuel because its atoms are easily split apart. Uranium is a metal found in rocks all over the world. Although uranium is not a renewable resource, fairly large quantities of it still exist, and it only takes a small amount to produce a lot of energy.

- Solar Energy
- Wind Energy
- Water Energy
- Nuclear Energy
- Geothermal Energy
- Biomass Energy
- Methane Capture and Use
- Carbon Capture and Underground Storage
- Green Vehicles
- Energy-Efficient Buildings

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Homeland Security

Nuclear Reactors, Materials, and Waste Sector

From the power reactors that provide electricity to millions of Americans, to the medical isotopes used to treat cancer patients, the Nuclear Reactors, Materials, and Waste Sector covers most aspects of America's civilian nuclear infrastructure. The Nuclear Sector-Specific Agency within the Department of Homeland Security is responsible for coordinating the security and resilience of the Nuclear Sector.

EPA United States Environmental Protection Agency

LEARN THE ISSUES | SCIENCE & TECHNOLOGY | LAWS & REGULATIONS | ABOUT EPA

RadTown USA

- Home
- Burbs
- Countryside
- Waterfront
- Downtown
- Educational Materials
- RadTown A to Z
- Games
- Link to Us

You are here: EPA Home » RadTown USA » Waterfront » Nuclear Power Plants

Nuclear Power Plants

Nuclear power plants produce electricity from the heat created by splitting uranium atoms.

- In the event of a nuclear power plant emergency, follow instructions from emergency responders and elected officials.

On this page:

- About Nuclear Power Plants
- Rules and Guidance
- What you can do
- Where to learn more

Chemical Energy

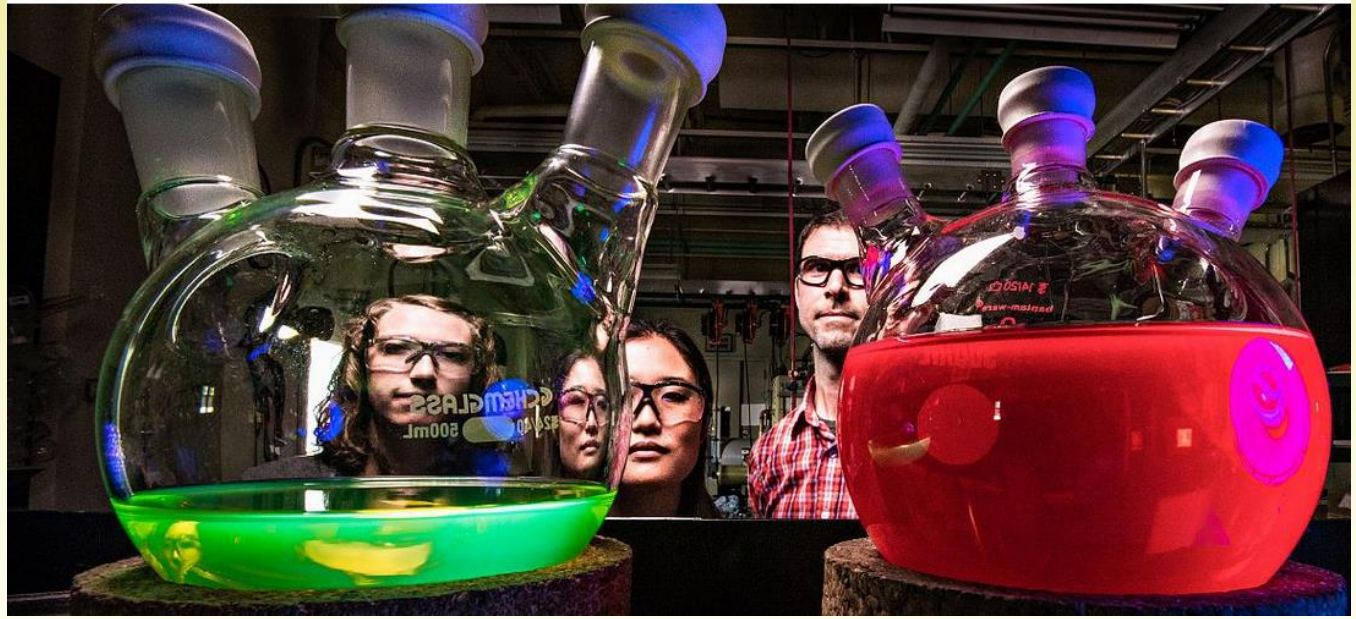
As a separate entity, there isn't a lot directly on chemical energy in government publications. However, there are a few useful items worth exploration.

NREL
Transforming ENERGY

Search NREL.gov SEA

Chemistry & Nanoscience Research

Research Staff Work with U



KIDS' ZONE
Learning with NCES

HOME TOOLS GRAPH DARE TO COMPARE GRAB BAG CHANCES

DARE TO COMPARE

Answer the questions by clicking on any of the available buttons below each question.

When you are finished, click the **Show Answers** button at the bottom of the page.

1. Why do mountain climbers use oxygen equipment at the top of the world's highest mountains?

- There is less oxygen in the air at great heights.
- There is little nitrogen in the air at great heights.
- There is a hole in the ozone layer.
- There is no air at the top of very high mountains.

2. What feature is shared by ALL insects?

- External skeleton
- Two pairs of wings
- Jumping legs
- Stinging mechanism

3. Which is an example of a chemical reaction?

- Water boiling
- Sugar dissolving
- Nails rusting
- Wax melting

4. Most of the chemical energy released when gasoline burns in a car engine is not used to move the car, but is changed into:

- electricity
- heat
- magnetism
- sound

https://nces.ed.gov/nceskids/eyk/index.asp?search=1&flash=true&Q=86,111,48,90,45,96,129,204,98,35,202,11,7,128,203,76,137,9,103,75

Energy Consumption, Prices, Various

Read about **energy conservation** in Energy: Supplies, Sustainability, and Costs.

U.S. DEPARTMENT OF ENERGY

Home Energy Score

Know your home. Know your Score.

UNITED STATES DEPARTMENT OF LABOR

BUREAU OF LABOR STATISTICS

Average Energy Prices for the U.S., regions, census divisions, and selected metropolitan areas

Gasoline, price per gallon

Area	Average price, all grades				Regular				Mid				Premium			
	Back data	Aug. 2017	Jul. 2018	Aug. 2018	Back data	Aug. 2017	Jul. 2018	Aug. 2018	Back data	Aug. 2017	Jul. 2018	Aug. 2018	Back data	Aug. 2017	Jul. 2018	Aug. 2018
U.S.		$2.436	$2.930	$2.919		$2.374	$2.873	$2.862		$2.674	$3.166	$3.153		$2.883	$3.399	$3.384
Northeast(1)		2.501	2.957	2.961		2.445	2.908	2.912		2.734	3.189	3.198		2.921	3.369	3.374
New England			2.879	2.883			2.833	2.838			3.101	3.117			3.254	3.256
Boston		2.376	2.906	2.893		2.329	2.862	2.847		2.588	3.107	3.119		2.768	3.272	3.268
Middle Atlantic			3.010	3.013			2.958	2.961			3.252	3.255			3.447	3.454
New York		2.512	3.003	2.988		2.460	2.950	2.935		2.776	3.274	3.258		2.948	3.438	3.427
Philadelphia		2.533	2.986	2.973		2.461	2.931	2.916		2.791	3.279	3.270		2.954	3.448	3.441

NISTIR 85-3273-32

Energy Price Indices and Discount Factors for Life-Cycle Cost Analysis – 2017

Annual Supplement to NIST Handbook 135

Priya D. Lavappa
Joshua D. Kneifel
Eric G. O'Rear

This publication is available free of charge from:
https://doi.org/10.6028/NIST.IR.85-3273-32

eia Independent Statistics & Analysis
U.S. Energy Information Administration
+ Sources & Uses | + Topics

CONSUMPTION & EFFICIENCY

Energy consumption estimates by sector

trillion Btu

January to May	2018	2017	2016	2015	2014
End–Use Sector					
Residential	9,485	8,496	8,547	9,462	9,943
Commercial	7,881	7,491	7,448	7,811	7,860
Industrial	13,467	12,972	13,020	13,127	13,106
Transportation	11,483	11,381	11,353	11,074	10,873
Primary Total	42,309	40,331	40,348	41,468	41,785

Source: U.S. Energy Information Administration, Monthly Energy Review – Table 2.1

DATA.GOV

29 datasets found

Monthly and Annual Energy Consumption by Sector 83 recent views

Department of Energy — Monthly data since January 1973 and annual data since 1949 on U.S. primary and total energy consumption by end-use sector (residential, commercial, industrial,...

Federal

XLS

eia Independent Statistics & Analysis
U.S. Energy Information Administration

NATURAL GAS

OVERVIEW | DATA | ANALYSIS & PROJECTION

Natural Gas Prices

(Dollars per Thousand Cubic Feet)

Data Series: Electric Power Price

Energy Consumption, Prices, Various

Read about **energy conservation** in Energy: Supplies, Sustainability, and Costs.

USDA United States Department of Agriculture
Economic Research Service

Feature: Food Markets & Prices June 05, 2017 | PRINT | PDF | EMAIL

The Relationship Between Energy Prices and Food–Related Energy Use in the United States

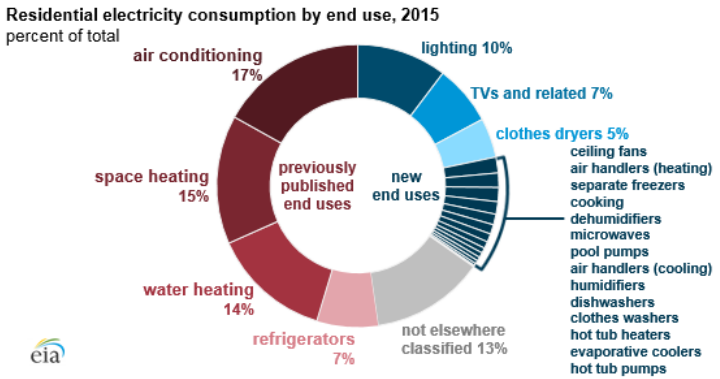
by Patrick Canning and Sarah Rehkamp

eia Independent Statistics & Analysis
U.S. Energy Information Administration
+ Sources & Uses | + Topics | + Geography

‹ CONSUMPTION & EFFICIENCY

RESIDENTIAL ENERGY CONSUMPTION SURVEY (RECS)

EIA's residential energy survey now includes estimates for more than 20 new end uses



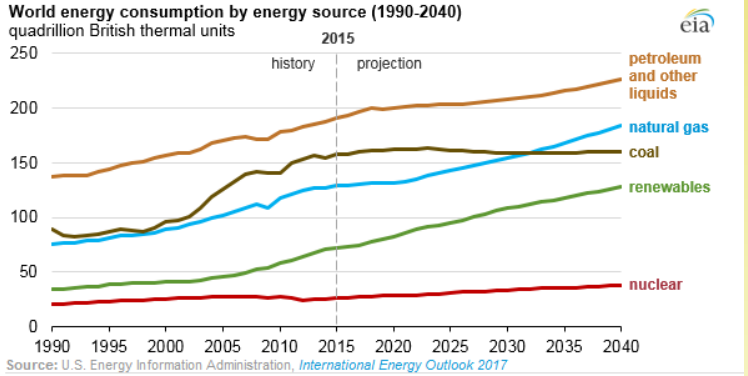
Source: U.S. Energy Information Administration, 2015 Residential Energy Consumption Survey

eia Independent Statistics & Analysis
U.S. Energy Information Administration

TODAY IN ENERGY

SEPTEMBER 14, 2017

EIA projects 28% increase in world energy use by 2040



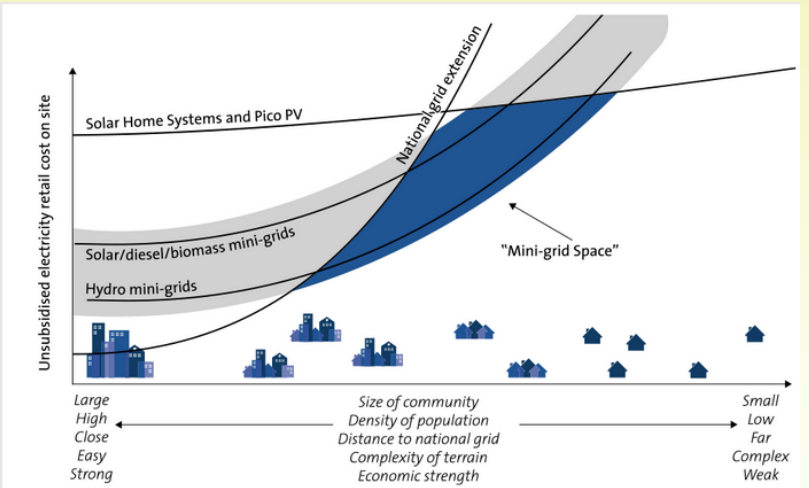
Source: U.S. Energy Information Administration, *International Energy Outlook 2017*

USAID FROM THE AMERICAN PEOPLE

WHEN ARE RENEWABLE ENERGY MINI-GRIDS MORE COST-EFFECTIVE THAN OTHER OPTIONS?

Short Answer

energy saver



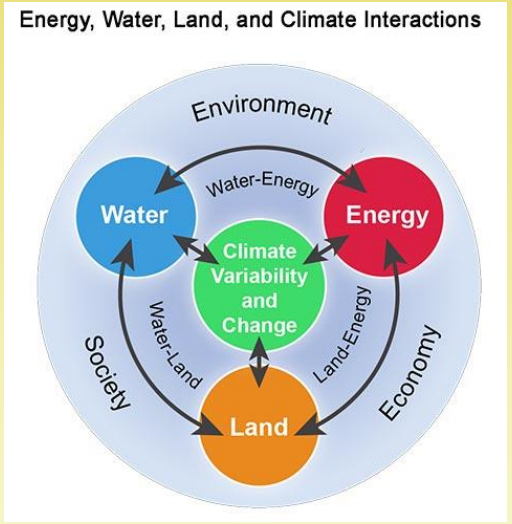
Mini-grid space is optimal for mid-density.

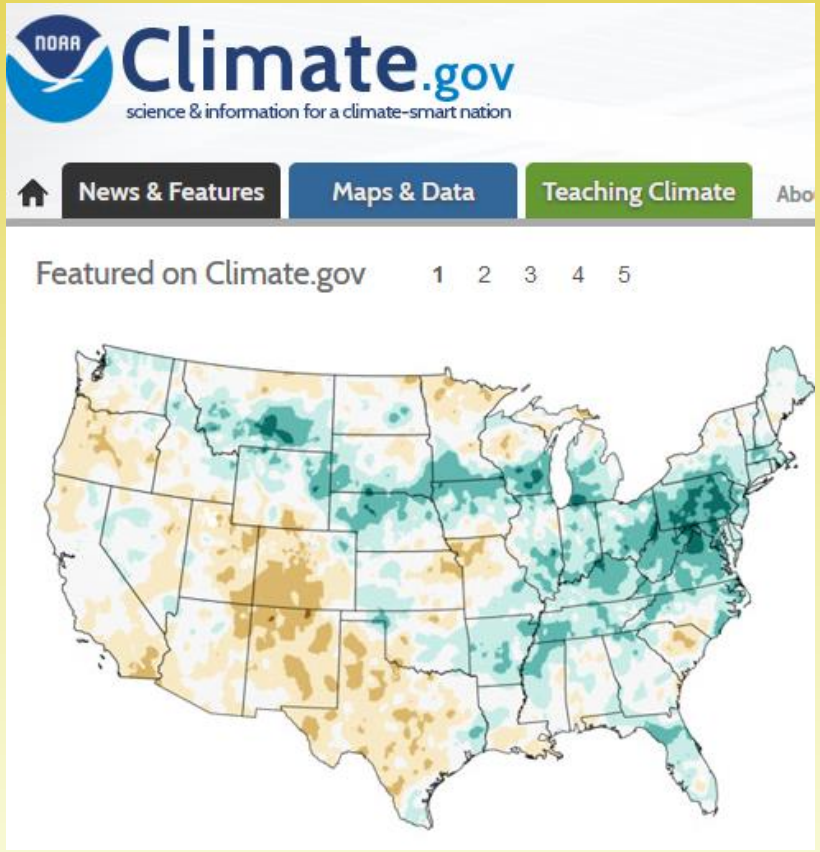
Source: EU Energy Initiative Partnership Dialogue Facility (2014). ***Minigrid Policy Toolkit***

MORGAN LIBRARY
COLORADO STATE UNIVERSITY


Energy Climate
Climate and energy, in brief.


ENERGY.GOV
Department of Energy
Climate Change


Energy, Water, Land, and Climate Interactions
Environment
Water-Energy
Water
Energy
Climate Variability and Change
Water-Land
Land-Energy
Society
Economy
Land


Climate.gov
science & information for a climate-smart nation
News & Features
Maps & Data
Teaching Climate
Featured on Climate.gov
1 2 3 4 5


Energy, Water, and Land Use
Climate change affects energy, water, and land use as well as the interactions among these sectors. The combination of these factors affects climate change vulnerability as well as adaptation and mitigation options.
Explore climate change impacts on the intersections of energy, water, and land use.


Key Message 1: Cascading Events
Energy, water, and land systems interact in many ways. Climate change affects the individual sectors and their interactions; the combination of these factors affects climate change vulnerability as well as adaptation and mitigation options for different regions of the country.

Agency Web Sites--Energy

- **Department of Energy (Energy.Gov)**
  A gateway for federal government resources dealing with energy.
- **Energy Information Administration**
  The EIA is the source for information and statistics on petroleum, oil, gasoline, natural gas, and many other energy related topics for US states and countries of the world.
- **Office of Scientific and Technical Information**
  OSTI is the research arm of DOE and a gateway for numerous databases pertaining to energy research.
- **Department of Energy - Solar Decathlon**
  Information about an "award-winning program that challenges collegiate teams to design, build, and operate solar-powered houses that are cost-effective, energy-efficient, and attractive."

Statistical Resources--Energy

- **Prices and Trends**
  A starting point for petroleum, gasoline, and diesel prices and data, as well as a gateway to other major statistical sources.
- **Annual Energy Outlook**
  Provides data and projections for the next 20 years. Annual issues are online from 1996 to the present. Print and microfiche annual copies from 1983 to 2002 can be found at E3.1/4 Doc.
- **Annual Energy Review**
  Compiles current and historical statistics, some back to 1949. Annual issues are online from 1995 to the present. Some tables are linked from the Monthly Energy Review. Print and microfiche copies from 1982 to 2003 can be found at the call number E3.1/2 Doc.
- **Monthly Energy Review**
  A publication of recent and historical energy statistics. This publication is online from 1993 to the present. Paper copies from 1974 to 2001 can be found at the call number E3.9 Doc. Full text available for 2000 to 2010 through Discovery using HD9564 .M66ej call number.
- **Country Analysis Briefs**
  Very useful for narrative and basic statistics on energy needs of countries and regions.
- **Petroleum Data Publications**
  A starting point for numerous statistical and analytical petroleum publications.
- **Fueleconomy.gov**
  Find automobile make and model mpg, fuel economy, energy impact, and carbon footprint as well as comparisons.
- **Energy Information Administration**
  The EIA is the source for information and statistics on petroleum, oil, gasoline, natural gas, and many other energy related topics for US states and countries of the world.

Existing content? Copy it over (or point/link) to new subject page. (LibGuide here.)

Then realize other page doesn't have images and add one to liven it up a tad. (Sometimes.)

Water

How much water . . .

How much water does it take to make a t-shirt?

- "it can take 2,700 liters to produce the cotton needed to make a single t-shirt."* (That's 713 gallons!)
- See also "**Carbon Footprint of Textile** throughout its Life Cycle: A Case Study of Chinese Cotton Shirts." (CSU affiliates only)

How much water does the average person use at home per day?

- "Estimates vary, but each person uses about 80-100 gallons of water per day."†
- "The average American family of four uses 400 gallons of water per day. "†

What percentage of water is used for Agriculture in the United States?

- Agriculture accounts for "approximately 80 percent of the Nation's consumptive water use and over 90 percent in many Western States."‡

See also, "**Water Footprints of Nations**: Water Use by People as a Function of their Consumption Pattern." in ***Integrated Assessment of Water Resources and Global Change***. (2006) 35-48 and "**A Revised Approach to Water Footprinting** to Make Transparent the Impacts of Consumption and Production on Global Freshwater Scarcity." 2010 (both: CSU affiliates only).

*__The Impact of a Cotton T-Shirt__ & __How Your T-Shirt Can Make a Difference__.

†__Water Questions and Answers__. The USGS Water Science School. and __U.S. Indoor Water Use__. WaterSense. EPA.

‡__Irrigation & Water Use__. U.S. Department of Agriculture. Economic Research Service.

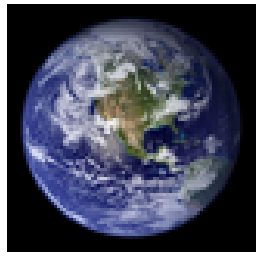
Table of Contents for Water

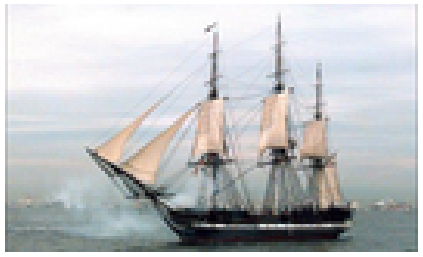
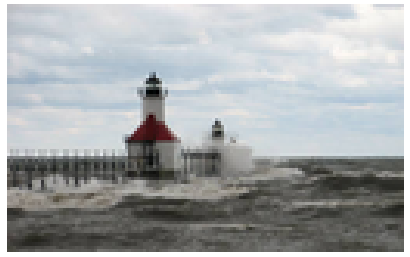


Sections on this page are:

Water--Introduction

Water. Without water there would be no life on Earth as we know it. Two-thirds of the planet is covered with water. What is it? According to *The Gale Encyclopedia of Science** it is a chemical compound with one oxygen atom bonded to two hydrogen atoms; it is "odorless, tasteless, transparent liquid that appears colorless but is actually very pale blue"; it has a high boiling point; it has three states: solid (ice), liquid, and gaseous (steam).



Government documents lend themselves excellently to the topic of water. Water is important in the political arena. Society and individuals have a vested interest in an adequate supply of fresh, clean, and uncontaminated water. Water is needed to grow food. Dirty water (sewage, remains from industry--including agriculture) needs to be disposed of in a manner that does not harm humans, animals, fish, birds, plants--which is to say pretty much anything and everything that is alive on Earth. Of course, this view of water disposal is a relatively new one, but historical incidents have amply demonstrated the danger of simply dumping contaminated water wherever it is convenient.

About Water

How Much Water Is There On, In, and above the Earth? USGS Water Science School.

Answers the questions! Learn about different kinds of water.

The USGS Water Science School

Home | Water Basics | Water Properties | Water Cycle (Adults) | Water Cycle (Kids) | Surface Water | G

Back to previous page

How much water is there on, in, and above the Earth?

The Earth is a watery place. But just how much water exists on, in, and above our planet? About 71 percent of the Earth's surface is water-covered, and the oceans hold about 96.5 percent of all Earth's water. Water also exists in the air as water vapor, in rivers and lakes, in icecaps and glaciers, in the ground as soil moisture and in aquifers, and even in you and your dog.

Water is never sitting still. Thanks to the water cycle, our planet's water supply is constantly moving from one place to another and from one form to another. Things would get pretty stale without the water cycle!

NIH National Institute of Environmental Health Sciences

Kids Environment Kids Health

Let's Talk about Water

Water is Remarkable!

Water is one of the most amazing substances on our planet. Did you know that every single living thing needs water? It is in each of the cells in our bodies and in the bodies of all plants, animals and other creatures. Water is special because it can mix with many different liquids and solids. Its ability to stay warm for a long time makes it special too. This helps keep the temperature inside our bodies around 98 degree Fahrenheit. It also helps keep the temperature in oceans, lakes and rivers from changing very quickly.

Earth's Water

- Where is Earth's water?
- How much water is there?
- The water cycle
- Follow a water drop through the water cycle
- Rain
- How wet is your state?
- Glaciers and icecaps
- Watersheds
- How Does Water Behave in Outer Space?

Water Resources Archive

Water as a resource in Colorado and the American West has a lengthy history. **Colorado territory** was created on February 28, 1861. Given that water in the semi-arid region was (and is) going to be precious, water rights and laws became (and still are) a major concern.

WATER RESOURCES ARCHIVE

The Colorado State University Water Resources Archive is a joint effort of the **University Libraries** and the **Colorado Water Institute**. The Archive consists of **collections** from individuals and organizations that have been instrumental in the development of water resources in Colorado and the West.

Subject areas include water resources management, engineering, law and legislation, endangered species, and more. Geographic coverage focuses on Colorado but extends across the American West and around the world.

Document types range from meeting minutes, reports, and correspondence to maps, photographs, and audiotapes. These primary materials relate to all aspects of water in Colorado and to contributions made by Coloradoans to water activities.

The Water Resources Archive actively **acquires** new collections, **digitizes** materials, and **assists** researchers. **Donations** greatly assist in making Colorado's historical water documents available to all.

BROWSE BY

Dates | Authors | Titles | Subjects

Search within this community and its collections:

Go

Sub-communities within this community

Irrigation Photograph Collection

Irrigation Research Papers

Water Tables Event Photographs

Collections in this community

Albertson (Maurice L.) Papers

Arkansas Valley Sugar Beet and Irrigated Land

Barry (Hamlet J. "Chips", III) Papers

Bittinger (Morton W.) Papers

Borland (Whitney M.) Papers

Cache la Poudre Oral History Project Collection

Carpenter (Delph E. and Family) Papers

Carpenter (Louis G.) Papers

Climate Data Collection

Wright Water Engineers, Inc. Records

Xeriscape Colorado, Inc. Records

Yevjevich (Vujica M.) Papers

Drinking Water Safety

Drinking water is used in the United States for many things that go beyond drinking it: "other uses include toilet flushing, bathing, cooking, cleaning, and lawn watering."* **Drinking water treatment**† discusses how water is made safe for public consumption--something which varies from community to community and property to property (e.g. wells).

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Healthy Water Topics

DRINKING WATER | HEALTHY SWIMMING | WATER, SANITATION, & HYGIENE

GLOBAL WATER, SANITATION, & HYGIENE (WASH)

WASH-RELATED EMERGENCIES & OUTBREAKS

OTHER USES OF WATER

EPA United States Environmental Protection Agency

Environmental Topics | Laws & Regulations | About EPA | Search EPA.gov

CONTACT US SHARE

Ground Water and Drinking Water

Ground Water and Drinking Water Home
Basic Information
Private Wells

Basic Information about Lead in Drinking Water

FDA U.S. FOOD & DRUG ADMINISTRATION

Protect Food and Water During Hurricanes and Other Storms

CDC Home

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

A-Z Index A B C D E F G H I J K L M N O P Q R S T U V

Drinking Water

EPA United States Environmental Protection Agency

Safe Drinking Water Act (SDWA)

The Safe Drinking Water Act (SDWA) is the federal law that protects public drinking water supplies throughout the nation. Under the SDWA, EPA sets standards for drinking water quality and with its partners implements various technical and financial programs to ensure drinking water safety.

The Law **Regulatory Programs**

Boiling tap water does not get rid of radioactive material. You should have bottled water in your emergency supplies.

Recreational Water Safety

"Recreation in and on Freshwaters" and "Recreation in and on the Oceans" describe **recreational uses of water.*** Take note that there are also **dangerous waters**.

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

US Army Corps of Engineers

En Español

Wearing a Life Jacket Can Save Your Life
To ensure you survive unexpected slips or falls overboard drown and on average it takes 10 minutes for a strong sw you. Great information on life jackets can be found at www

Never Exceed Your Swimming Abilities or Swim Alone
Regardless of how well you swim you could have to fight t when you encounter the unexpected. Remember your swi

Alcohol and Water are a Deadly Combination
When underwater and under the influence of alcohol or dr know which way is up. Also, boaters can develop "boater's reaction time. Combining that condition with alcohol or dr

Recreation.gov
EXPLORE YOUR AMERICA

WILD & SCENIC 50 YEARS 1968–2018 RIVERS

Water Safety: Rivers and Streams

Be Aware of Hazards

Be cautious anytime you or your family are near rivers and streams. Consider these precautions as spring snow melts and rivers and streams rise. Also be cautious when waters appear warm or slow moving, but actually have strong and sometimes dangerous currents below the surface.

- **Water Temperature:** Air temperatures may feel hot and the water may feel or appear warm, but temperatures can be extremely cold below the surface. Hypothermia can quickly set in and overwhelm even the strongest of swimmers, becoming too weak to escape.
- **Currents:** In as little as six inches, water that may look calm on the surface and slow-moving can have enough force to knock you off your feet and sweep you downstream. Even a slow current can take you where you don't want to go, towards hazards, and leave strong swimmers unable to reach the shore.
- **Water Hazards:** A slippery and uneven river bottom combined with the stream's current can suddenly sweep you off your feet. Debris and underwater features such as trees, branches and logs, and even narrow gaps between rocks can trap you under water, causing hypothermia or even death.

Water Safety

Travel (focus on international) Drinking Water Safety

Eat

- Food that is cooked and served hot
- Food from sealed packages
- Hard-cooked eggs
- Fruits and vegetables you have washed in safe water or peeled yourself
- Pasteurized dairy products

Don't Eat

- Food served at room temperature
- Food from street vendors
- Raw or soft-cooked (runny) eggs
- Raw or undercooked (rare) meat or fish
- Unwashed or unpeeled raw fruits and vegetables
- Condiments (such as salsa) made with fresh ingredients
- Salads
- Flavored ice or popsicles
- Unpasteurized dairy products
- Bushmeat (monkeys, bats, or other wild game)

Drink

- Water, sodas, or sports drinks that are bottled and sealed (carbonated is safer)
- Water that has been disinfected (boiled, filtered, treated)
- Ice made with bottled or disinfected water
- Hot coffee or tea
- Pasteurized milk

Don't Drink

- Tap or well water
- Fountain drinks
- Ice made with tap or well water
- Drinks made with tap or well water (such as reconstituted juice)
- Unpasteurized milk

Water and Health

Read about **Human health and water*** for a quick summary of the topic.

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Water & Nutrition

Healthy Water Sites

- Healthy Water
  - Drinking Water
  - Healthy Swimming
  - Global WASH
  - Other Uses of Water
  - WASH-related Emergencies & Outbreaks
  - Water, Sanitation, & Environmentally-related Hygiene

Water helps your body:

- Keep your temperature normal
- Lubricate and cushion joints
- Protect your spinal cord and other sensitive tissues
- Get rid of wastes through urination, perspiration, and bowel movements

Your body needs more water when you are:

- In hot climates
- More physically active
- Running a fever
- Having diarrhea or vomiting

EPA United States Environmental Protection Agency

Drinking Water Contaminant Human Health Effects Information

On this page:

- Drinking Water Standards and Advisory Tables
- Human Health Benchmarks for Pesticides
- Human Health and Drinking Water Advisory Documents for Chemical Contaminants
- Regulatory Support Documents for Chemical Contaminants
- Human Health and Drinking Water Advisory Documents for Microbial Contaminants
- Fluoride Risk Assessment and Relative Source Contribution

You may need a PDF reader to view some of the files on this page. See EPA's About PDF pag learn more.

Water Conservation

"Water conservation is the use and management of water for the good of all consumers. It is used in agriculture, industry, and the home."* CSU affiliates may read a selection of encyclopedia definitions of water

Green Jobs: Water Conservation

BLS U.S. BUREAU OF LABOR STATISTICS

Careers in Water Conservation

James Hamilton

September 2013 — Report 12

HUD.GOV U.S. Department of Housing and Urban Development
Secretary Ben Carson

Resources - Water Conservation

Water Conservation

Multifamily Housing Water Conservation Manual

Produced by the City of Portland (Oregon), this manual focuses on helping multifamily f
directed toward property managers and maintenance staff and discusses many of the w
complexes. However,anyone living within a multifamily housing setting can benefit from i
savings.

Overview of Retrofit Strategies: A Guide for Apartment Owners and Managers

HUD and the Partnership for Advancing Technology in Housing (PATH) have published t
multi-family properties address these challenges through water conservation. This publi
managers may use to conserve water, with approaches requiring modest investment an
a non-technical manner, owners and managers will be able to select the most appropria
situation.

National Park Service

Land and Water Conservation Fund

Protecting Lands and Giving Back to Communities

The Land and Water Conservation Fund was established by Congress in 1964 to fulfill a bipartisan commitment to safeguard our natural areas, water resources and cultural heritage, and to provide recreation opportunities to all Americans. Using zero taxpayer dollars, the fund invests earnings from offshore oil and gas leasing to help strengthen communities, preserve our history and protect our national endowment of lands and waters. The LWCF program can be divided into the "State Side" which provides grants to State and local governments, and the "Federal Side" which is used to acquire lands, waters, and interests therein necessary to achieve the natural, cultural, wildlife, and recreation management objectives of federal land management agencies.

USDA Natural Resources Conservation Service
United States Department of Agriculture

Soil and Water Resources Conservation Act (RCA)

RCA Appraisal

Soil and Water Resources Conservation Act

Water Rights

National Park Service

Water Law

Background

The National Park Service (NPS) seeks to protect and conserve surface waters and groundwaters in park units as integral components of water and land ecosystems. The Water Rights Program and Branch (WRB) in the Water Resources Division was established in 1985 and provides staff expertise and resources to effectively address water-quantity and water-right issues for NPS units throughout the United States. The program secures and protects water rights, flows, and lake and groundwater levels for the preservation and management of the national park system through all available local, state, and federal authorities.

U.S. Department of the Interior

Office of Congressional and Legislative Affairs

Water Rights Act

H.R. __, Water Rights Protection Act (Discussion Draft)

Statement for the Record
U.S. Department of the Interior
Before the
Water, Power, and Oceans Subcommittee
Committee on Natural Resources
U.S. House of Representatives
HR__ (Discussion Draft) the Water Rights Protection Act

May 18, 2017

Water Rights

Water rights vary from place to place. The focus here will be on Colorado.

Water Use

How We Use Water. WaterSense EPA (Archive).

Topics covered are: The Water Around Us; Water in Daily Life; Understanding your Own Water Use; Commercial, Industrial, Agricultural & Electricity Water Use; Communities Face Challenges to Meet Demand; Droughts Create Stress; and Less Water Affects the Environment.

How We Use Water

The Earth might seem like it has abundant water, but in fact less than 1 percent is available for human use. The rest is either salt water found in oceans, fresh water frozen in the polar ice caps, or too inaccessible for practical usage. While population and demand on freshwater resources are increasing, supply will always remain constant. And although it's true that the water cycle continuously returns water to Earth, it is not always returned to the same place, or in the same quantity and quality.

USGS science for a changing world

Water Use in the United States

Water Use Overviews

Total Water Use

Total water use: Estimated total water use for all categories and sources by State.

More

Surface Water and Groundwater Use

Surface Water and Groundwater Use: Water-use estimates for groundwater and surface water by State

Trends in Water Use

Trends: How water use is changing over time, starting with the initial USGS estimates for 1950.

More

USGS science for a changing world

The USGS Water Science School

Water Questions & Answers
How much water does the average person use at home per day?

	Typical water use at home
Bath	A "full tub" varies, of course, but 36 gallons is good avera **Tip:** Taking a shower instead of a bath should save a goo
Shower	Old showers used to use up to 5 gallons of water per mir about 2 gallons per minute. **Tip:** Taking a shorter shower using a low-flow showerhea
Teeth brushing	<1 gallon. Newer bath faucets use about 1 gallon per mir **Tip:** Simply turn the faucet off when brushing teeth.
Hands/face washing	1 gallon **Tip:** Simply turn the faucet off before drying your hands run the faucet until it gets hot before using it. Installing water flow rate.
Face/leg shaving	1 gallon **Tip:** Simply turn the faucet off when shaving.
Dishwasher	6-16 gallons. Newer, EnergyStar models use 6 gallons or dishwashers might use up to 16 gallons per cycle. **Tip:** EnergyStar dishwashers not only save a lot of water
Dish washing by hand:	About 8-27 gallons. This all depends on how efficient you faucets use about 1.5-2 gallons per minutes, whereas old

Water and Agriculture

Agriculture uses the majority of fresh water in the United States.

Agriculture

Climate disruptions to agriculture have increased. Many regions will experience declines in crop and livestock production from increased stress due to weeds, diseases, insect pests, and other climate change induced stresses.

Explore impacts to agriculture.

USDA United States Department of Agriculture
Economic Research Service

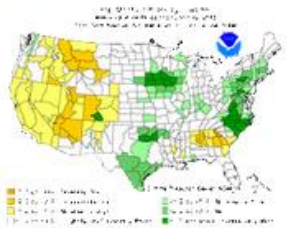
Irrigation & Water Use

Agriculture is a major user of ground and surface water in the United States, accounting for approximately 80 percent of the Nation's consumptive water use and over 90 percent in many Western States. Efficient irrigation systems and water management practices can help maintain farm profitability in an era of increasingly limited and more costly water supplies. Improved onfarm water

NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM NIDIS Drought.gov
U.S. Drought Portal

Soil Moisture Data and Tools

Crop Moisture Index

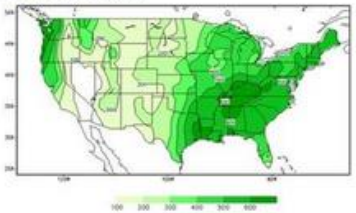


Weekly measurement of short-term needs vs. available water (dry to wet).

Topsoil Moisture Monitoring

(Click for actual conditions)

Soil Moisture



(Click for actual conditions daily and monthly, as well as seasonal anomalies)

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

What is agricultural water?

Agricultural water is water that is used to grow fresh produce and sustain livestock. The use of agricultural water makes it possible to grow fruits and vegetables and raise livestock, which is a main part of our diet. Agricultural water is used for irrigation, pesticide and fertilizer applications, crop cooling (for example, light irrigation), and frost control. According to the United States Geological Survey (USGS), water used for irrigation accounts for nearly 65 percent of the world's freshwater withdrawals excluding thermoelectric power (1). There are 330 million acres of land used for agricultural purposes in the United States that produce an abundance of food and other products (2).

Water And Agriculture Information Center

Water and Agriculture Information Center (WAIC) provides electronic access to information on water and agriculture. The center collects, organizes, and communicates the scientific findings, educational methodologies, and public policy issues related to water and agriculture.

Aquaculture

Aquaculture: Fisheries. National Oceanic and Atmospheric Administration. NOAA.

Overview, regulation & policy, science & technology, regional activities, international collaboration, and more.

Aquaculture Research Programs. USDA.

Research programs, data and statistics, market trends, monitoring, and resources.

Aquaculture Water Use. USGS.

Use by location (state) in the United States.

USDA U.S. DEPARTMENT OF AGRICULTURE

Hydroponics

Hydroponics. Alternative Farming Systems Information Center. USDA. National Library of Medicine

"Hydroponics, or growing plants in a nutrient solution root medium, is a growing area of commercial food production and also is used for home food production by hobbyists. Learn about the state-of-the-art techniques for producing food in a controlled, soilless setting." Link to sites and documents on the topic.

Hydroponics: A Better Way to Grow Food. National Park Service.

Benefits, types, how to incorporate into concession food operations, and more.

National Park Service

Hydroponics: A Better Way to Grow Food

When you think about the produce grown for concession food service operations, do you picture acres of open fields, rows of tilled soil, and seedlings lining the tops of the mounds? While much of the world's fruits and vegetables are grown this way, there are other ways to grow produce without large amounts of land — and even without soil!

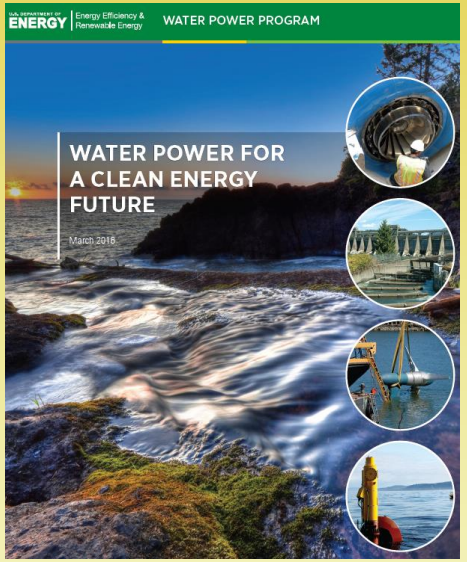
USDA United States Department of Agriculture
National Agricultural Library

Hydroponics

Hydroponics, or growing plants in a nutrient solution root medium, is a growing area of commercial food production and also is used for home food production by hobbyists. Learn about the state-of-the-art techniques for producing food in a controlled, soilless setting.

Water--Power from

Using water for power has a long history. "**Power for Technology: Water**"* gives examples from the medieval time period.



ENERGY.GOV

Office of Energy Efficiency & Renewable Energy

5 Promising Water Power Technologies

ENERGY.GOV

Water Power Projects Across the United States >

USGS science for a changing world

The USGS Water Science School

Home | Water Basics | Water Properties | Water Cycle (Adults)

← Back to previous page

Hydroelectric power water use

a student's guide to

GLOBAL CLIMATE CHANGE

Water Energy

If you've ever stood in a fast-moving stream, under a waterfall, or on the ocean shore as waves come crashing in, then you've felt the power of the water. The energy from moving water can be used to create electricity in several different ways. For example:

- **A hydroelectric dam** captures energy from the movement of a river. Dam operators control the flow of water and the amount of electricity produced. Dams create reservoirs (large bodies of calm water) behind them, which can be used for recreation, wildlife sanctuaries, and sources of drinking water.
- **Wave power** captures energy from waves on the surface of the ocean using a special buoy or other floating device.
- **Tidal power** captures the energy of flowing waters with the help of turbines as tides rush in and out of coastal areas.

Solar Energy
Wind Energy
Water Energy
Nuclear Energy
Geothermal Energy
Biomass Energy
Methane Capture and Use
Carbon Capture and Underground Storage
Green Vehicles
Energy-Efficient Buildings

Water--City Utilities, State Plans (examples)

Colorado

Colorado's Water Plan.

The plan, delivered in November 2015, was "developed in order to ensure the state's most valuable resource is protected and available for generations to come." "Governor Hickenlooper issued a **proclamation declaring November 16 as Colorado's Water Implementation Day**." Click on The Plan to read it (entire, executive summary, or by chapter).

Boulder Water Utilities Division. City of Boulder Colorado.

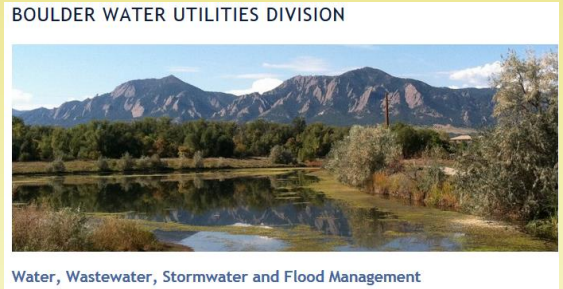
Covers "Water, Wastewater, Stormwater, and Flood Management." Drinking water has multiple sections. Water education has information on the history of water in Boulder (beginning in 1859) as well as other topics.

Denver Water. Denver, Colorado

Sections at top of page as of late Nov. 2016 are: Water Service & Support; Billing & Rates; Conservation; Water Quality; Supply & Planning; Recreation:Construction Projects; and Education & Outreach. Foot of page includes Operating Rules and Engineering Standards.

Water. Fort Collins Utilities. Fort Collins, Colorado.

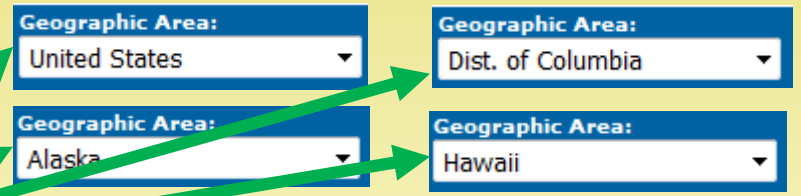
Information on water quality, treatment, supply & demand, distribution, drought, and more.



Colorado Water

USGS Current Water Data for Colorado. USGS.

Daily streamflow conditions for Colorado stations with at least 30 years of record. Build a custom table, see Colorado streamflow, precipitation, groundwater, lakes and reservoir, water-quality, and meteorological tables, daily stage, streamflow, and stage & streamflow.



Water and Growth. Amy Zimmer. Colorado State Publications Library (**blog entry 6-27-2018**):

Colorado **Water Plan** (2015). The nearly 600-page document discusses the supply and demand challenges for each of Colorado's seven basins and how the state is planning to address future need.

Here are some other helpful publications that address the issues of water supply and population growth in the Front Range:

- ***Agricultural/Urban/Environmental Water Sharing: Innovative Strategies for the Colorado River Basin and the West***. Colorado Water Institute (Colorado State University), 2011.
- ***Agricultural Water Conservation in the Colorado River Basin***. Colorado Water Institute (Colorado State University), 2017.
- ***Citizen's Guide to Where Your Water Comes From***. Colorado Foundation for Water Education, 2005.
- ***Colorado Climate Plan***. Colorado Water Conservation Board, 2018. Includes chapter on water supply and demand.
- ***Colorado River Main Stem Drought & Water Supply Assessment Basin Summary***. Colorado Water Conservation Board, 2006.
- ***Colorado River Water Availability Study Phase I Report*** Colorado Water Conservation Board, 2012.

Mapped Box Entries

Water Information and Data and Water Quality:

- **Annual Water Data Reports**
  View current and historical streamflow, groundwater level, and water-quality data. Reports for Water Year 2006 to present.

Water and Dams--Colorado

- **Big Thompson Watershed**
  Links to data and other information about this watershed region.
- **Cache La Poudre Watershed**
  Links to data and other information about this watershed region.

Water Resources--Bureau of Reclamation

- **Bureau of Reclamation Water Operations**
  Useful information arranged by region, although data and statistics vary.

Dams, Reservoirs, Projects--Army Corps of Engineers

- **Divisions and Districts**
  This site map is an entry point for the individual divisions and districts and their projects.
- **Major Dams of the United States**
  This map layer portrays major dams of the United States, including Puerto Rico and the U.S. Virgin Islands.

Water Resources--EPA

- **Learn about Water**
  Links to several resources pertaining to water. Some of the broad topics include drinking water, water bodies, wastewater, and water quality.

(Haven't gotten around to adding images yet.)

Identify Opportunities

And then . . .

MORGAN LIBRARY
COLORADO STATE UNIVERSITY

Create a Guide

- Introduce the topic
- Link to government sites and pages
- Essential—**annotate**!
  - Describe content—what's in there
    - Photos? MSS? Bibliography? Range of years covered? PDFs? Is it an overview?

Introduce the Topic

Food--Introduction

Food‡ is necessary for life. Its abundance, sufficiency, or lack thereof has a direct impact on whether animals live or die. Dietary needs vary, even among **mammals**.♪ There are herbivores who are **herbivorous**, **carnivores**, and **omnivores**.‡ Humans attribute a lot to food and have spent either their entire lives looking for it (even today, called food insecurity), or, having sufficient food for survival (**food security***), have explored other avenues of thought—art, music, architecture, sport, philosophy, literature, etc. Wars have been fought over access to food. **Myth and legend*** from multiple cultures include food. **Staples*** make up the mainstay of people's diets (and vary from culture to culture family, and person to person). **Eating habits**† explore why and how people eat ar Thus, there are multiple subtopics to explore on the topic of food.

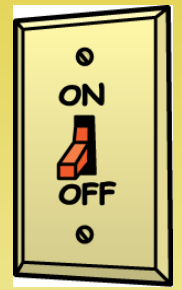
Water--Introduction

Water. Without water there would be no life on Earth as we know it. Two-thirds of the planet is covered with water. What is it? According to *The Gale Encyclopedia of Science** it is a chemical compound with one oxygen atom bonded to two hydrogen atoms; it is "odorless, tasteless, transparent liquid that appears colorless but is actually very pale blue"; it has a high boiling point; it has three states: solid (ice), liquid, and gaseous (steam).

Energy--Introduction

There are many different types of energy--and a number of ways to create or produce it. There is solar, electrical, kinetic, thermal, geothermal, bond (chemical bond between atoms), and more. It is measured in more than one way. There are social and political aspects of energy. Who controls it? Who has access to it? Who pays for it? Are there waste products affiliated with it? (E.g. coal burning and the pollution it generates.) Find a variety of definitions and descriptions on energy in the reference books found in ***Gale Virtual Reference Library*** and elsewhere.

Annotations—Essential!



Agriculture Water: What is Agriculture Water? Centers for Disease Control and Prevention (CDC).

Sections on: What is agricultural water?; Why should I be concerned?; and Where does agricultural water come from?

Water Energy: A Student's Guide to Global Climate Change.

Defines three different types of water power--hydroelectric, wave power, tidal power. Diagram of a hydroelectric dam.

Department of Energy.

Science & innovation; energy economy, security & safety; save energy, save money. Energy news, blog podcast, twitter. Also resources.

Transportation Energy Data Book. Oak Ridge National Laboratory.

Quick facts; twelve chapters on various forms of transport, 3 appendices, a glossary (18 pdf pages), and useful Web sites. PDF version of edition 36 has 400 pages.

Geothermal Energy. Tracer Bullet 07-1. Science Reference Services. Library of Congress.

Scope; Introductions to the Topic; Subject Headings; Basic Texts; Specialized Titles; Conference Proceedings; Selected Technical Reports and Government Publications; Standards and Guidelines; Dissertations; Representative Journal Articles; Selected Materials; Selected Internet Resources; and more. Use for identifying additional materials on this topic.

Thermal Energy Conversions: Technical Reference. ENERGY STAR (R) Portfolio Manager. EPA.

7 page document with information on delivery of thermal energy described in various units (kBtu or GJ). Figures show: overview of processes; quick reference multipliers; and conversion factors to kBtu by meter type for U.S. and Canada. Meter types include natural gas, diesel, kerosene, coals, wood, and others.

Capturing the Motion of the Ocean: Wave Energy Explained. July 6, 2015. Department of Energy. Energy.gov

Describes the amount of water on our planet and how it is in motion all of the time. Challenges of using this energy. Prototype wave energy converter.

energy saver

Tip: Take Direct Quotes from Sites

Water Topics: The USGS Water Science School. USGS.

School has "information on many aspects of water, along with pictures, data, maps, and an interactive center where you can give opinions and test your water knowledge." **Water Basics** discusses Earth's water, water properties, hydroelectricity, using water, saline water, and more. **Water Q&A** answers a variety of questions. Sections in Spanish (e.g. El agua de la tierra) and Chinese (e.g. **介绍 • 水循环**).

The Energy Data Initiative. Data.gov

"The goal of the Energy Data Initiative is to fuel entrepreneurs with newly available and previously untapped data—both government and non-government data—to spur new products and services that help American families and businesses save money on utility bills and at the pump, protect the environment, and ensure a safe and reliable energy future." Updates, data (over 245 datasets as of April 2018), and apps.

Basic Information about Lead in Drinking Water. Ground Water and Drinking Water. Environmental Protection Agency. (Archive.)

"EPA and the Centers for Disease Control and Prevention (CDC) agree that there is no known safe level of lead in a child's blood. Lead is harmful to health, especially for children." Information about how lead gets into drinking water and what you can do about it.

Solar Energy Technology Office. U.S. Department of Energy.

"The U.S. Department of Energy Solar Energy Technologies Office (SETO) supports early-stage research and development to improve the affordability, reliability, and performance of solar technologies on the grid. The office invests in innovative research efforts that securely integrate more solar energy into the grid, enhance the use and storage of solar energy, and lower solar electricity costs."

Water and Agriculture Information Center (WAIC). USDA.

WAIC "provides electronic access to information on water and agriculture. The center collects, organizes, and communicates the scientific findings, educational methodologies, and public policy issues related to water and agriculture." Search the site. Search WAIC

(Use quotation marks to cite properly.)

Integrate Gov Info

- Into as many guides as possible
- Along with other relevant (non-gov) items
- Make it locally relevant (State or City sites on the topic)
- Keep an eye out for new/additional resources after "finished" (which is never)

Get a Bit Long Winded?

- Include a Table of Contents

Energy: Table of Contents

Table of Contents for Energy

- Energy--Introduction
- Energy--Information from Various Governmental Sites
- Solar Energy
- Thermal/Geothermal Energy
- Radiant/Electromagnetic Energy
- Kinetic/Motion/Hydrokinetic Energy
- Electrical Energy
- Wind Energy
- Nuclear Energy
- Chemical Energy
- Energy Consumption, Prices, Various
- Energy Climate
- Agency Web Sites--Energy
- Statistical Resources--Energy

Table of Contents for Water



Sections on this page are:

- How much water . . .
- Water--Introduction
- About Water
- Water Resources Archive
- Drinking Water Safety
- Recreational Water Safety
- Water Safety
- Water and Health
- Water Conservation
- Water Rights
- Water Use
- Water and Agriculture
- Water--Power from
- Water--City Utilities, State Plans (examples)
- Colorado Water
- Water Information and Data and Water Quality (includes Colorado Specific) (mapped)
- Water Resources--Bureau of Reclamation (mapped)
- Water Resources--EPA (mapped)
- Water and Dams--Colorado (mapped)
- Dams, Reservoirs, Projects--Army Corps of Engineers (mapped)
- Water--Articles on Various Topics
- Water--Identifying Books
- Water on Other Planets (Just for Fun--or Another Topic to Explore)


Audience Easily Diverted?





- Add images
- US Gov sites are a good place to look for royalty-free images
  - Nevertheless, check for copyright ©
  - And don't overdo it as I did here (on purpose)
  - I hope I didn't accidentally use any © images! (Will remove stat if informed.)










For example 1 (relevant images):

Drinking Water Safety

Drinking water is used in the United States for many things that go beyond drinking it: "other uses include toilet flushing, bathing, cooking, cleaning, and lawn watering."* **Drinking water treatment**† discusses how water is made safe for public consumption--something which varies from community to community and property to property (e.g. wells).



Basic Information about Lead in Drinking Water. Ground Water and Drinking Water. Environmental Protection Agency. (Archive.)

> "EPA and the Centers for Disease Control and Prevention (CDC) agree that there is no known safe level of lead in a child's blood. Lead is harmful to health, especially for children." Information about how lead gets into drinking water and what you can do about it.

Drinking Water FAQ. Centers for Disease Control and Prevention.

> Answers to common questions--where drinking water comes from, health issues related to water, contaminants tested for, amount of time to boil water to disinfect it (note: longer for altitudes above 2000 meters/6561 feet), and wells. A **FEMA fact sheet water safety** has a longer boiling time recommendation. Also note: "**Boiling tap water does not get ride of radioactive material.**"

Food and Water Safety During Hurricanes, Power Outages, and Floods. U.S. Food and Drug Administration. PDF.

> Two page quick summary of "What Consumers Need to Know" in an emergency situation.

Global Water, Sanitation, & Hygiene (GWASH). Center for Disease Control and Prevention.

> "Global access to safe water, adequate sanitation, and proper hygiene education can reduce illness and death from disease, leading to improved health, poverty reduction, and socio-economic development. However, many countries are challenged to provide these basic necessities to their populations, leaving people at risk for water, sanitation, and hygiene (WASH)-related diseases." Information for specific groups: public, public health and medical professionals, and travelers. Publications, data & statistics that "focus on global water, sanitation, and hygiene (GWASH) issues."

Healthy Water. Centers for Disease Control and Prevention.

Water Use

How We Use Water. WaterSense EPA (Archive).

> Topics covered are: The Water Around Us; Water in Daily Life; Understanding your Own Water Use; Commercial, Industrial, Agricultural & Electricity Water Use; Communities Face Challenges to Meet Demand; Droughts Create Stress; and Less Water Affects the Environment.

Water Questions & Answers. The USGS Water Science School.

> Answers the question: "How much water does the average person use at home per day?" Typical water use at home with tips for using less. Bath, shower, teeth brushing, hands/face washing, shaving, dishwasher, dish washing by hand, clothes washer, toilet flushing, drinking, outdoor. (Same link as in top box.) See also **Trends in Water Use in the U.S. 1950-2010**.

Water Use in the United States. USGS.

> The U.S. Geological Survey's National Water-Use Science Project is responsible for compiling and disseminating the nation's water-use data. Data for 1950-2010 by state, estimated use of water 2010 are available. 2015 data and report are in progress.


For example 2:

Subcommittee on Energy. Committee on Science, Space, & Technology.

"The Subcommittee on Energy shall have jurisdiction over the following subject matters: all matters relating to energy research, development, and demonstration projects therefor; commercial application of energy technology; Department of Energy research, development, and demonstration programs; Department of Energy laboratories; Department of Energy science activities; energy supply activities; nuclear, solar, and renewable energy, and other advanced energy technologies; uranium supply and enrichment, and Department of Energy waste management; fossil energy research and development; clean coal technology; energy conservation research and development, including building performance, alternate fuels, distributed power systems, and industrial process improvements; pipeline research, development, and demonstration projects; energy standards; other appropriate matters as referred by the Chairman; and relevant oversight." Learn about the history of the committee and more.



Transportation Energy Data Book. Oak Ridge National Laboratory.

Quick facts; twelve chapters on various forms of transport, 3 appendices, a glossary (18 pdf pages), and useful Web sites. PDF version of edition 36 has 400 pages.

U.S. Energy Information Administration.

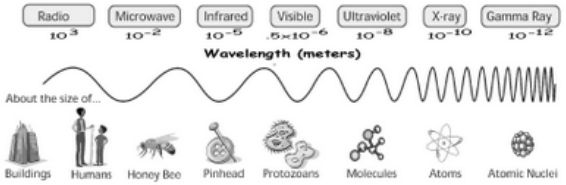
"Today in Energy," what's new, coming up, data highlights, features, outlooks, expert's speeches/testimony, top picks, and information for specific groups (job seekers, policy analysts, media, researchers, students, etc. Foot of page has sources & uses, topics, geography, tools, policies, and related sites.

What is Energy? Explained. U.S. Energy Information Administration.

Lists different forms of energy, and the two types of energy. Categories for energy. Links to more information.

Radiant/Electromagnetic Energy

Radiant energy is energy from **electromagnetic waves**. "The visible light from the Sun is only one type of radiant energy. The other types of radiant energy are known as gamma rays, x rays, ultraviolet, infrared, microwaves, and radio waves."*



Definitions & Descriptions

Anatomy of an Electromagnetic Wave. Tour of the Electromagnetic Spectrum. NASA Science Beta.

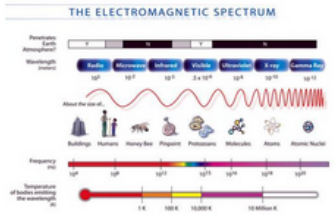
Examples of different types of energy. Definition of waves and more, including frequency. See other definitions in the **Electromagnetic Spectrum Video Series & Companion Book**, including visible light.)

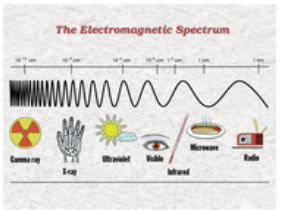
Chalk Talk: Electromagnetic Radiation. Science 360 Video. National Science Foundation. Just under 1 1/2 minutes.

Audio and visual information about electromagnetic radiation. Chalk talks are "a video glossary to define specific scientific terms or concepts."

The Electromagnetic Spectrum. NASA. Goddard Space Flight Center.

Straightforward introduction fo the electromagnetic (EM) spectrum. Graphic showing spectrum as wave lengths (e.g. AM radio, microwave oven, TV remote control, UV light from the Sun, etc.). Information on measuring electromagnetic radiation.

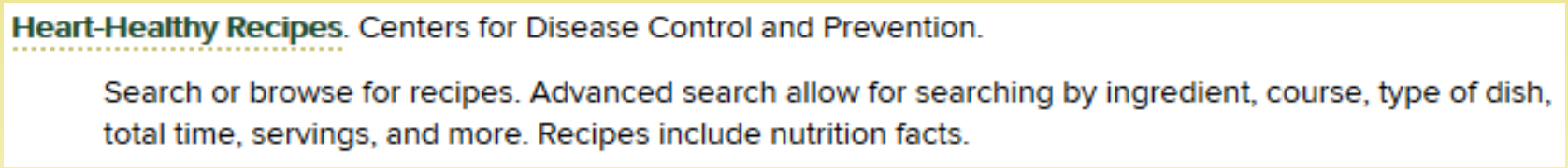




Topics

Provide Search Tips

- Search
- Browse



- Point out any challenges (font size is small, hard to read color, etc.) and recommended fixes for excellent content, but difficult-to-use sites.

Talk with Colleagues

- Mention relevant government resources at staff meetings.
- Point out and praise existing use of government resources.
- Emphasize that referrals to you are welcome (it worked for me).

Academic Opportunities

- Courses that have research assignment where gov info would help.
- Questions on topic where gov info would help at Reference/Help Desk.
- Casual conversation with teaching faculty.

Article of Interest

- Dubicki, Eleonora. "Tapping Government Sources for Course Assignments." *Reference Services Review* 46.1 (2018): 29–41.
- Nursing/health and social work emphasis
- "The government documents' librarian can familiarize faculty and other librarians with key government sources." (37)

Community Opportunities

- Homework assignments: most (all?) states teach State history in 4th grade.
- Have State guide available and promote to elementary schools. Be sure to include kid-friendly sites.

Community Opportunity

- Create kid-friendly U.S. History guide with government resources and promote to local schools. (Link to Ben's Guide.)
- Academic library? Promote guide to local public libraries.

Strategy

- Volunteer to create the subject or topical guide
- Do it!
- Send the link to primary interested person(s)
- Integrate any feedback

Making It Easy: Actions

- Offer to identify and annotate government resources for colleagues
- Offer to do the "coding"—in HTML, LibGuide, or applicable format
- Tap local information resources (e.g. State publications library)

Q & A & Discussion

What courses or community activities might be opportunities to promote government resources in your communities?

MORGAN LIBRARY
COLORADO STATE UNIVERSITY

Think of Something Later?

- Send me an email: Naomi.Lederer@colostate.edu

Thank you for attending

Naomi Lederer

MORGAN LIBRARY
COLORADO STATE UNIVERSITY