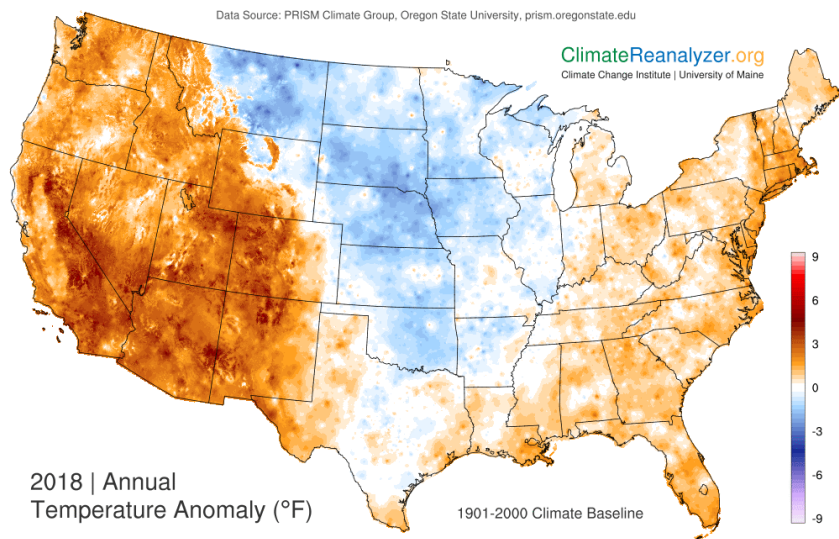


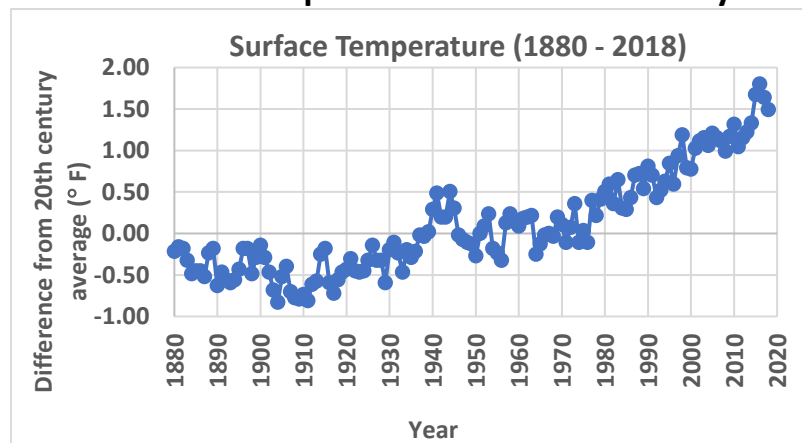
Here's a map of the USA annual temperature anomaly in 2018.

The overall anomaly was 1.5 °F, but ranged from -0.4 to 2.9 among the states, with **Louisiana at 1.3 °F**. (Source:

<https://climatereanalyzer.org/clim/noaa-prism/>)



## Global surface temperature over the last 138 years



Data Source: NOAA National Centers for Environmental Information, Climate at a Glance: Global Time Series

(<https://www.ncdc.noaa.gov/cag/global/time-series>); uses combined land & ocean data. For maps of global annual temperature anomalies, see: [https://data.giss.nasa.gov/gistemp/maps/index\\_v4.html](https://data.giss.nasa.gov/gistemp/maps/index_v4.html).

## Why is the global temperature increase important?

- The global warming that's happening now changes our climate.
- Impacts locally include the spread of mosquitoes and invasive species like water hyacinth, increased chance of flooding in some areas because of heavier rain patterns as well as the chance of long periods without rain, higher electric bills because of increased air conditioning, more potential for stronger hurricanes.
- Globally there are also more intense wildfires, more chance of heatwaves, sea level rise, more acidic oceans, and changing habitat ranges for plants and animals.



## What's causing the global warming?

- Today, people disagree about the causes, but climate scientists say many different kinds of activities cause global warming.
- Current ways of doing things release too much heat-trapping gas into the air. The unnatural build-up of these gases causes the world's surface to heat up and climate to change.
- Key heat-trapping gases: carbon dioxide, methane, & nitrous oxide

## Young people working on climate change solutions

**Matching activity:** In the space in front of each young person's name, put the letter that matches what they're known for.

| Name                     | What they're known for  |
|--------------------------|---|
| 1. ___ William Kamkwamba | A. At age 9, founded "Plant-for-the-Planet" (15 billion trees planted, end of 2018) |
| 2. ___ Fionn Ferreira    | B. Activist for urgent action on the climate crisis, now age 16                     |
| 3. ___ Greta Thunberg    | C. Invented a process for removing microplastic from water, now age 18              |
| 4. ___ Felix Finkbeiner  | D. At age 14, designed & built a windmill to electrify his home & pump water        |

(Answers on the next page.)

## Learn more about these young people below and on the internet:

**William Kamkwamba.** William's written a book (*The Boy Who Harnessed the Wind*), & is featured in a movie. <https://movingwindmills.org/williams-story/>.

**Fionn Ferreira.** Grand Prize, Google Science Fair, 2018-2019.

<https://www.businessinsider.com/microplastics-water-pollution-solution-from-google-2019-8>.

Greta Thunberg. Spokesperson for urgent climate action.

<https://www.youtube.com/watch?v=EAmUIEsN9A>

Felix Finkbeiner. Founder of Plant-for-the-Planet.

<https://www.youtube.com/watch?v=Sur8coFE0tU>



### What can be done to meet the challenges of climate change?

- Individuals, families, communities, companies, and organizations are acting to implement solutions, and much more action's needed.
- For short daily (Mon – Fri) information bites on climate change science and solutions, check out *Climate Connections*: <http://www.YaleClimateConnections>.

### Ways to act locally include:



- **Individuals and families:** recycle, reduce their energy use, carpool, garden, compost, install solar panels, switch to hybrid or electric vehicles, grow plants that are good at soaking up stormwater, use less single-use plastic.
- **The Children's Coalition of Northeast Louisiana** has a family garden and promotes gardens to help people make healthy and sustainable food choices.
- **LSU AgCenter** volunteer programs, like Master Gardeners and 4-H, support community sustainability partnerships.
- **Ouachita Green** and its volunteers and partners are active in projects to protect the environment and improve public lands.
- **Keep America Beautiful Affiliates** work on many community beautification, and waste, litter and blight reduction projects.
- **Organizations of hunters and anglers**, like Ducks Unlimited, promote conservation of wetlands.
- **Friends of Black Bayou** volunteers support the protection and enhancement of Black Bayou Lake-NWR.

Answers for the Matching activity: 1. D, 2. C, 3. B, 4. A

Brochure researched and designed by Anne Frazer with



contributions from Nova Clarke and support from the Friends of Black Bayou, Inc.

# Eyes on the Climate



## What is weather & what is climate?

If we say it's raining or sunny outside, we're talking about the weather. **Weather is immediate.** Weather is about atmospheric conditions at a particular place and time.

If we describe the region of Northeast Louisiana as usually being mild and humid, we're talking about the climate. **Climate is long-term.** Climate is about overall atmospheric conditions in a geographic region over a period of years.

## How do weather measurements become climate data?

- Daily high and low temperatures from a weather station are averaged and compared to the normal temperature for that weather station on that day of the year. The result is combined with data from other stations to get a regional average.
- The number calculated as the difference between the daily and the normal temperature is called an "anomaly".
- On the oceans, measurements are made of the surface water temperature using ships and buoys. As with land measurements, daily anomalies are calculated and combined with other locations to get regional averages.

## Word search activity



|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| R | H | Y | U | N | Z | X | Y | V | Q |
| G | L | O | B | A | L | O | Y | A | E |
| W | E | A | T | H | E | R | G | N | T |
| T | Q | R | H | M | M | I | R | O | A |
| N | O | U | D | U | N | A | A | M | M |
| K | G | C | A | G | N | S | P | A | I |
| E | L | W | T | V | M | L | H | L | L |
| K | A | Q | A | H | K | G | G | Y | C |

Words = anomaly, weather, climate, data, global, graph, map