Talking point for Heatwave slide deck

Slide #1:

* Introduction

Slide #2: Climate Change and Global Warming:

* Climate Change vs. Global warming and how global warming impacts the climate.
* Greenhouse gas effect and the 3 main greenhouse gases carbon dioxide, methane, and nitrous oxide.
* Increase of GHG gases are due to human emissions from burning fossil fuels.
* Figure 1 shows the GHG effect.
* Figure 2 shows the overall average temperature (climate) of 2020 vs. average temp of 1951-1980

Slide #3: How can a few degrees affect overall climate:

* Temperature is a bell curve, and a few degrees increase in average temperature will cause more extreme heat events.
* Figure 1: Shows bell curve of current and predicted future climate.

Slide #4:

* Figure shows 4 projected climates with possible temperature and emissions.

We can already see these impacts Slide #5:

* 2019, 2018, 2107 heat waves are examples of the current impacts of global warming.
* These events were extremely unlikely to occur without global warming and reiterate that this will only get worse with continued emissions.

Heat is the deadliest weather event Slide #6:

* Heatwaves are a public health issue because 475 million were impacted in 2019
* Effects on people are indirect and direct.
* Figure shows that 2010s had longer wave season and increasing number of heat waves compared to past decades.

Slide #7 Direct Impacts:

* + **Hyperthermia** occurs when body is overheated resulting in Heat cramps being mildest, then heat exhaustion, then heat stroke is the most extreme.
    - **Heat cramps** are painful muscle spasms that occur due to dehydration and loss of nutrients from excessive sweating.
    - **Heat exhaustion** is a condition whose symptoms may include heavy sweating and a rapid pulse, a result of your body overheating.
    - **Heat Stroke** is the worst condition can result in coma.
* Figure compares heat exhaustion vs heat stroke.

Worsens and accelerates illnesses Slide #8:

* Heat will accelerate the effects of potential illnesses.
* People in high risk groups such as the elderly or those with already compromised health issues are more likely to need medical attention.

Indirect Impacts on Public health Slide #9:

* Heat indirectly affects health by putting strain on medical services and vital infrastructure.
  + - Increased pressure on medical service worsens the effects of heat as some people will not be able to receive much needed care or medicine.
* Disruption of vital services due to high power demand will cause power outages and will expose more people to extreme heat.
* Extreme heat will change the way disease will spread through increased ranges of ticks and mosquitos and changing conditions allowing for more food and water borne diseases.
* Figure shows escalating effects of heat on infrastructure.

Slide #10 Indirect Impacts Due to Higher Temperatures:

* Increased risk of unintentional accidents of falls, transportation, and drownings
  + Reasons why these increase during extreme heat is uncertain but ideas are
    - Increased alcohol consumption
    - Swimming is more likely in the heat.
* The increased risk of violent incidents is less clear possible explanations are due to
  + Increased interactions or higher aggression in higher temps

Urban Heat Islands Slide #11:

* Urban heat islands cause more extreme temperatures in cities due to urban infrastructure absorbing and releasing heat.
* This amplifies the effect of heat on public health

Slide #12:

* Figure shows how drastic of increase that urban heat islands have on temperature.

Slide #13 Increased Humidity Impact on Human Health:

* Increased humidity increases the harmful effects of heat by
  + Reducing ability to regulate temp through sweating.
* Humidity does not need to at 100% to be harmful.
* Global warming will make this more common making heat waves even more deadly.

Vulnerable Communities #15:

* These communities are more vulnerable as they are not able to escape it.
  + Poor and communities of color are more likely to live in urban heat island areas and less likely to be able to mitigate its affect through air condition.
  + Homeless lack the funds to avoid the heat through a/c or housing.
  + Crop Worker are exposed to heat more often and cannot avoid as it is a part of their jobs and few states have laws requiring adequate shelter water, etc

Vulnerable Communities #16:

* People 65 and over are more vulnerable due to
  + More likely to Live alone.
  + More likely to have chronic medical problems.
  + Reduced ability to regulate temperature.
* Children are more vulnerable due to a reduced ability to regulate internal temperature and they produce more heat when exercising.

Slide #17:

* Figure shows distribution of heat related elderly related deaths in 2018.

Adaptability #18:

* Communities can reduce effects of extreme heat through
  + Shading for public areas
  + Cool roofs and roads (reduces urban heat island)
  + Preparing first responders to deal with heat illnesses
  + Cooling centers
  + Educate the community on extreme heat

Neighbors are the True First Responders Slide #19:

* Social infrastructure
  + Creates networks that check in on vulnerable people during extreme heat
  + Extremely effective
* Case study of 1995 Chicago heatwave where a disenfranchised community of Auburn Gresham used this technique to reduce deaths to even lower than some wealthier neighborhoods in the city

Preparedness #20:

* Prepare for heat by
  + Planning your days to avoid unnecessary exposure.
  + Learn the signs of heat exhaustion and heat stroke.
  + Know where to go in case of a heat emergency.
  + Check whether your medications increase the risk of heat illness.
  + Make sure heat sensitive medication is keep in cool area.