Our Changing Climate

Climate Change Presentation Outline

*Climate Central presents Our Changing Climate, an outreach climate change presentation and education resource for meteorologists, journalists, and others. This 55-slide presentation is a guide through the basics of climate change, outlining its causes, impacts, and solutions.*

*In the presentation, each slide has - where applicable - presenter text, background & notes, and photo credits in their notes section. The presenter text helps outline the key points of each slide, and it is up to the presenter whether they would like to follow the text or use it as inspiration. The background & notes section provides more information on the slide and explains any complex graphics.*

*At the end of the presentation, there is an “Additional Slides” section. It contains extra slides on specific concepts and local graphics if you would like to further build out your presentation.*

*Below you can find the outline of this presentation. For slides designated with a •, a local graphic (from our media library) is available and linked to in the note section of that slide. Climate Central encourages presenters to incorporate these local graphics so their audience can understand that climate change is not only happening at a global scale but in our backyards.*

*Every slide is fully editable, allowing the presenter to remove, add, or customize graphics or wording.*

*Special thanks to Colorado State’s Scott Denning for the simple, serious, solvable framing of the presentation.*

*Enjoy!*
1 | OUR CHANGING CLIMATE

Title slide with warming stripes detail (based on original stripes from Ed Hawkins at University of Reading, UK)

2 | Climate Change Is...
   ● Introduces the “Simple, Serious, Solvable” framework

3 | SIMPLE

Simple discusses the mounting evidence and well-understood science (since 1800) of climate change

4 | Simple (cont.)
   ● Humans burn fossil fuels, fossil fuels put CO2 in the atmosphere, CO2 warms the planet

5 | Atmospheric Gases - Our Atmosphere

6-10 | The Greenhouse Effect

11 | Evidence That CO2 Is A Greenhouse Gas

12 | Burning More Fossil Fuels

13-14 | Global Temperature & Carbon Dioxide Are Increasing

15 | Local Decades Of Warming ●
   ● Average temperatures on a local scale follow a warming trend

16 | The New Normal: 30-Year Temperature Averages Are Rising ●

17 | Future Warming Scenarios

18 | SERIOUS

Serious outlines the impacts of climate change felt today and in the future

19 | Serious (cont.)
   ● Warming due to burning fossil fuels leads to wilder weather and rising seas.
Temperature Records Set by Decade

Snowfall Patterns Are Changing

Bear Glacier Is Melting

Oceans Heating Up

Sea Level Rise by Century

Higher Tides, More Concurrent Flooding

Local Sea Level Rise Projections (i.e. Charleston, SC)

Warmer Air - More Evaporation

More Downpours

Daily Deluge

Hurricanes & Climate Change

Western Drought

Hotter Years, Higher Fire Risk

Serious (cont.)

Climate change impacts the people, places, and things that we care about.

Extreme Weather

Billion-Dollar Disasters

Climate change impacts the people, places, and things that we care about.

Shifting Animals & Ecosystems

Health

Food & Farming

Ways Of Life

1.5°C vs 2°C

Climate change impacts the people, places, and things that we care about.

There are drastic impacts with a 0.5-degree difference in the average global temperatures.

42 | SOLVABLE

Solvable outlines the solutions at hand to combat climate change.

We Need To Make Big Cuts, Fast

Greenhouse Gas Sources, U.S. Emissions By Sector

To stay below 1.5°C, we need to reduce CO2 emissions quickly and drastically.

Solutions should focus on the 5 main sources producing greenhouse gases.
45 | **Renewable energy availability - Solar & Wind**

47 | **Electrification of Transportation**

49 | **Building Better Soils**
   - Better agriculture practices can lower emissions by increasing soil carbon.

51 | **The Power Of Trees**

53 | **Inspirational Leaders & Collaborators**
   - Use this slide to showcase who inspires you to fight against climate change.

55 | **Acknowledgements**

46 | **Solar & Wind Electricity Generation**

48 | **Better Buildings**
   - Architecture and building design can increase energy efficiency.

50 | **Maintain Carbon Sinks & Flood Buffers**

52 | **We Have Done Big Things Before**
   - We need to make big infrastructure changes as we have in the past.

54 | **Climate Change Is Simple, Serious, But Solvable**

56 | **ADDITIONAL SLIDES**

Additional slides are available at the end of the main slide deck for those that want to go deeper into the following topics.

57-73 | **SUPPLEMENTARY GRAPHICS**

The following slides are premade graphics and topics to add depth to your presentation if desired.

58 | **The Greenhouse Effect**
   - Original GIF from slides 6-10 in the main slide deck.

59 | **Alaska's Muir Glacier Is Melting**

60 | **Reconstructing Past Climates With Proxies**

61 | **Carbon Dioxide Is Increasing**
   - Carbon dioxide has increased at an unprecedented rate

62 | **Greenhouse Gas Concentrations**

63 | **Greenhouse Gases Last A Long Time**

64 | **10 Hottest Years On Record Global**

65 | **Global Decades of Warming**
66 | **Temperature Anomaly**
- Different agencies came to the same conclusion that global temperatures are rising.

67 | **Orbital Cycles (Milankovitch)**

68 | **Temperature vs Solar Activity**
- Recent warming is not because of changing solar activity.

69 | **Global Surface Temperature Departures (ENSO)**
- El Niño is not a primary driver of long-term warming.

70 | **Human-caused Climate Change Is Widely Agreed Upon**

72 | **Shared Socioeconomic Pathways**
- How rapidly we reduce emissions will dictate how much warming occurs in the decades to come.

71 | **How Close To 1.5°C**

73 | **Sea Level Projections Over A Century**

74-79 | **LOCAL + EXTRA GRAPHICS**
*The following slides are extra or local graphics categorized by topic.*

75 | **Extreme Weather**
- NCEI Climate Extremes Index from 1910-2018
- Weather-related Power Outages Map

76 | **Rising Temperatures**
- Lowest Temperature Each Year
- Warming Summer Nights
- Days Above X° (threshold temperature)
- Seasonal Warming Trends

77 | **Ice & Snow**
- Peak Ice Cover in the Great Lakes
- Snowfall Trends in Winter, Fall, Spring, Summer

78 | **Sea Level Rise & Ocean Warming**
- Ocean Heat Waves
- U.S. Coastal Flood Days
- Heat Accumulation in Air & Land vs Ocean
- Risks at 2 Feet of Coastal Flooding

79 | **Health Impacts**
- Algal Blooms Infographic
- Poison Ivy Projections
- Pollen Level Projections
- Transmission Risks of Mosquitoes
- PM 2.5 Health Risks
- Stagnant Air Map
- Lyme Disease Map