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Source: NASA

CLIMATE CHANGE AND CHILDREN’S
HEALTH
CLIMATE CHANGE AND CHILD HEALTH

- Children are the most vulnerable group to climate associated health impacts.
  - Higher minute ventilation
  - Greater volume food & water per unit body wt
  - Physiologic/cognitive immaturity
  - Windows of vulnerability
  - Greater interaction with outdoor environment

- A woman and her baby sit atop a raft as they are rescued from rising floodwater by their neighbors in Pasig City, Manila.

© UNICEF/NYHQ2009-1730/Alquinto
CLIMATE CHANGE AND CHILD HEALTH

- Estimated 88% of the existing global burden of disease due to climate change occurs in children under the age of 5. (Zhang, J Environ Health 2007)

- Children in the world's poorest countries, where the disease burden is already disproportionately high, are most affected by these impacts. (Haines, Lancet 2006)
Climate change affects human health through:

1. Increased heat related illness
2. Impacts on air quality
3. Altered disease patterns of some climate sensitive infections
4. Physical and mental health impacts of extreme weather events
1. Food and water insecurity
FACTORS INTERACT

Heat Waves

Draughts - malnutrition

Vector borne infectious diseases

Floods – diarrhea and other infectious diseases

Displaced persons

Air pollution – asthma, lung growth

Severe weather events – hurricanes, rainstorms, tornadoes
# Mental Health

## Climate Change and Your Health: Mental Health and Well-Being

<table>
<thead>
<tr>
<th>What is changing in our climate?</th>
<th>What is the impact on the environment?</th>
<th>How does that harm our health?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many effects of climate change, such as extreme heat and violent weather, can harm people's mental health and well-being.</td>
<td>Extreme weather, floods and fires can threaten, damage or destroy people and their homes, communities, loved ones and social networks.</td>
<td>The threat, damage and destruction caused by climate change can cause increased anxiety and depression in many people, especially children, older adults and low-income Americans.</td>
</tr>
</tbody>
</table>

ADVERSE CHILDHOOD EXPERIENCES (ACES)

- A set of potentially traumatic or developmentally disruptive experiences in childhood (age <18)
- Similar terms: “Adverse childhood events”, “Childhood adversities”, “Early life adversities”
- Measures of ACEs often include:
  - Child maltreatment (abuse and/or neglect)
  - Parental intimate partner violence witnessed by children
  - Parental psychiatric disorders/substance abuse
  - Parental incarceration
  - Parental divorce

https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/aboutace.html
CHILDREN AND NATURAL DISASTERS

- Extreme weather events place children at risk of:
  - Injury and death
  - Loss of /separation from caregivers
  - Exposure to infectious diseases post disaster
  - Uniquely high risk of mental health consequences.

Threatens the sufficiency and nutrient quality of the food supply in developing and developed countries.

Increases risk of food insecurity and child malnutrition.

https://commons.wikimedia.org/wiki/File:Projected_impact_of_climate_change_on_agricultural_yields_by_the_2080s,_compared_to_2003_levels_(Cline,_2007).png
CLIMATE CHANGE WILL WORSEN HEALTH DISPARITIES BETWEEN RICH AND POOR

- Poor housing to begin with, more difficulty replacing housing after severe weather events
- Lack of AC → ↑risk of heat-related death
- Low income – decreased use of AC because of fear of cost
- Increase food insecurity by decreasing crop yield

Climate change is a matter of life and death.

3 out of 4 people living in poverty rely on agriculture & natural resources to survive.

https://www.mercycorps.org/articles/climate-change-affects-poverty
<table>
<thead>
<tr>
<th>Rank</th>
<th>Solution</th>
<th>Sector</th>
<th>Total Atmospheric CO2-eq Reduction (Gt)</th>
<th>Net Cost (Billions US $)</th>
<th>Savings (Billions US $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Refrigerant Management</td>
<td>Materials</td>
<td>89.74</td>
<td>N/A</td>
<td>-902.77</td>
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<td>2</td>
<td>Wind Turbines (Onshore)</td>
<td>Electricity Generation</td>
<td>84.60</td>
<td>$1,225.37</td>
<td>$7,425.00</td>
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<td>3</td>
<td>Reduced Food Waste</td>
<td>Food</td>
<td>70.53</td>
<td>N/A</td>
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<td>4</td>
<td>Plant-Rich Diet</td>
<td>Food</td>
<td>66.11</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>5</td>
<td>Tropical Forests</td>
<td>Land Use</td>
<td>61.23</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>6</td>
<td>Educating Girls</td>
<td>Women and Girls</td>
<td>51.48</td>
<td>N/A</td>
<td>N/A</td>
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<td>7</td>
<td>Family Planning</td>
<td>Women and Girls</td>
<td>51.48</td>
<td>N/A</td>
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<td>8</td>
<td>Solar Farms</td>
<td>Electricity Generation</td>
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<td>9</td>
<td>Silvopasture</td>
<td>Food</td>
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<td>Regenerative Agriculture</td>
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<td>12</td>
<td>Temperate Forests</td>
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<td>13</td>
<td>Peatlands</td>
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<td>Tropical Staple Trees</td>
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<td>Land Use</td>
<td>18.06</td>
<td>$30.44</td>
<td>$292.22</td>
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https://www.drawdown.org/solutions-summary-by-rank