Drought and Health Impacts

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Dust Bowl of the 1930s
Drought Impact Types:
- \( \Delta \) Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/
“Floods kill people, but droughts destroy civilizations.”

~U.S. Government Official at a Drought Meeting
Percentage of disaster-deaths worldwide according to each category of climate-related hazard, (1900-2013)

- Drought (59.60%)
- Flooding (34.64%)
- Storm (4.95%)
- Wildfire (0.01%)
- Heat (0.67%)
- Landslide (0.14%)

Source: Adapted from EM-DAT: The OFDA/CRED International Database, Belgium 2012
Keim, ME Extreme Weather Events: the role of public health
Drought Impacts

Estimated Deaths and Billion Dollar Losses from Extreme Events in the U.S., 2004–2013

Heat Waves: $392 Billion
Hurricanes: $78 Billion
Tornadoes/Severe Storms: $46 Billion
Floods: $30 Billion
Wind Storms
Lightning
Cold Waves
Winter Storms

Billion Dollar Losses from Disasters (2004-2013)
1980-2018* NOAA Billion-Dollar Drought Disasters (CPI-Adjusted)

25 Events
$241 Billion Lost
2,993 Deaths
Health Surveillance Data

- Drought can be a slow evolving
- The impacts are not immediate
- Can require intermediate steps for health outcomes
- Surveillance is not designed to connect drought and health
Determinants of Vulnerability

EXPOSURE

Exposure is contact between a person and one or more biological, psychosocial, chemical, or physical stressors, including stressors affected by drought and climate variability.

SENSITIVITY

Sensitivity is the degree to which people or communities are affected, either adversely or beneficially, by drought and climate variability, including stressors affecting people or communities.

ADAPTIVE CAPACITY

Adaptive capacity is the degree to which people or communities are able to respond to opportunities, or to respond to and adjust to potential hazards, such as climate variability, affected by drought and climate variability.

HEALTH IMPACTS

Health impacts include injury, acute and chronic illness (including mental health and stress-related illness), and death.
Local

Kansas farmer on alarming suicide rate: 'Nothing gets farmers more down than a drought'

By: Emily Younger

Published May 21, 2018 09:54 PM CDT
Updated: May 21, 2018 11:24 PM CDT

Farmer's recovery from depression which led to two suicide attempts shows cost of drought at family level

STEVE Gennon left a suicide note on the porch and set about putting down calves he couldn’t feed before turning the gun on himself. Then a ute screamed towards him, his 17-year-old daughter at the wheel.

DAIRY farmer Steve Gennon knows what it’s like to be on the brink of suicide. He has been there twice in the past three years. He was saved in 2015, but those lonely moments last year...
• the at-risk populations living within the affected area, and
Drought Data on CDC’s National Environmental Public Health Tracking Network

- Data released on Tracking Network Download Datasets earlier this year:
  - [https://ephtracking.cdc.gov/download](https://ephtracking.cdc.gov/download)
Future Needs: Drought-Related Research and Initiatives

- Still much to be learned about drought and public health
- Research is needed in many different areas:
  - Analysis of surveillance data
  - Improved environmental monitoring
  - Role of public health departments
  - Economic impact of drought on public health
  - Lessons learned and best practices
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