

# Climate Change Concepts, Science and Impacts - Institutional News Article

1. **Title: Climate Change Vulnerability and Adaptation in Uganda's Cattle Corridor. *Adaptation at Scale in Semi-Arid Regions.*** McGahey, D., & Visser, Z. (2015, July 21).

**Description:** Uganda's cattle corridor is a broad zone stretching from southwestern to northeastern Uganda, dominated by pastoral rangelands. While it is not currently classified as semi-arid, this corridor has many semi-arid characteristics. These include; high rainfall variability; periodic late onset rains/droughts; and historical reliance on mobile pastoralism as an important strategy to cope with resource variability. Given the cattle corridor's vulnerability to climate change, and its importance for national and local food security, ASSAR's East African team investigated the viability of using two corridor areas as sites for their regional research. The first area was Lake Mbuho (situated across the Kiruhura District/Mbarara Districts), and the second was Nakasongola District.

Retrieved from <http://www.assar.uct.ac.za/news/climate-change-vulnerability-and-adaptation-uganda%E2%80%99s-cattle-corridor>

2. **Title: Pastoralism under pressure in the dry lands of East Africa. *Adaptation at Scale in Semi-Arid Regions.*** McGahey, D. (2016, February 15).

**Description:** Over the next 50 years the semi-arid regions of East Africa are expected to become hotter with more wet extremes. Changes including increased frequency and intensity of droughts and floods are predicted to negatively impact food security, economic growth, infrastructure, human health, and wildlife and ecosystems. Over the last 50 years temperatures in this region have already increased by an average of 0.16°C per decade which is five times higher than temperature increases observed over the last century. Drought and flood hazards are expected to intensify demand for food, water and livestock forage. There has already been an increase in the number of climate related disasters in the region and between 2000 and 2006 these disasters affected almost two million people per year on average.

Retrieved from <http://www.assar.uct.ac.za/news/pastoralism-under-pressure-drylands-east-africa>

3. **Title: *Carbon and Climate Change Briefing.*** NASA Goddard Institute for Space Studies. (2015, November 12).

**Description:** Earth's land and ocean currently absorb about half of all carbon dioxide emissions from the burning of fossil fuels, but it's uncertain whether the planet can keep this up in the future. NASA's

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Earth science program works to improve our understanding of how carbon absorption and emission processes work in nature and how they could change in a warming world with increasing levels of carbon dioxide and methane emissions from human activities.

Retrieved from <http://svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=12044>

4. **Title: Sea-level Rise and its Impacts on Virginia. World Resources Institute.**

Tompkins, F., & Deconcini, C. (2014).

**Description:** The Hampton Roads area in Virginia is experiencing the highest rates of sea-level rise along the entire U.S. East Coast. The area is also second only to New Orleans, LA, as the largest population center at risk from sea-level rise in the country.

Retrieved from [https://www.wri.org/sites/default/files/wri\\_factsheet\\_virginia\\_final.pdf](https://www.wri.org/sites/default/files/wri_factsheet_virginia_final.pdf)

5. **Title: Methane emissions in Arctic Cold season higher than expected.** National Aeronautics and Space Administration. (2015, December 22).

**Description:** The amount of methane gas escaping from the ground during the long cold period in the Arctic each year and entering Earth's atmosphere is likely much higher than estimated by current carbon cycle models, concludes a major new study led by San Diego State University and including scientists from NASA's Jet Propulsion Laboratory, Pasadena, California.

Retrieved from <https://www.nasa.gov/feature/jpl/methane-emissions-in-arctic-cold-season-higher-than-expected>

6. **Title: Kenya's native goats and sheep, expertly crossbred, are key to helping farmers cope with climate change.** International Livestock Research Institute. (2015, July 10).

**Description:** Compared to either pure local or exotic breeds, the sheep and goats crosses being introduced are better able to withstand heat stress and to recover from drought, better able to utilize poor forage and cope with diseases, and are able to attain mature market weights within shorter periods of time.

Retrieved from <https://news.ilri.org/2015/07/10/kenyas-native-goats-and-sheep-expertly-crossbred-are-key-to-helping-farmers-cope-with-climate-change/>

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7. **Title: *As Earth Warms, NASA Targets ‘Other Half’ of Carbon, Climate Equation.***

National Aeronautics and Space Administration. (2015, November 12).

**Description:** Carbon dioxide emitted into the atmosphere by human activities influences the amount of the sun’s energy trapped by Earth’s atmosphere. These emissions are the subject of a United Nations climate conference in Paris later this month. To improve the information available to policymakers on this issue, scientists are grappling with the complex question of whether Earth’s oceans, forests and land ecosystems will maintain their capacity to absorb about half of all human-produced carbon dioxide emissions in the future.

Retrieved from <http://www.nasa.gov/press-release/as-earth-warms-nasa-targets-other-half-of-carbon-climate-equation>

8. **Title: *Methane matters.*** National Aeronautics and Space Administration. (2016, March 8).

**Description:** For a chemical compound that shows up nearly everywhere on the planet, methane still surprises us. It is one of the most potent greenhouse gases, and yet the reasons for why and where it shows up are often a mystery. What we know for sure is that a lot more methane (CH<sub>4</sub>) has made its way into the atmosphere since the beginning of the Industrial Revolution. Less understood is why the ebb and flow of this gas has changed in recent decades.

Retrieved from <http://earthobservatory.nasa.gov/Features/MethaneMatters/?src=features-hp&eocn=home&eoci=feature>

9. **Title: *Greenhouse Effect teaching box.*** University Corporation for Atmospheric Research. (2016).

**Description:** This teaching box provides resources related to the greenhouse effect. It helps to teach how the greenhouse effect works, and how it prevents Earth from becoming a frozen ball of ice. Teaching Boxes are collections of classroom-ready and standards-aligned activities, content, and multimedia that build student understanding of science, technology, engineering, and math.

Retrieved from <http://scied.ucar.edu/teaching-box/greenhouse-effect>

10. **Title: *Here’s the Climate Context for the Fort McMurray Wildfire. Climate Central.*** Kahn, B. (2016, May 4).

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**Description:** An unusually intense May wildfire roared into Fort McMurray, Alberta, Canada, on Tuesday, forcing the largest wildfire evacuation in province history. The wildfire is the latest in a lengthening lineage of early wildfires in the northern reaches of the globe that are indicative of a changing climate. As the planet continues to warm, these types of fires will likely only become more common and intense as spring snowpack disappears and temperatures warm.

Retrieved from <http://www.climatecentral.org/news/climate-context-fort-mcmurray-wildfire-20311>

11. **Title: Climate Change, Food Security and Nutrition. *Global Forum on Food Security and Nutrition. Discussion no. 113*** FAO. (2015).

**Description:** Climate change directly affects food and nutrition security of millions of people, undermining current efforts to address under nutrition and hitting the poorest the hardest, especially women and children. It impacts people's livelihoods and lifestyles through different pathways. Farmers, pastoralists, forest dwellers and fisher folk are already facing more challenges in producing and gathering food due to changing weather patterns, such as erratic rains. In the short term the impacts can be linked to extreme weather events which contribute to casualties, household food insecurity, disease and handicap, increased population dislocation and insecurity.

Retrieved from <http://www.fao.org/fsnforum/forum/discussions/climate-change-and-fsn/>

12. **Title: Changing the Climate: Why women's perspectives matter.** Women's Environment and Development Organization. (2007).

**Description:** Unquestionably, climate change will affect everyone. But women are the most vulnerable and the best poised to curb the effects of climate change. Yet, they have remained invisible in these efforts. Governments' main tools for tackling climate change mitigation measures to slow down global warming and adaptation measures to decrease the consequences are not yet reaching the most affected populations, particularly women.

Retrieved from <http://www.wedo.org/wp-content/uploads/changing-the-climate-why-womens-perspectives-matter-2008.pdf13>.

13. **Title: NASA Studies Details of a Greening Arctic.** NASA. (2016, June 2).

**Description:** The northern reaches of North America are getting greener, according to a NASA study that provides the most detailed look yet at plant life across Alaska and Canada. In a changing

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climate, almost a third of the land cover much of it Arctic tundra is looking more like landscapes found in warmer ecosystems.

Retrieved from <http://www.nasa.gov/feature/goddard/2016/nasa-studies-details-of-a-greening-arctic>