Creation of a Climate Change Adaptation Plan for Columbus, Ohio

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Detection and Assessment of a Large and Potentially Tsunamigenic Periglacial Landslide in Barry Arm, Alaska

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A New Estimate of North American Mountain Snow Accumulation From Regional Climate Model Simulations

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FARM is a real-time and historical climate information tool for fertilizer and manure application.

Welcome to the Field Application Resource Monitor (FARM). Water quality is important to all Ohioans and we all impact our watersheds. In recent years, Ohio farmers have taken significant positive steps toward limiting the negative impacts on water quality that come from the loss of sediment and nutrients. FARM allows users to define their locations of interest and receive 12- and 24-hour precipitation forecasts to aid in the application of fertilizer, manure, and/or pesticides. FARM also utilizes a database of historical forecasts allowing users to search previous dates. Users can choose to create an account to track multiple fields, explore statewide conditions in quick-view, and sign-up to receive email alerts (text alerts coming soon).
Background

The Climatic Change in Columbus Ohio report identifies increasing temperatures as one of the two climate changes that have and will likely continue to affect our city. From 1991 to 2012, the annual average temperature for Columbus warmed by 2.3°F, which was faster than both the national and global rates. This trend is expected to continue with annual average temperatures projected to rise by an additional 3 to 5°F by mid-century. Increasing temperatures result in several impacts—deteriorated air quality, stress on vegetation, increased demand for water and energy—that can negatively affect our community. One of the most concerning effects is the projected increase in extreme heat events by mid-twenty-first century, including an increase in the warmest day of the year (>90°F), with an additional 20 to 40 days per year of high temperatures greater than 90°F (comparison made to the 1976-2005 period).1

Extreme heat refers to air temperatures that are much hotter than average. Extreme heat events are generally characterized by consecutive days of excessively hot weather, often including elevated humidity and warm nighttime temperatures. The lack of cooling at night leads to sustained heat indices and health concerns. These events are already occurring throughout the country and are expected to increase in severity and frequency as the climate continues to change. The projected increase in extreme heat events increases the likelihood of more heat-related illnesses and deaths in Columbus.

According to the National Weather Service, heat remains one of the greatest weather-related causes of death in the United States.2 In 2016, 94 people died as a result of extreme heat. Although the most vulnerable are those living in permanent homes with little to no air conditioning, loss of life can include others as well. Individuals engaging in strenuous outdoor work during periods of high temperatures are at increased risk as well as those that are socially isolated and unable to cool themselves during widespread heat waves. Of particular note is the loss of life that occurred during the summer of 1985 in Chicago, where more than 700 individuals were estimated to have died in an extended heat wave.3 Similar events have been documented within the United States and around the globe.4

To combat the risks associated with extreme heat, two necessary (N) actions and two aspirational (A) actions are proposed. These actions provide ways for the public to avoid the negative effects of extreme heat and ensure that best practices will be utilized for anyone that has to spend time outdoors on dangerously hot days. Additionally, these actions focus on providing resources for vulnerable populations who are disproportionately affected by heat-related illnesses, often due to limited mobility, lack of access to residential air conditioning, and/or failure to be a part of a community that can provide support during an emergency (e.g., faith community neighborhood group, senior citizen centers). Many groups of people are especially vulnerable to heat-related illnesses, including infants and young children, the elderly, people with chronic medical conditions, low-income households, and outdoor workers. If the proposed actions are taken, Columbus can minimize the serious risks posed by continuously rising temperatures.