

## **Climate Change Position Statement**

**A Footprint of Climate Change** has been emerging during the past 50 years in the form of accelerated plant phenology, altered species composition, modified precipitation patterns, and greater incidence of wild fires. The average global temperature has increased by 0.7°C (1.3°F) in the past 100 years, and warming is expected to increase by at least an additional 2°C (3.6°F) within this century. A warmer atmosphere is predicted to lead to a more variable future climate, and there is evidence that climate variability is increasing.

**The Cause of Climate Change** observed since the mid-1900s likely is the continuing increase in atmospheric concentrations of trace greenhouse gases (GHGs). GHGs have increased largely as a result of emissions from fossil fuel combustion, deforestation, and other human activities. These gases remain in the atmosphere for centuries and appear to be causing irreversible changes in Earth's climate; even if emissions were to stop immediately, global temperatures are projected to continue rising throughout this century and well into the future.

**Potential Impacts of Climate Change** include modifications to vegetation composition, ecological processes controlling plant and animal productivity, and potential management options in response to shifts in soil water availability and altered thermal stress of animals. Both negative and positive ecosystem consequences will likely occur based largely on geographic location. A portion of these changes may be of sufficient magnitude to challenge our ability to maintain resilient ecosystems and viable production systems necessary to provide desired goods and services.

**The Society for Range Management** is committed to promoting adaptation to and mitigation of climate change through the sponsorship of workshops, symposia, research and educational publications, and appropriate policy recommendations. The Society will strive to maximize opportunities and minimize challenges posed by climate change to promote productive rangeland ecosystems that ensure food security, human livelihoods, and continued delivery of diverse ecosystem services.