Morning Program

Introductions and Welcome

8:00 a.m. **Arrival and Registration**

8:30 a.m. **Welcome and Opening Remarks**
Dr. Jack Morgan—USDA-ARS

8:40 a.m. **Welcome from ARS-Northern Plains Area**
Dr. Mickey McGuire—USDA-ARS

Symposium

8:45 a.m. **Symposium Overview**
Dr. David Williams—University of Wyoming

9:00 a.m. **Climate Change Primer**
Dr. Steve Gray—University of Wyoming

9:25 a.m. **How Scientists Study Climate Change: A Rangeland Perspective**
Dr. Jack Morgan—USDA-ARS

9:50 a.m. Break

10:10 a.m. **Consequences of Climate Change for Rangelands**
Dr. Alan Knapp— Colorado State University

10:35 a.m. **Adapting to Climate Change**
Dr. Linda Joyce—US Forest Service

10:50 a.m. **Panel Discussion**
Dr. Linda Joyce—US Forest Service

12:00 a.m. Lunch

Afternoon Program

Field Tour

1:15 p.m. Board buses for travel to the **P**rairie **H**eating **a**nd **C**O_2 **E**nrichment (**PHACE**) experiment—Tour of USDA Agricultural Research Service (ARS) High Plains Grasslands Research Station.

1:45 p.m. Experiment tour. The PHACE experiment is a collaboration between the USDA-ARS, University of Wyoming (UW), Colorado State University (CSU) and the University of North Carolina. It subjects native northern mixed-grass prairie to climatic conditions predicted to occur during this century: elevated CO_2, warming and altered precipitation.

Station 1: **Plant winners and losers in climate change—tools for scoring the competition**. Jack Morgan and Terry Booth (USDA-ARS).

Station 2: **Watching plant communities change—native and invasive species in future climates**. Melissa Reyes (CSU), Dana Blumenthal, and Greg McMaster (USDA-ARS).

Station 3: **Global change in rangelands: taking the vital signs of plants and ecosystems (fluxes of carbon and water in plants and ecosystems)**. Jana Heisler and David Williams (UW)

Station 4: **Life beneath our feet: responses of soil organisms to climate change and their effects on plants and the atmosphere**. Feike Dijkstra (USDA-ARS), Matt Wallenstein (CSU), Meg Steinweg (CSU), and Yolima Carrillo (UW).

Station 5: **Technical aspects of the PHACE CO_2 and warming control systems and plot environmental monitoring**. Dan LeCain and David Smith (USDA-ARS).

4:30 p.m. Return to Little America Conference Center.