



By Gary Frasier

Frasier's Philosophy

The newspapers and TVs are all full of the new assessment on global warming and what it will mean to our lifestyle. As evidenced by clues of past ice ages, global climate change is not new. There is evidence that the world has been in a warming trend since the last ice age. What may be new is the rate of global climate change and, more specifically, global warming. What does all this mean in relation to our rangeland resources and their use?

There is a tendency to think that what we now see on our rangelands has always been here. Our life span is relatively short compared to the time that rangeland plants have evolved. The present native rangeland vegetation is a result of plant evolution under specific sets of precipitation and temperature regimes. As these regimes change, then so does the native vegetation.

It is generally agreed that as the vegetation undergoes a change the animals that live in an area must adapt. This means that they change their diet, migrate to other areas, or die. Ample archaeological data show that all these scenarios have occurred in the past. There are signs in some areas that animals can cause a vegetation change at least on a local level. This probably most often occurs when there is a change in the precipitation patterns (droughts) causing a reduction in plant growth. In the short term, the animals will consume all the plant material. If the drought persists, the animals will die or leave the area. This may or may not cause a change in the plant composition of an area. It all depends on the duration of the "climate" change. If the change is for a few years, the plants may recover. Extended droughts may cause a more permanent change in the plant species. Some plant species may adapt, and others will pass out of being. This is evolution.

Humans have a record of speeding the change of plant resources in an area. This has most frequently been done on rangelands by allowing overgrazing by domestic animals. This is well recognized, and in most places in the world, efforts are being made to reduce destructive use of the plant resources. We are making progress.

Now we are told that climate change over the next 100 years will materially affect the temperature and precipitation regimes of many areas. One scenario is that the location of arid and semiarid areas will change. In some areas there will be greater extremes of precipitation amounts (droughts) and temperature (highs and lows). What does this mean to rangeland resource managers?

I think there is no doubt that there will be some climate change over the next couple of centuries. This in turn means that there will be changes in the "native" vegetation of some areas. How we manage rangeland areas will influence how fast some of the vegetation changes might occur under the postulated climate change.

There is a group of people who believe that the vegetation composition on our rangelands in the past was good and that any changes toward a new vegetation species composition is bad. As a result, we spend enormous energy and money trying to restore the vegetative conditions of the past. What is not taken into account is that there may have already been some slight climate change that has occurred and reestablishing the past vegetation composition is not feasible today. As long as we have the mind-set that the past is the best, we can never adapt to climate change. We must use our best knowledge of what plant species are adapted to the current climate regime and move forward. Only by looking forward can we cope with whatever climate change is coming. ♦