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Climate Change and White-Tailed Deer

Animal Biology

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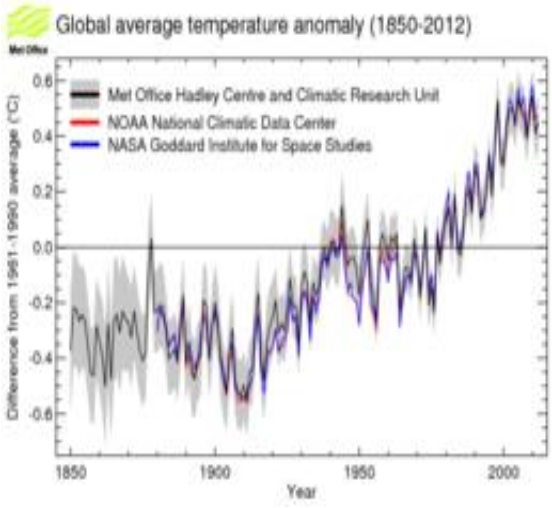
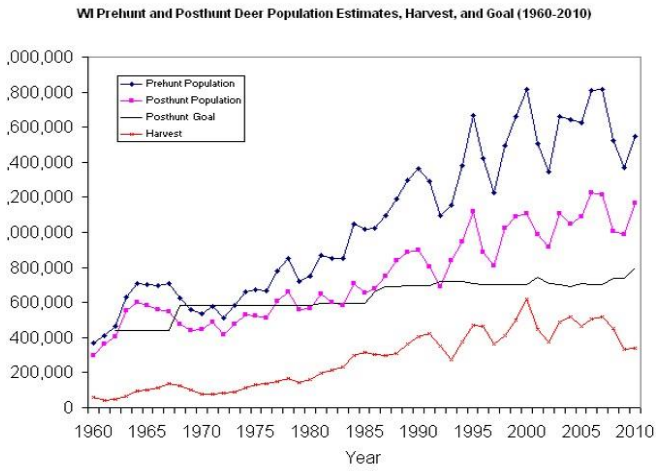
There are those who would deny global climate change and lead you to believe winters such as last years, that seem colder than normal are evidence against the existence of global climate change. These people do not understand the definition of the word climate. Climate is the weather patterns in an area over time. Weather, on the other hand, is the atmospheric conditions at a specific time. It takes decades of data to create the models of our climate and a single winter does not drastically change these. As can be seen in the graph below the globe has been in a period of general warming since the 1960s and before. While a Wisconsin winter very often may feel unbearably cold, and seem to indicate that there will never be warmth again, the global trend over the last 30 years and the last decade especially have shown overwhelming evidence that the average temperature of the globe is rising over time. 97% of Climate scientists and 99% of climate science societies agree that global climate change is occurring. In Wisconsin alone it has been shown that our average temperature has increased by 1 degree from1950-2006(Vimont).



This change appears deceivingly small however its significance is demonstrated by less ice covering our lakes, a longer growing season, and a major effect on native wildlife such as the White Tailed Deer who have experienced a population boom as a result of the less harsh winters produced by a warming climate (Wisconsin's Changing Climate).

White-Tailed Deer populations were dwindling in the early 1900s with as few as 1,000,000 deer left in the U.S (VerCauteren). Regulations were put into place in an effort to increase the deer herd populations and deer populations across the country have been stable and expanding since the 1960s. From that time onwards increasing efforts from the Wisconsin DNR to increase deer harvest numbers have succeeded yet proved unsuccessful towards the ultimate mission of reducing deer populations to the state goal. The Wisconsin deer population has exploded and is currently around 600,000+ individuals over the state's population goal. In fact in the last 20 years there has been only 1 year where the states heard was at or within 5% of goal with all other years being closer to 50% over. What might be the cause for our states overpopulated herd? A combination of climate change and agricultural expansion is to blame. The most dynamic increase in deer population has occurred over the last 30 years, coinciding with the most intensive period of positive climate change our globe has seen (Curtis) That, in addition with the continued expansion of agricultural lands, an important over-winter food source for deer, the trend continues upward. The warming climate means less harsh winters overall, and this puts less of a strain on individuals, resulting in more deer in the spring.



The more deer that survive until spring the greater the pressure placed upon their ecosystem. At their current levels deer are debilitating many forests. They mainly feed on buds of woody plants in the winter and this fact, coupled with a burgeoning deer population can decimate local saplings

and destroy entire future generations of forest. Over-grazing of native species by deer also provides an opening for aggressive invasive species to get a foothold in our forest ecosystems and choke out native competition. The maximum biological carrying capacity for deer in Wisconsin is about 100 deer/ mile^2. With that being said, deer begin to decrease biological diversity at numbers of around 12-15 deer/ mile^2 (WDNR). At this level deer may effectively reduce the occurrence of rare flowers in our forests to zero. An example of this is the White Flowered Trillium. This native plant once sprawled across the states forest floor dominating many types of flora, and now it is a threatened species, a direct result of deer overabundance (Curtis).

Overall the earth is a vast interconnected system of smaller systems comprised of life forms trying to make the most of what they have. We all exist on a single planet and must share the resources we have. One of our most valuable and unique resources is our atmosphere and its climate. Human industry has damaged our environment and as a result has affected many species including Wisconsin's White-Tailed Deer. The overall effect of anthropogenic climate change on White-Tailed Deer has been to expand their population and resultantly cause the destruction of many sensitively balanced forest ecosystems. With proper management, far different then the techniques currently used by the WDNR, we may be able to reduce the harmful effect of deer overabundance and live in harmony with our forest neighbors, while still being able to enjoy the traditional hunting season.

Works Cited

Cover image: Scott Bauer, USDA.
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Graph 2: http://dnr.wi.gov/topic/hunt/documents/deerpop.pdf

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