



THE ATMOSPHERIC RESERVOIR

Examining the Atmosphere and Atmospheric Resource Management

DAYLIGHT SAVINGS EXPLAINED



By Mark D. Schneider

The days have grown shorter and sunlight will reach a minimum of less than nine hours per day around the winter solstice. We can't buy sunlight, but over history attempts have been made to utilize it more completely. The origins of modern Daylight Savings Time (DST) date back to 1895 when George Vernon Hudson, a scientist from New Zealand, proposed the idea of a two-hour daylight savings shift. Hudson, along with many others during the last century, believed that additional late-day sunlight was more beneficial than extra light during the morning.

The U.S. adopted DST in 1918, through the Standard Time Act that allows federal oversight of time zones. In 1966, congress passed the Uniform Time Act which established a uniform DST for our country and its territories. This Uniform Time Act allows States (and territories) to exempt themselves from observing DST and currently Arizona, Hawaii, Puerto Rico, the US Virgin Islands, American Samoa, Guam, and the Northern Mariana Islands do not observe DST. On the flipside, under this law, states aren't permitted to permanently observe DST (states must have a beginning and ending for DST each year due to the federal mandate). Numerous states are attempting to get this part of the law changed so that they can stay on DST and never have to change their clocks. You might also remember from history that during the 1970s, DST was thought to

have helped save electricity during the energy crisis. The idea was that an extra hour of sunlight would mean less usage of artificial lighting.

There are debates about whether DST has positive effects on agricultural production and human health. North Dakotans can work and enjoy the outdoors later during DST. The tradeoff is that the sun rises later, so early risers have to wait to greet it. Some farmers oppose DST because their work schedules follow sunrise more closely than "clock" time. Our biological clocks, or circadian rhythms, are stressed by any adjustments to their regular schedules. Patterns of brain activity, hormone production, and cell regeneration are altered by DST, jet lag, and shift work. Jet lag affects us the most when travelling from west to east or "springing forward" (similar to the beginning of DST) and least when travelling from east to west. In jobs where shift work is required, workers' circadian rhythms are disturbed and this often causes sleep disorders.

By the end of December, the length of each day will begin to increase and soon spring will once again present us with the possibility of prolonging our evenings and "saving" daylight. Remember to set both your body and alarm clock forward an hour on March 10.

Atmospheric Resource Board | North Dakota Department of Water Resources | 1200 Memorial Highway, Bismarck, ND 58504
(701) 328-2788 | dwr.nd.gov

ND Weather Modification Association | PO Box 2599 | Bismarck, ND 58502 | (701) 223-4232