

Making Hard Decisions About Hard Times: Benefits of Proactive Drought Planning

Karen Guz, Conservation Director
San Antonio Water System

Texas has experienced extreme weather conditions in recent years with drought restrictions present in some areas for three out of the last four years. This now presents the opportunity to have realistic discussions about how to manage and conserve water every year to minimize drought impacts. The challenge is to balance the need to secure water for health and human safety, the need to manage water costs, and the need to have economic security for industries that depend on water as part of their business. Thoughtful planning and proactive programs are needed and can avert many of the negative consequences of poor drought planning and implementation.

Drought has become an unfortunate fact of life in the United States. Increasing populations, unpredictable weather patterns and technologies that enable large consumption of water have combined to exacerbate the pain of dry periods. Water supplies that appeared vast have declined at alarming rates when rain has lessened and temperatures increased. In the absence of orderly planning, the result of these conditions is not pleasant or productive. If decisions are made in the middle of hot and dry conditions, they are less likely to be based on data and with sound planning principles. Making hard choices about what to do with limited water is always rife with conflict, but a plan that works is more likely if all parties work together before it stops raining.

For those whose living depends on a constant water supply, it may be tempting to deny the possibility of severe water problems. Recent droughts in California, the Midwest, and Southeast have demonstrated that this is unwise. Water is clearly not just a Southwestern problem. The challenge of coping with intermittent dry periods is actually harder than managing in a consistently dry area. When water is usually generously available, it is seems unnecessary to learn to manage with less. While it is understandable that drought plans in some regions were dusty until

recently, it will be a shame if recent droughts go to waste as a lesson in the importance of planning.

The old mantra of “hope for the best, but plan for the worst” is a theme that should be included in every community water management plan. Asking just how bad it can get and how fast is difficult, but necessary. History of prior droughts provides insight. Setting out a “drought of record” scenario for planning purposes includes analyzing how long dry periods have previ-

Figure 1. Drought is becoming an increasing problem in the United States

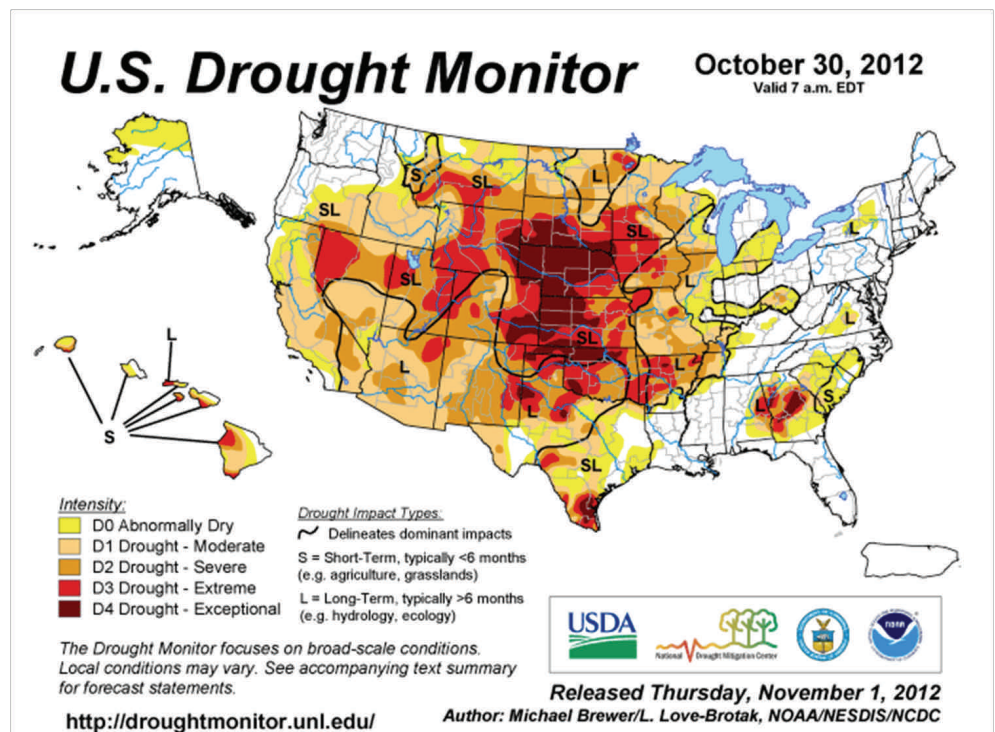
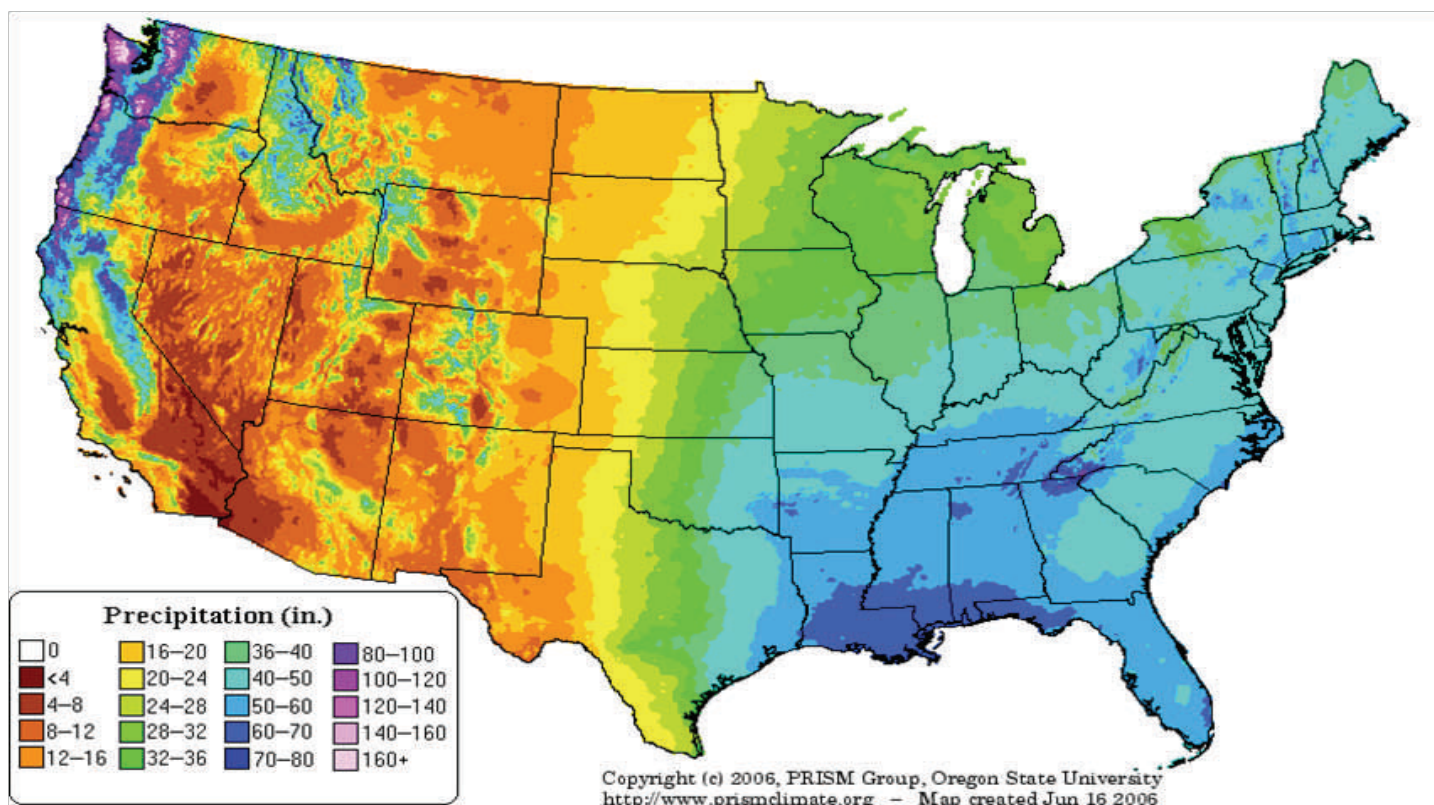


Figure 2. Rainfall (precipitation) patterns and drought records help for planning purposes in analyzing how long dry periods have previously lasted and how severe they were. This should be modeled with current consumption patterns and may bring to light startling predictions of how rapidly supplies could dwindle in the future if no water strategies are put in place.



ously lasted and how severe they were. This should be modeled with current consumption patterns and may bring to light startling predictions of how rapidly supplies could dwindle in the future if no water strategies are put in place. A combination of actions may be considered to improve drought of record outcomes. The options may include acquiring additional supplies, reducing consumption through efficiency measures, and imposing regulations on use during certain conditions. Every water user has a stake in these strategies because they all have a cost in either capitol dollars, changing technologies or in the cost of imposing restrictions.

Scientific data, public opinion and human behavior all influence how drought plans are written and implemented. There are more factors to consider than the simple question of what changes will reduce water demand enough to stretch supply. The ability to achieve compliance and maintain community harmony during a drought also depends upon balancing public perception of fairness against the analysis of scientific data. A quick look at the comment sections on drought articles illustrates how public willingness to sacrifice during a drought is influenced by whether they perceive that there is a shared pain everywhere. Individual home-owners may be largely unsympathetic

Individual home-owners may be largely unsympathetic to the water needs of businesses such as golf, pool manufacturing and car washing which are perceived as catering to the wealthy. This challenge can be overcome if a drought plan includes communication regarding the shared sacrifice all water users are making to manage the circumstances.

It is challenging is for community members to prioritize water uses. Water for health and human safety is easiest to agree on. Assessment of the value of water used beyond basic needs is harder. One way to frame the question is to ask which uses of water can be temporarily discontinued and result in the least long-term economic damage to a community. Uses that include home swimming pools, car wash operations, decorative water features, aesthetic landscape irrigation and golf are all discretionary in that their operation is not essential for basic daily human needs. But it is a reasonable and logical community goal to avoid long-term economic harm from droughts whenever possible. The focus of drought rules should be on how to reduce water use from all discretionary uses in ways that causes the least economic disruption and long-term harm, while achieving necessary reductions for each phase of drought. Ultimately achieving the water use reductions

is the priority, but there are ways to design and implement drought stages that decrease the harm to water dependent industries.

Some general principles should guide drought planning:

1) Analyze the impact of each reduction measure required.

This may seem obvious, but it is often not considered. Some regulations may be symbolic such as turning off decorative water features as a visual cue that drought stages are serious. Other changes may be put in perspective regarding the percent reduction needed for a particular stage. For example if landscape irrigation accounts for 40–60% of summer demand, a minor regulation of this usage might have a significant impact on stretching the water supply during drought.

2) Reward efficiency implementation with drought plan

Regulations that simply direct users to “reduce 20% from prior average” discourage long-term efficiency. Where possible work with industries to set benchmarks for reasonable water use. Reward the sites that are always efficient with less strict reductions during early drought. One way to do this is through voluntary certification programs that bring with them opportunities for more flexible drought responses. This is especially important for water use industries that may draw negative attention otherwise. Golf courses, car washes, swimming pools and landscape operations may all benefit from demonstrating proactive water efficiency that can be verified through a third party. Rigorous conservation plans can be submitted by these users with documented benchmarks to verify savings during all times and to increase savings during drought.

3) Plan the implementation of the reduction measures.

Thinking through how drought plans will be implemented is as important as writing the rules. Will any variances be allowed? Who will grant them and under what circumstances? Consistency and efficiency are critical when weather conditions are harsh. Stakeholders such as golf, car washes and landscape

industries can help themselves by suggesting moderate variances necessary to specific operations that may be allowed under limited circumstances and how these might be managed administratively. Variances given without thought to the overall goal of reduction and compliance with reduction goals can derail public support during drought, so it is important to be aware of public perceptions. Part of successful drought implementation is making compliance with regulations transparent.

4) Plan education of the public during the drought.

Communication with the public and with impacted stakeholders is necessary to achieve compliance. Having established relationships between the water utility and the stakeholders in advance of drought implementation is enormously helpful.

5) Distinguish between early drought regulations and emergency measures

Early drought measures should be put in place to stretch available supplies so that it is possible for conditions to ease before harsh regulations are needed. It is unfortunate that in some regions drought plans are either ignored or not strenuously enforced until an emergency develops. Once a community realizes that their water supply has dwindled down to an alarming six to twelve month supply, there will be little sympathy for discretionary use industries. Being ready for the worst-case scenario means not risking that early drought will end with timely rains.

Summary:

There is no question that droughts have been hard on the golf industry in recent years. Courses have been ravaged by lack of water and trees surrounding some courses died. Climate experts cannot promise that the extreme conditions that have occurred will not repeat during the next decade. There is no simple answer for golf stakeholders because the regulations and water supplies are unique in each region. The best defense against drought related crisis is for golf experts to gain as much knowledge of their water supply challenges and local water management plans as they have of agronomy and game strategy.