

## Coming: Dry Times In The U.S. And Israel

by David C. Grabbe

***Forerunner*, "WorldWatch," September-December 2013**

When God instructed His covenant people, He specified the tremendous blessings that He would give for obedience, as well as the curses that He would bring to pass for disobedience. Because of the agrarian nature of Israelite society, many of the blessings and cursings relate to natural resources—water in particular. While the land promised to Abraham and his descendants was “well-watered everywhere” (Genesis 13:10) and “a good land, a land of brooks of water, of fountains and springs, that flow out of valleys and hills” (Deuteronomy 8:7), such a blessing of water was conditioned on faithfulness to God. Unfaithfulness, though, would result in national calamity, and drought is a frequent example of what God does both to punish His disobedient children and to bring them back to Him (Leviticus 26:19-20; Deuteronomy 28:23-24; I Kings 8:35; II Chronicles 6:26; Hosea 13:5; Jeremiah 14:1-6).

Today, both the United States and the state of Israel are on the cusp of significant water problems. America’s High Plains Aquifer, for example, is being steadily depleted as a result of drought and mismanagement. Located under portions of Wyoming, South Dakota, Nebraska, Colorado, Kansas, New Mexico, Oklahoma, and Texas, the High Plains Aquifer is crucial for irrigation in the central U. S., commonly referred to as the “breadbasket of America.” The grain production from this area not only feeds much of the country, but because the U.S. is the world’s largest wheat exporter, a decrease in grain production here would have reverberations across the globe. Kansas alone produces about 22% of U.S. wheat, and it exports nearly \$2 billion of wheat and feed grain each year. Not surprisingly, roughly 75% of the groundwater pumped in Kansas is used for irrigation.

The High Plains Aquifer is being depleted as a result of extreme drought during the last 15 years, combined with growing populations and allocating more water from the aquifer than can be supported. Part of the increased demand for water is a consequence of the surge in the planting of corn, which requires more water than most other crops. In addition to normal demand, the price of corn has tripled since 2002 because of financial speculation and a federal mandate to produce biofuels such as corn-based ethanol.

In parts of Kansas and Texas, groundwater pumping since the 1950s has brought aquifer levels down by almost 150 feet, and the rate of depletion is increasing rapidly. Already, there are instances of water shortages reducing agricultural output. As wells must be dug deeper and more energy is required to pump from deeper depths, water is becoming more expensive. A 2013 study by researchers at the Kansas State University reports that, at current usage rates, 69% of the aquifer will be depleted within 50 years. Once depleted, the study estimates it would take between 500 and 1,300 years of rains to refill. While there is no *immediate* crisis, the overall trend for the High Plains Aquifer shows a major predicament down the road, as the rate of depletion continues to outpace the rate of replenishment.

Further west, the Colorado River Basin is suffering from legislated over-allocation of water. Like the High Plains Aquifer, agriculture accounts for more water usage from the Colorado River than any other industry. The Colorado River irrigates approximately 15% of U.S. crops, and it provides water to major cities such as Los Angeles, Las Vegas, Phoenix, San Diego, and Tucson.

In 1922, the states in the Colorado River Basin—Arizona, California, Colorado, Utah, Nevada, New Mexico, and Wyoming—established a compact to govern the allocation of Colorado River water, including the amount that would be available for Mexico. At the time, the amount allocated was far above the amount being used, but it was still an unsustainable amount for the indefinite future. When the compact was made, the flow of the river was above normal, meaning the expected amount for allocation was too high. The compact was based on an estimated annual flow of 21 billion cubic meters per year, while the long-term average is closer to 18 billion cubic meters per year. Though the various parts of the Colorado River Basin are not yet using their full allotment, a 2012 study by the U. S. Bureau of Reclamation projects a possible shortage of 3 billion cubic meters by the year 2035.

Nearly halfway around the world, Israel is faced with its own water concerns. The United Nations defines “water poverty” as anything less than 1,000 cubic meters per person per year; Israel comes in with only 265. More than half of Israel’s 1.8 billion cubic meters of natural, renewable water originates outside its borders, a situation that Israel sees as a security risk. The plummeting level of the Dead Sea—which has lost 14 cubic *kilometers* in the past thirty years—is indicative of both how much has been drawn off in recent times, as well as how little the Jordan River and other tributaries are able to replenish it after their own overuse. In particular, the salty Dead Sea water is used for the potash industry, as well as municipal water and irrigation after the salt is removed through desalination.

Israel has plans to increase its desalination capacity on the shores of the Mediterranean and Red Seas so that as much desalinated water can be produced each year as is available from naturally occurring sources. Desalinating is energy-intensive, but seems to be Israel’s only hope for water security for the near future. Incidentally, desalination has also been put forward as a possible remedy to the depletion of the High Plains Aquifer.

Even though God promises to bless the food and water of those who serve Him (Exodus 23:25), the modern descendants of ancient Israel and Judah are choosing to reject God and seek their own solutions.