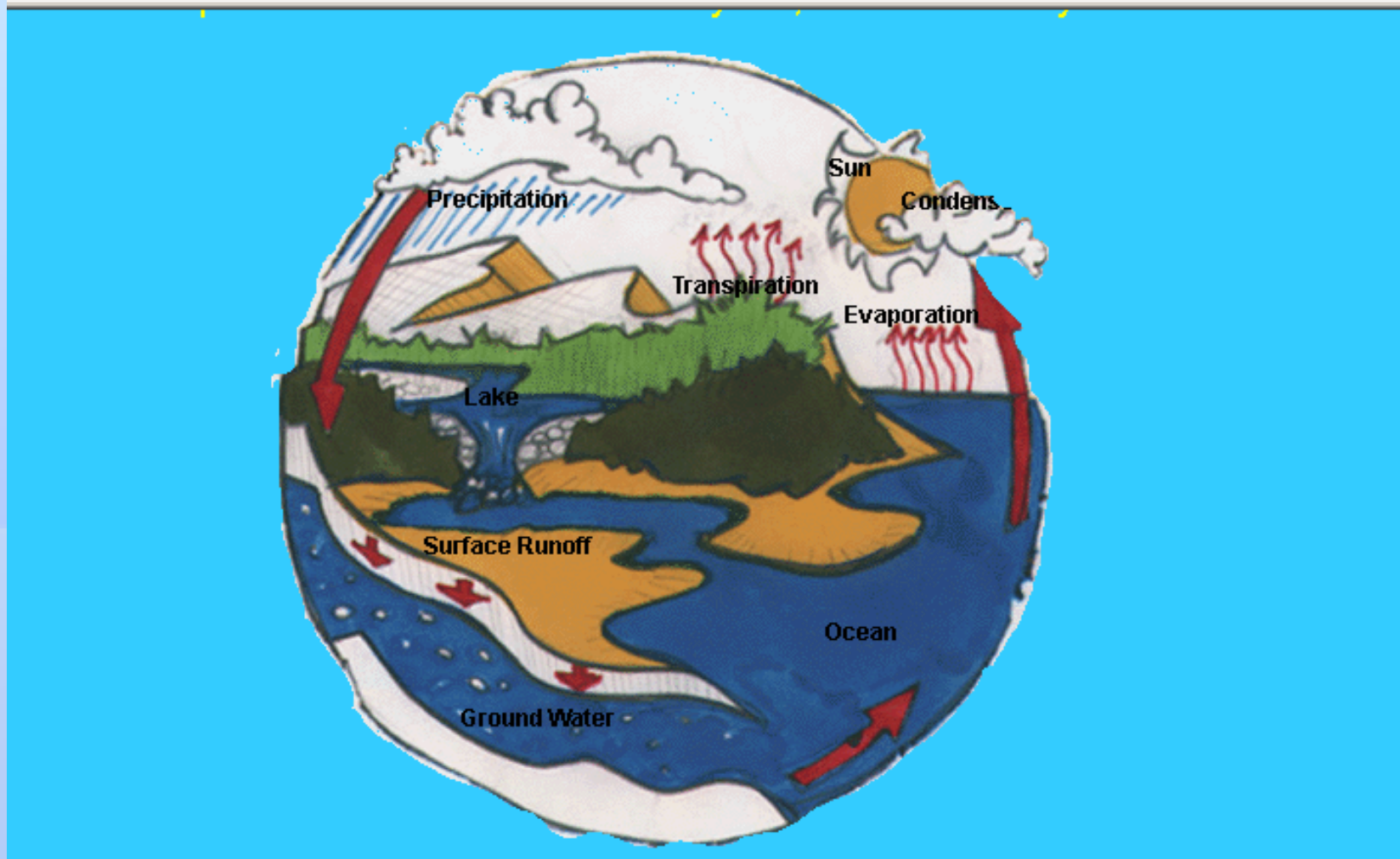
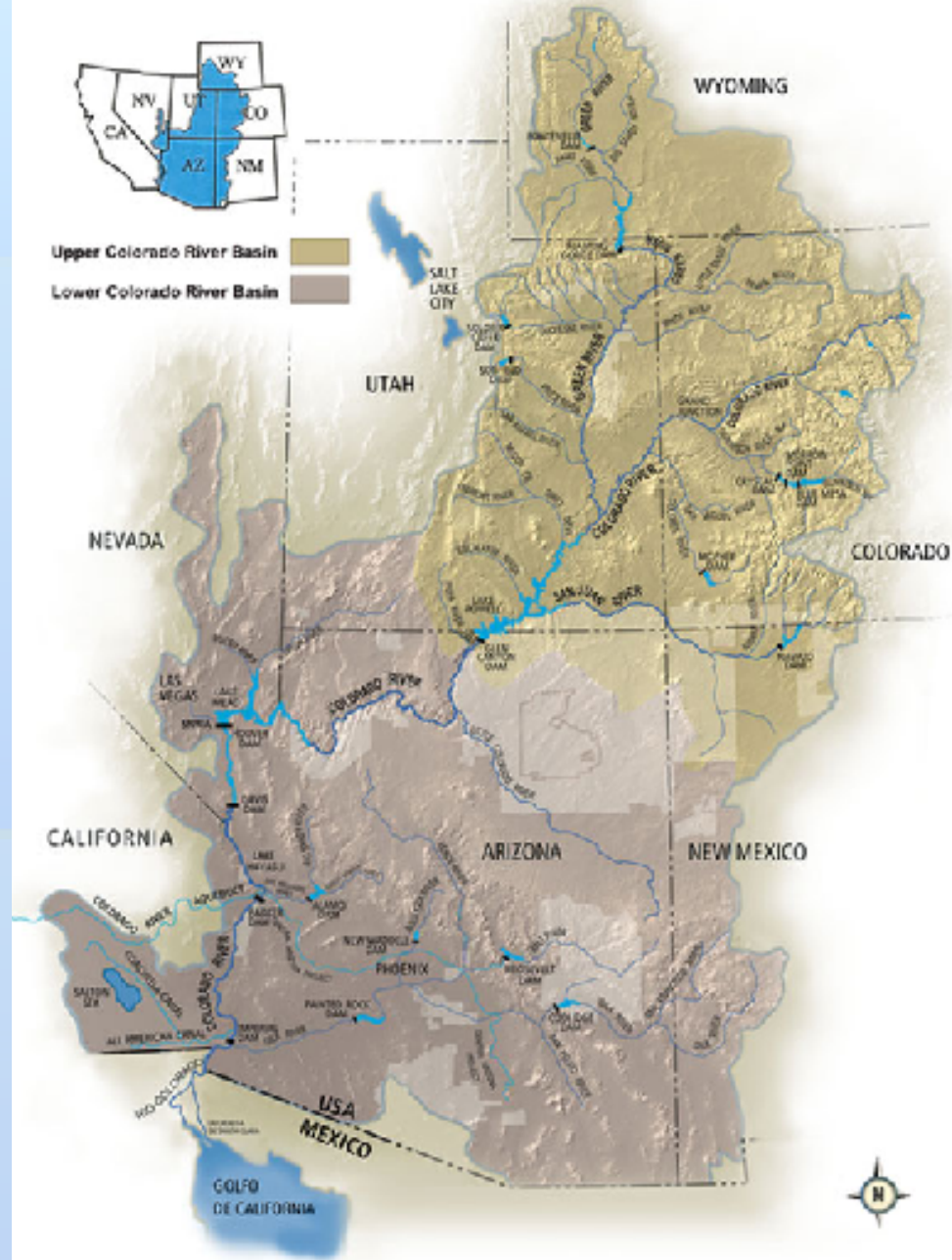


WATER





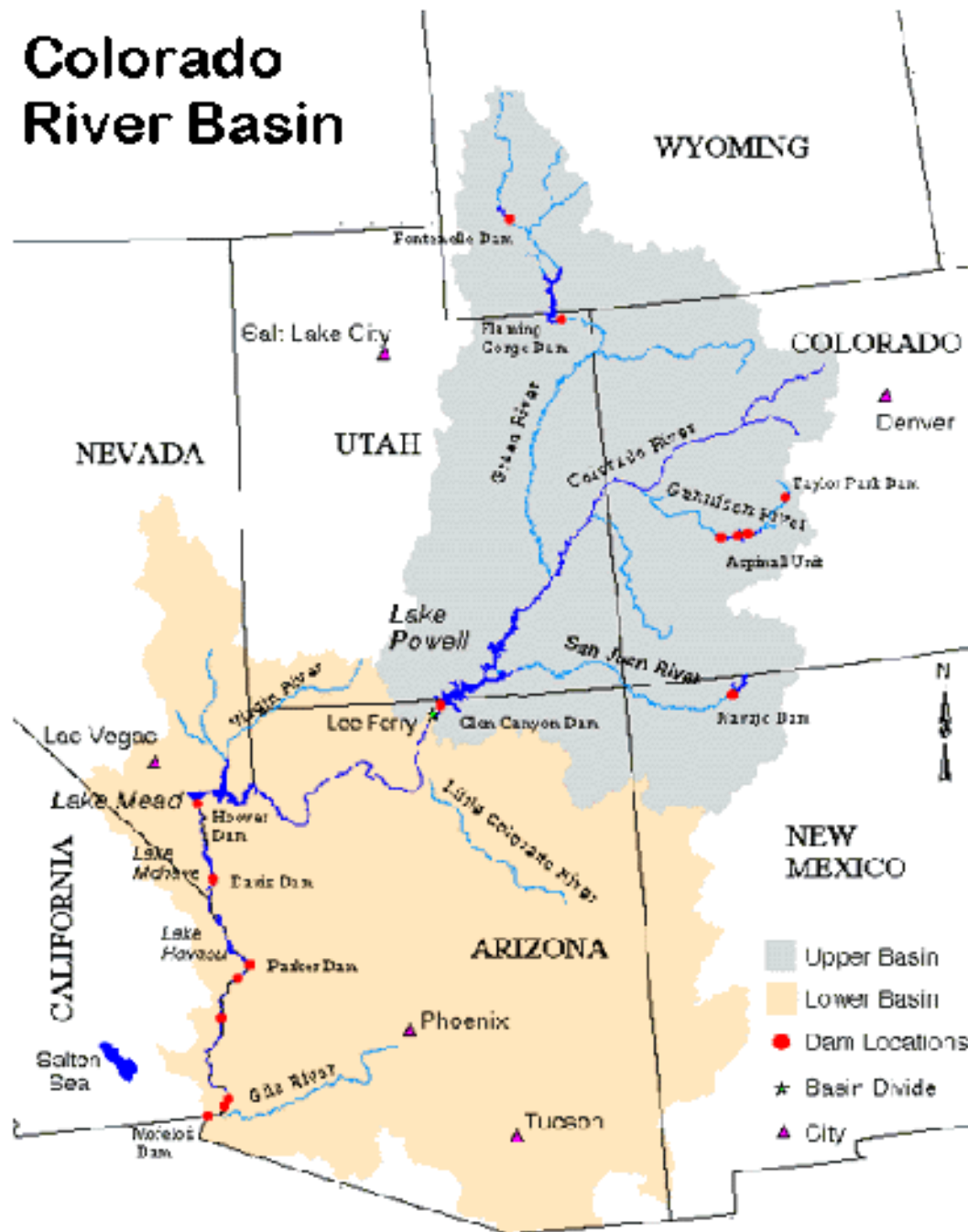
Upper Colorado River Basin
Lower Colorado River Basin



The origin of the Colorado River is in the Wind River Range in Wyoming. The Colorado stretches 1700 miles, drops 14,000 feet. Before dams were built, the Colorado flowed into the Gulf of California – now virtually



Colorado River Basin



DAMS ON THE COLORADO

Glen Canyon

Hoover

Davis

Parker

Headgate Rock

Palo Verde Diversion

Imperial

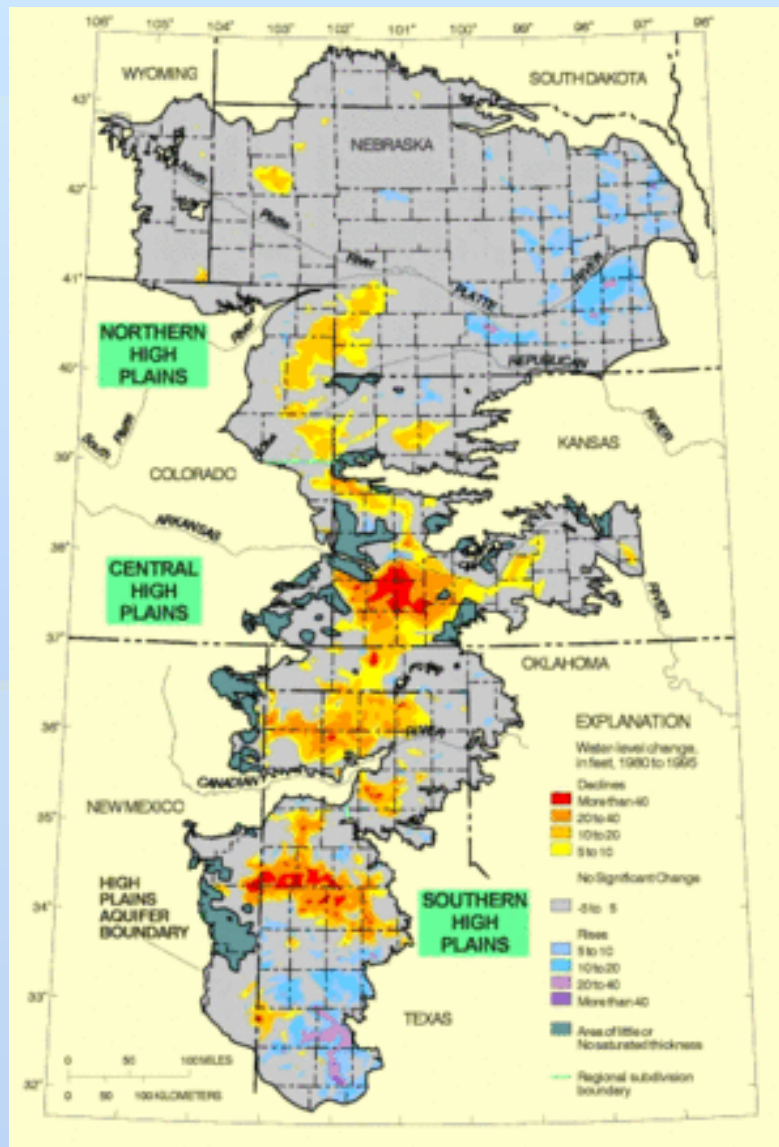


The main beneficiary of massive Colorado River irrigation projects is the cow. More than half of the water is used for cows, either to water them or grow feed such as alfalfa. Overgrazing is a major problem, resulting in the loss of native grasslands, the spread of

Herbert Hoover helped negotiate the Colorado River Compact of 1922. The water was allocated on the basis of river flows measured during relatively wet years, as was later borne out by tree ring studies.

Lake Powell took 17 years to fill. Over the last 8 years, half of the water in the lake has disappeared.

Ogallala Aquifer



The Crops versus Craps Controversy

- **Only 3 % of the water used by Las Vegas goes to the Strip – 75% is used to fill swimming pools and irrigate lawns and golf courses.**
- **Las Vegas has proposed construction of a 280 mile pipeline that would direct ground water from northern Nevada to the city. This plan is opposed by ranchers and farmers in northern Nevada and Utah.**
- **Whoever prevails, non-renewable ground water will be depleted.**



SILT

Earliest settlers described Colorado River water as “too thick to drink, too thin to plow”.

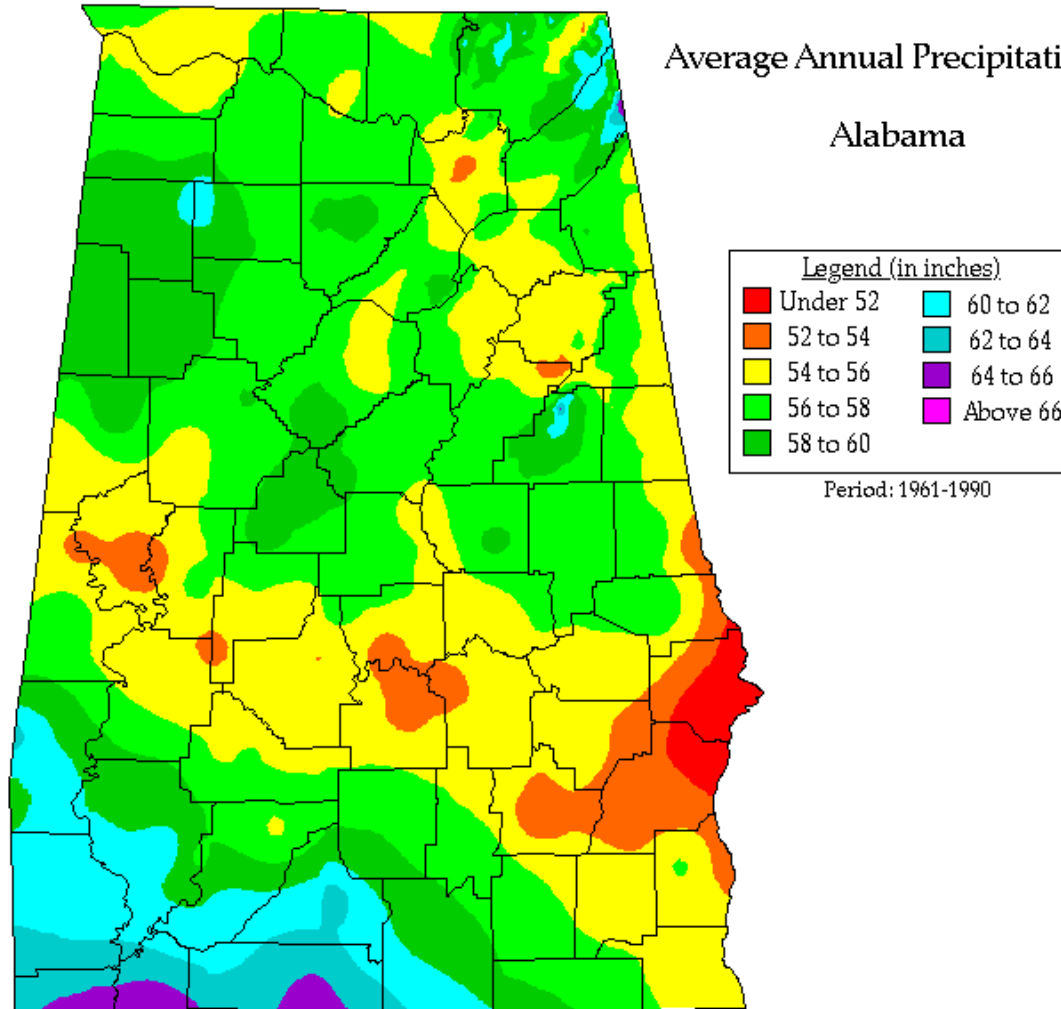
A survey conducted from 1891 to 1935 estimated that the Colorado dumped 6.5 billion tons of silt into its delta, at rates as high as a thousand tons per second.

Before the gates of the Hoover Dam were closed in 1935, 180 million tons of silt passed Yuma, Arizona annually. Currently 13 million tons pass this point – the rest now accumulates behind dams, chiefly in Lake Powell.

**Spring snowmelt, not rainfall,
provides water for the interior
West.**

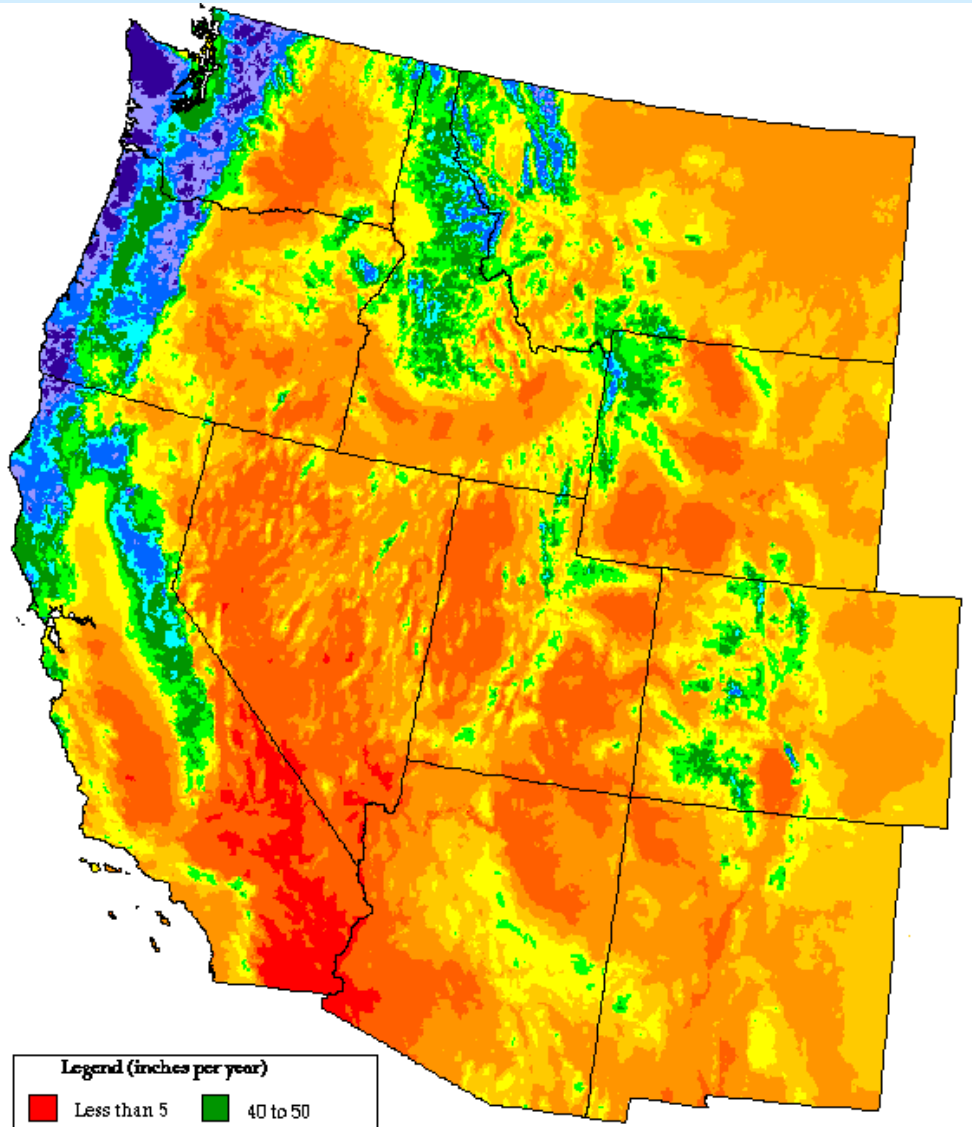
Average Annual Precipitation

Alabama



This map is a plot of 1961-1990 annual average precipitation contours from NOAA Cooperative stations and (where appropriate) NRCS SNOTEL stations. Christopher Daly used the PRISM model to generate the gridded estimates from which this map was derived; the modeled grid was approximately 4x4 km latitude/longitude, and was resampled to 2x2 km using a Gaussian filter. Mapping was performed by Jenny Weisburg. Funding was provided by NRCS Water and Climate Center.

12/7/97



Legend (inches per year)

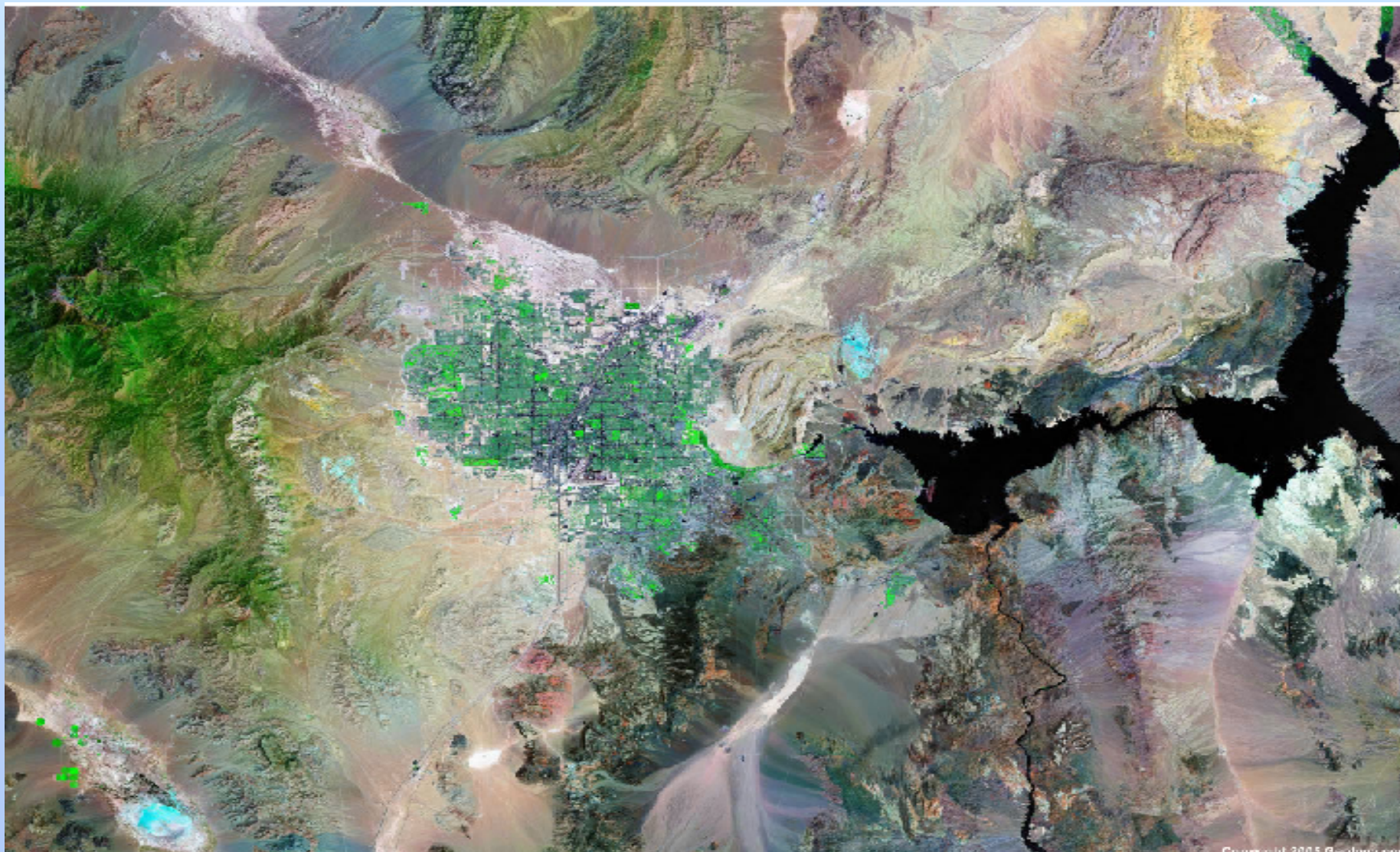
Less than 5	40 to 50
5 to 10	50 to 60
10 to 15	60 to 80
15 to 20	80 to 100
20 to 30	More than 100
30 to 40	

Average Annual Precipitation

Western United States

Period: 1961-1990 Units: inches

Las Vegas



Phoenix



Salinity

Dissolved calcium chloride, sodium chloride, bicarbonate, magnesium, selenium, sulfate and smaller amounts of other minerals. Salinity of Colorado river water rises from 50 mg / liter in the Wind River Range, the river's origin, to 668 in the Grand Canyon, 1000 at the north side of the US – Mexico border, and 39,000 in the Salton Sea. Ocean water averages 35,000.

Desert Societies - Civilizations

- Sumeria 3250 BCE – 2300 BCE
- Assyria 2400 BCE – 612 BCE
- Carthage 814 BCE – 146 – BCE
- Hohokam 200 CE – 1450 CE
- Anasazi 490 CE – 1300 CE
- Aztec 1248 CE – 1521 CE
- Inca 1435 CE- 1532 CE
- Egypt

Dividing the Waters

*A Century of Controversy Between
the United States and Mexico*

NORRIS HUNDLEY, JR.



- **Over the last five years, the Colorado River Basin has experienced both increasing drought and increasing population - over five million additional people.**