

The Dust Bowl

Overview



Buried machinery in a barn lot; Dallas, South Dakota, May 1936.

The Dust Bowl was a manmade disaster caused by deep plowing of the virgin top soil of the Great Plains, which killed the natural grasses. Such grasses normally kept the soil in place and moisture trapped, even during periods of drought and high winds. During the drought of the 1930s, with the grasses destroyed, the soil dried, turned to dust, and blew away eastwards and southwards in large dark clouds. At times the clouds blackened the sky, reaching all the way to East Coast cities such as New York and Washington, D.C. Much of the soil ended up deposited in the Atlantic Ocean. The Dust Bowl affected 100,000,000 acres (400,000 km²), centered on the panhandles of Texas and Oklahoma, and adjacent parts of New Mexico, Colorado, and Kansas. The storms of the Dust Bowl were given names such as Black Blizzard and Black Roller because visibility was reduced to a few feet (around a meter). The Dust Bowl was an ecological and human disaster. It was caused by misuse

of land and years of sustained drought. Millions of acres (hectares) of farmland became useless, and hundreds of thousands of people were forced to leave their homes. Degradation of dry lands claimed peoples' cultural heritage and livelihoods. Hundreds of thousands of families from the Dust Bowl (often known as "Okies", since so many came from Oklahoma) traveled to California and other states, where they found conditions little better than those they had left. Owning no land, many traveled from farm to farm picking fruit and other crops at starvation wages. John Steinbeck later wrote the classic Pulitzer Prize-winning novel *The Grapes of Wrath* and also *Of Mice and Men* about such people.

The Dust Bowl had multiple causes. The major cause was the expansion of agriculture and inappropriate methods of cultivation. The catastrophe, which began as the economic effects of the Great Depression were intensifying, caused an exodus from Texas, Oklahoma, and the surrounding Great Plains, with more than 500,000 Americans left homeless. One storm caused 356 houses to be torn down. Many Americans migrated west looking for work, while many Canadians fled to urban areas such as Toronto. Two-thirds of farmers in "Palliser's Triangle", in the Canadian province of Saskatchewan, had to rely on government aid. This was due mainly to drought, hailstorms, and erratic weather rather than to dust storms such as those occurring on the U.S. Great Plains. Some residents of the Plains, especially in Kansas and Oklahoma, fell ill and died from dust pneumonia and malnutrition.

The Dust Bowl is closely associated with the Great Depression, as the two events were contemporaneous.

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Geographic characteristics

The Dust Bowl area lies principally west of the 100th meridian on the High Plains, characterized by plains which vary from rolling in the north to flat in the Llano Estacado. Elevation ranges from 2,500 feet (760 m) in the east to 6,000 feet (1,800 m) at the base of the Rocky Mountains. The area is semi-arid, receiving less than 20 inches (510 mm) of rain annually; this rainfall supports the Shortgrass prairie biome originally present in the area. The region is also prone to extended drought, alternating with unusual wetness of equivalent duration. During wet years, the rich soil provides bountiful agricultural output, but crops fail during dry years. Furthermore, the region is subject to winds higher than any region except coastal regions.

Agricultural and settlement history

During early European and American exploration of the Great Plains, the region in which the Dust Bowl occurred was thought unsuitable for agriculture; indeed, the region was known as the Great American Desert. The lack of surface water and timber made the region less attractive for pioneer settlement and agriculture. However, following

the Civil War, settlement in the area increased, encouraged by the Homestead Act and westward expansion. An unusually wet period in the Great Plains led settlers and government to believe that "rain follows the plow" and that the climate of the region had changed permanently. The initial agricultural endeavors were primarily cattle ranching with some cultivation; however, a series of harsh winters beginning in 1886, coupled with overgrazing followed by a short drought in 1890, led to an expansion of land under cultivation.

Immigration began again at the beginning of the 20th century. A return of unusually wet weather confirmed the previously held opinion that the "formerly" semi-arid area could support large-scale agriculture. Technological improvements led to increased automation, which allowed for cultivation on an ever greater scale. World War I increased agricultural prices, which also encouraged farmers to drastically increase cultivation. In the Llano Estacado, farmland area doubled between 1900 and 1920, and land under cultivation more than tripled between 1925 and 1930. Finally, farmers used agricultural practices that encouraged erosion. For example, cotton farmers left fields bare over winter months, when winds in the High Plains are highest, and burned their wheat stubble, which deprived the soil of organic matter and increased exposure to erosion.

Drought and dust storms



The unusually wet period, which encouraged increased settlement and cultivation in the Great Plains, ended in 1930. This was the year in which an extended and severe drought began. The drought caused crops to fail, leaving the plowed fields exposed to wind erosion. The fine soil of the Great Plains was easily eroded and carried east by strong continental winds.

On November 11, 1933, a very strong dust storm stripped topsoil from desiccated South Dakota farmlands in just one of a series of bad dust storms that year. Then, beginning on May 9, 1934, a strong two-day dust storm removed massive amounts of Great Plains topsoil in one of the worst such storms of the Dust Bowl. The dust clouds blew all the way to Chicago where dirt fell like snow. Two days later, the same storm reached cities in the east, such as Buffalo, Boston, New York City, and Washington, D.C..

A dust storm; Spearman, Texas, April 14, 1935.

That winter, red snow fell on New England. On April 14, 1935, known as "Black Sunday", twenty of the worst "Black Blizzards" occurred throughout the Dust Bowl, causing extensive damage and turning the day to night. Witnesses reported that they could not see five feet in front of them at certain points. The dust storms were so bad that often roosters thought that it was night instead of day and went to sleep during them.

Migrations

The Dust Bowl exodus was the largest migration in American history. By 1940, 2.5 million people had moved out of the Plains states; of those, 200,000 moved to California. With their land barren and homes seized in foreclosure, many farm families were forced to leave. Migrants left farms in Kansas, Texas, and New Mexico, but all were generally referred to as "Okies". The plight of Dust Bowl migrants became widely known from the novel *The Grapes of Wrath* by John Steinbeck.

Government response

During President Franklin D. Roosevelt's first 100 days in 1933, governmental programs designed to restore the ecological balance of the nation were implemented. The U.S. Government formed the Soil Erosion Service in 1933 (reorganized and renamed the Soil Conservation Service in 1935), which is now the Natural Resources Conservation Service (NRCS).

Influence on the arts

The human crisis was documented by photographers, musicians, and authors. Photographer Dorothea Lange made a name for herself while working as a photographer with the Farm Security Administration and capturing the impact of the storms. Independent artists like folk singer Woody Guthrie and novelist John Steinbeck both became famous for their depictions of life during the Dust Bowl of the 1930s.