

# WONDERS of the SOUTHWEST

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**T**HE southwestern section of the United States is a province that presents many special characteristics of physiography, climate, resources and capabilities which are not as well known as they deserve to be. The term "southwest" is usually applied to New Mexico, Arizona and southern California, an area of about the size of New England, New York, Pennsylvania, Maryland and the Virginias. Much public attention has of late been attracted to Arizona and New Mexico in connection with their admission to statehood, and one gratifying result of this has been a greatly increased interest in their resources and conditions.

Excluding the populous and thrifty coast region of southern California, the southwest is the most thinly populated and least developed portion of the country south of Alaska. As this condition is due mainly to a climate so arid that but little can be raised without irrigation, its future development is to be measured by the utilization of the vast volume of flood waters now going to waste. This water can be applied to millions of acres of level lands with rich soil, which with the unending sunshine of its mild climate will respond with large and profitable crops.

Unfortunately, there is not enough water for all the land, but there is sufficient, if all were utilized, to support a population many times as large as the present one. The government is now spending \$12,000,000 in reclamation projects in Arizona and New Mexico which supply water for nearly one-half million acres of fertile lands. This will give great impetus to development, and in time, when settlers take up the reclaimed land, there will be a large increase in its agricultural productions.

In the great coast region of southern California, with a population of nearly 600,000, the principal product is the orange and other fruits, with a value of about \$20,000,000 a year, while in the inland districts the mining industry is the largest source of revenue. Portions of the southwest are richly productive of various minerals, notably those of copper, and recently southern California has become a heavy producer of petroleum. The value of the copper, oil and other products of the ground aggregates about \$75,000,000 a year.

It is probable that further exploration will disclose large additional supplies of ores of various kinds, especially those of low grade, which will prove profitable under improved methods of reduction.

The southwest presents a variety of topographic features, and many of its economic resources are closely related to them. There is great range in altitude, with corresponding variation in climatic conditions. One of the most salient features is the wide, high plateau of northern Arizona, which reaches an altitude of 8,000 feet. It is surrounded by various volcanic peaks, notably San Francisco peak, which is 12,611 feet above sea level.

To the east this district merges into an irregular series of high plateaus, constituting the western half of New Mexico.

To the west and south it drops by huge steps into the great region of desert valleys or basins of Nevada, western Arizona, and southeastern California. These deserts are wide, long plains, lying between mountain ridges of varying lengths and heights, ridges which are all very rocky and mostly treeless and trend north and south.

Diagonally across southern California there extends the long curving ridge of the Sierra Madre and San Bernardino mountains, between which and the ocean lies the large oval area known as the valley of southern California. This valley is the great citrus fruit district, and Los Angeles.

There are two great rivers in the southwest, the Colorado and the Rio Grande. The Colorado river has been compared to the Nile and the similarity is notable. Both are streams of the first rank, rising in high mountains, and finally crossing a broad region of semi-tropical, nearly rainless deserts. Both empty into seas in nearly the same latitude, and their lower courses are through wide deltas of fertile soil. The annual overflows add new sediments fertile with plant food and at a time favorable for the crops.

The agricultural capabilities are closely similar, but while much of the lower Nile valley is utilized the Colorado valley is just beginning to be settled. The watershed area of the Colorado, with its two head branches, the Green and the Grand, is over 200,000 square miles, its course 2,000 miles in length, and its annual discharge is 11,000,000 acre-feet, or enough to cover that number of acres one foot deep.

The sediment which it carries each year into the gulf is estimated to be sufficient to cover 13 square miles one foot deep. For 200 miles of its course across the high plateau of northeastern Arizona it cuts the wonderful Grand canyon, which in places is nearly a mile deep. South of the canyon it flows mostly in broad valleys, but cuts through several de-



NAVAJO CHURCH  
A PRODUCT OF EROSION



PUEBLO OF ZUNI, WESTERN NEW MEXICO

about 4,000 feet wide and 600 deep, with an irregular encircling rim of loose rock fragments from 120 to 160 feet high.

The petrified forests attract many visitors, especially the most accessible one south of Adamana, a station on the Santa Fe railroad a few miles east of Holbrook. There is a large quantity of the material in sight here, some of it in large logs. One of these logs spans a small draw as a natural bridge.

Arizona possesses a very picturesque natural bridge of limestone spanning Pine creek, in Gila county,

permanent and mostly very ancient, and their religious ceremonies are extremely elaborate and picturesque. They live in villages of several hundred inhabitants, in substantial stone or adobe houses, some of which are in groups, rising in tiers to a height of four or five stories, with streets and central plaza. They are peaceful and industrious, raising crops largely by irrigation. They have herds of cattle and sheep, and spinning, weaving and making their garments is one of their important occupations.

Work appears evenly divided between men and woman in the pueblos. The men do the farming, tend to the cattle and sheep, do the hunting, build the houses, and have many smaller trades and occupations. The women do the housework, grind the corn, make pottery, blankets and clothes.

The visitor is generally impressed by the public people and pleased with the agreeable home life and simple hospitality which they readily offer.

The interesting features of the southwest, notably the beauty of the coast region and the special climatic advantages, draw a large number of tourists and health-seekers, especially in winter, and every year sees a substantial increase in the influx of visitors.

Because of its dry air and mild climate the southwest has become famous as a health resort, especially for those having tuberculosis of the respiratory organs. The percentage of cures made in New Mexico, Arizona and California, great as it is, would be much greater if a larger proportion of those who are seeking health came in time. It is necessary to come before the vitality is too greatly diminished and then to live under favorable conditions, the most essential of which is to be out of doors as much as possible.

Many health-seekers spend most of their money in railroad fare to reach the desired resorts. Physicians do a great wrong to patients in sending them so far from home, friends and care without means to provide suitable quarters, nourishment and attention to sustain them while making their fight against death.

The climate of the southwest presents considerable variety, but in all the lower lands the winters are delightfully mild, and everywhere blue sky is in evidence for more than 300 days in the year. The summers are warm; in the southern desert area they are decidedly hot for several months, but the dry air even then is much more endurable than the sultry summer weather of the eastern and central states. Sunstroke is unknown, and laborers continue their work without distress.

The valley of southern California is protected from the cold northern winds of winter by high mountain ranges, while to the south it is open to the Pacific. Owing to the peculiar configuration of the coast the cold California current from the north is deflected west near Point Conception, and hence the southern California shores have waters warmer by about ten degrees than those to the north.

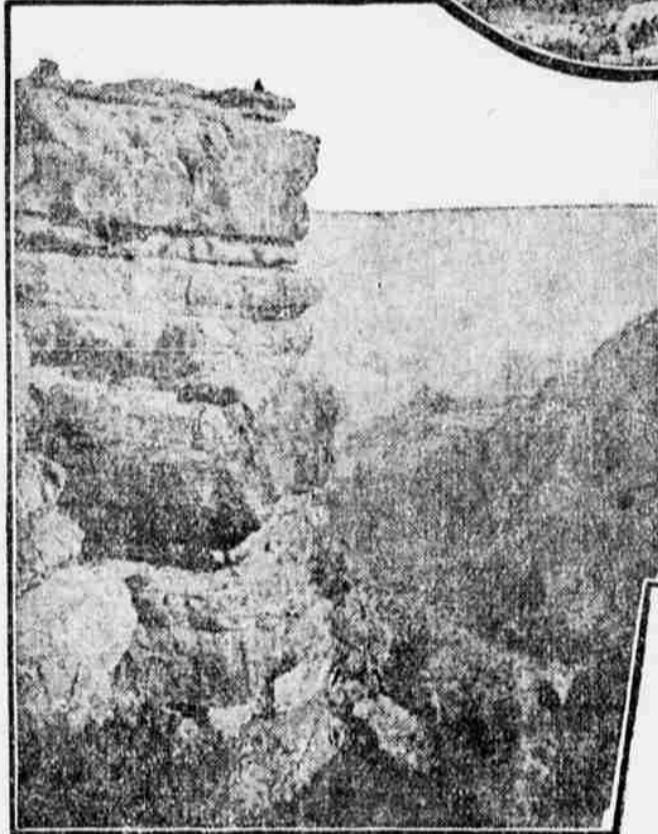
This beneficent climate is responsible for the giant industry of fruit growing which has made California famous over the globe. California furnishes the major part of the very large amount of oranges and other citrus fruits consumed in the United States, and this business has been the potent cause in the development of southern California.

The orange and other citrus fruits of southern California have an output of about 30,000 carloads a year, with a net value of more than \$15,000,000.

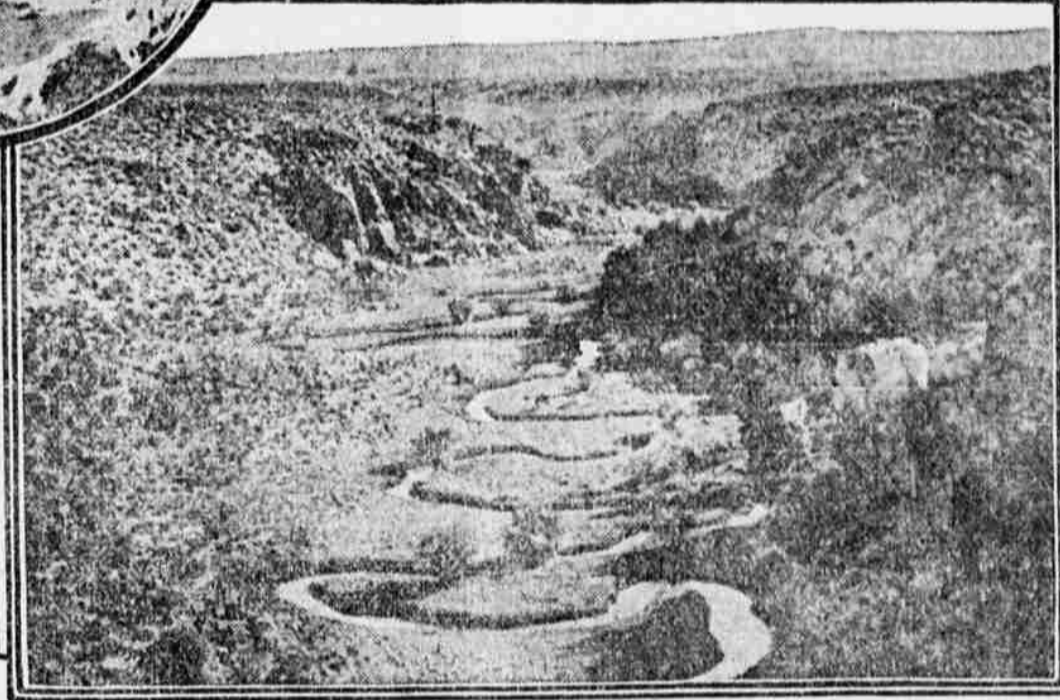
East of the mountains in southern California is an extensive desert country, much of it without water, but large areas can be reached by ditches from the Colorado river. The most notable district of the sort is in the Salton desert, near the Mexican boundary. A few years ago this was a lonely and forbidding region, but now, by aid of irrigation from the Colorado river, it has several thriving settlements, with 100,000 people and 200,000 acres of cultivated land. That portion of it known as Imperial valley has the greatest development, and with rich soil and semi-tropical climate phenomenal results have been obtained when water is applied.

One of the best known products of this region is the cantaloupe, of which the annual shipments are over 1,800 cars, bringing nearly a million dollars. This valley contains over 400,000 acres of land, and just across the Mexican line are 200,000 more.

The great oil fields of California are in the southern part of the state, and with rapidly increasing production they promise to be the largest producers in the country.



GRAND CANYON OF THE COLORADO NEAR THE HANCE TRAIL



CROOKED CREEK LONG VALLEY, CALIFORNIA



CAPTAINS OF THE CANYON NORTHEASTERN ARIZONA

ert ridges, finally passing out into the wide delta plain extending to its mouth.

The Rio Grande is a large river rising in the mountains of Colorado, traversing New Mexico from north to south, and finally constituting the boundary line between Texas and Mexico.

The definition of a desert given by the dictionaries, "a dry, sandy region without vegetation or inhabitants," is defective, and the idea that it is necessarily flat is erroneous. Most portions of the average desert bear an extensive, though somewhat widely spaced, flora. Many desert regions contain numerous settlements, the Sahara desert for instance having a population of 2,500,000. Loose sand is a minor feature, and much more prevalent on the seacoasts and along the bottom lands of rivers. There are wide areas of bare rocks, and the larger deserts include mountains, ridges, mesas and deep canyons.

The deserts of the southwest are regions of very scanty rainfall, parts of them having only three inches a year and evaporation of eighty inches or more.

This canyon is the mile-deep gorge cut by the Colorado river across the high plateau of northern Arizona. The view from the rim reveals the most stupendous panorama imaginable, for one sees into an area of about 600 square miles filled with an endless variety of most rugged topographic forms of many beautiful colors. On the sky-line, ten to fifteen miles away, is the edge of a wide-reaching plateau, and in the middle ground of the picture flows the Colorado river, nearly a mile below one's feet.

The features are so gigantic and so plainly in view that all sense of scale is lost, and it is not until one has been down to the bottom of the canyon at the river level that any adequate sense of proportion can be gained.

The canyon was discovered by Cardenas, who went to its edge in 1540 on a branch trip from Coronado's expedition, on information obtained by Tovar from the Hopi Indians. The original name given to the river was Tison, Spanish for firebrand, and it is to be regretted that the name has not been retained to avoid the present confusion due to the river having the same name as the state.

Coon butte, another of the greatest wonders in our country, is also situated in the southwest, but owing to its distance from the railroad it is seldom visited. It is a great crater-like bowl in the plateau, about ten miles south of Canyon Diablo station. "The crater" is

plinnacles and monuments. Some of these features appear also in the great wall of red sandstone on the north side of the wide depression through which the Santa Fe railroad crosses the continental divide east of Gallup. One of the most remarkable pinnacles of this wall is fancifully termed the Navajo Church.

Few persons who travel across the southwest realize that in Arizona and New Mexico there are enormous forests of valuable timber and that the lumbering is an important industry. In both territories there are several large forest reservations, and one of these in Arizona, the Coconino forest, with nearly 6,000 square miles, is the largest single reserve in the United States. The total forest area reserved in Arizona is 15,250,130 acres, or more than 24,000 square miles, and in New Mexico there are 10,971,711 acres, or more than 17,000 square miles. Southern California also has several large reserves.

The Coconino forest in Arizona occupies part of the great plateau in which the Grand Canyon is cut, and extends to the brink of the canyon.

The visitor to the southwest usually takes keen interest in the Indians, who are numerous not only along the main lines of travel, but in many remote villages. Some tribes, notably the Apaches, who continued to be troublesome until a relatively recent date, have become famous for the misdeeds that materially retarded the development of Arizona and western New Mexico. Now, however, all is peace and tranquillity. The newspapers, especially eastern ones, occasionally print accounts of uprisings, but these prove to be local quarrels with a few individuals.

The Indians of the southwest are of two kinds, differing greatly in most of their characteristics. One is the nomad type, represented by the Apaches, Navajos, the Yumas, Papagos and Pimas, and smaller tribes; the other is the pueblo type, which is comprised of 26 pueblos, or villages, scattered through central and western New Mexico, and in the Hopi reserve, in northwestern Arizona.

Probably there is greater popular interest in the pueblo people, for their settlements are

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