



# El Cielo A Reserve Teeming with Life

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Considered an ecological area like few in the world because of its bio-diversity, El Cielo is one of Mexico's main ecological reserves due to its extraordinary abundance of life and its still relatively undisturbed ecosystems. Its conservation is a priority for national and international bodies: the United Nations' "Man and the Biosphere" program has classified it as a World Heritage Treasure. In Mexico, El Cielo is classified as a protected natural area, under the heading of biosphere reserve.

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## BRIEF HISTORY

The area that today makes up the reserve was officially occupied in 1900 for private use: the Mexican government initially ceded 8,000 hectares to Dr. M. Cameron. He sold it in 1939 to Arturo Argüelles, who carried out intensive forestry there until 1960, thus encouraging the immigration of peasants from all over Mexico, who set up collective *ejidos* and small holdings. By 1965, the conservation of the area's environmental wealth began to be a concern. On July 6, 1965, Francisco Harrison, Juan Fidel Zorrilla and Francisco García San Miguel created an institution, El Cielo, S.A., with only 25 hectares of land, to study and preserve this important ecological niche.



Courtesy of Sector Tamaulipas

The elephant rock, one of the several points of interest in the reserve.

By 1975, the conservation efforts went public: the government of Tamaulipas state established a national park there, and in 1981, the Ecology Institute proposed creating a protected natural area classified as a biosphere reserve. Thus, after several meetings and accords with local inhabitants, finally on July 13, 1985, the Tamaulipas government issued a decree creating the El Cielo Biosphere Reserve.

#### THE ECOSYSTEMS

Several ecosystems can be found in a single geographical area, producing three different climates: 1) a semi-warm, sub-humid climate with summer rains on the eastern slopes of the Cucharas Mountains with vegetation typical of medium sub-caduceus jungle, jungle, mesophilic forest and stands of oak in the south; 2) a sub-humid, temperate climate with summer rains at the same level

as the previous climate, but at a higher altitude, with vegetation typical of a mesophilic forest, pines and holm oaks in the north; 3) a semi-dry, semi-warm climate in the northern part of the reserve, with vegetation typical of xerophytic brambles on the northwest slope.

#### FLORA AND FAUNA

El Cielo's vegetation is unique in its variety and the rare co-existence of contrasting species like tropical palms and North American pines, cedar, tropical orchids, acacias, willows, pink apple trees, magnolia trees, all kinds of cacti, begonias, pineapples, ferns, fungus, etc. There are several endemic species like monk orchids, poplars or *chamanillos*, as well as other trees less common in other parts of the country like the beech, fir and *cedrillo*.

The animal species are as varied as the vegetation because they live in different ecological



The reserve faces serious threats due to economic interests.

niches: jungle, forest and desert. Some species already extinct or endangered in other parts of the country still exist in the reserve, such as the jaguar, the ocelot and the puma, white-tailed deer and *temazates* or red brocket deer, the black bear and gray foxes. Two hundred fifty-five species of birds have been found permanently inhabiting the area, as well as 175 species of migratory birds. Specialists say this represents half of all the species found in the whole country.

As if this were not enough, there are 21 species of amphibians, 60 kinds of reptiles and 40 varieties of bats; and the reserve is an obligatory stop for the Monarch butterfly on its long trip from the frozen Canadian North to the temperate forests of the State of Mexico and Michoacán.

#### ZONES

As with other reserves in the country, El Cielo is divided into three zones, according to how restricted access is for local inhabitants and visitors alike:

- 1) Nucleus Zone 1 covers 28,674 hectares of mesophilic mountain forest and pine and oak forest.

- 2) Nucleus Zone 2 includes 7,844 hectares of sub-caduceus tropical forests. These two zones are closed to hunters and flora collectors in order to maintain optimum preservation of animal and plant species.
- 3) A buffer zone covers the area surrounding the other two zones, taking up 108,012 hectares, where hunting, fishing and restricted logging are permitted in order to maintain a rational, balanced use of El Cielo.

#### PROBLEMS

Despite its recognized ecological importance, the reserve faces serious threats due to the profound economic interests at stake in the exploitation of the timber, the hunting of species with quality or exotic pelts, and even the collection of orchids, cacti and other plant species. This means that the state government is constantly collaborating with municipal authorities and social organizations to improve regulations and management plans to ensure the conservation of the reserve's natural wealth.

At the same time, universities and national and foreign research institutions are carrying out impor-



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tant projects on the use of plant and animal species for medicinal and nutritional purposes and general improvement of the quality of life.

#### A VISIT TO EL CIELO

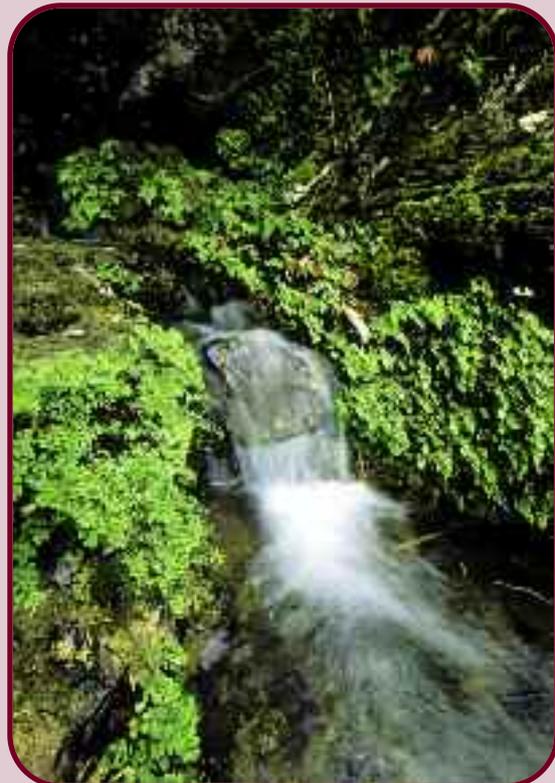
Anyone can visit El Cielo's buffer zone, since there are roads and pathways for going up, as well as facilities for camping or staying overnight. No special permit is required. The two nucleus zones can only be visited by accredited researchers.

During the trip up, starting off from Gómez Farías, the visitor passes several points of interest: 1) Altas Cimas, where the change in plant life begins; 2) Valle del Ovni (UFO Valley), which includes a pasture, located at the entrance to the reserve, where unidentified flying objects have

been reported; 3) San José, where the remains of trucks used in logging in the last century can still be seen; 4) La Gloria, the point where the so-called "fog forest" begins, and an ideal town for camping since fewer visitors come here than to San José; 5) El Elefante, an enormous rock that looks like an elephant; 6) Joya de Manantiales, the spot furthest away, a little town where impressive waterfalls can be seen at the end of the rainy season.

Natural underground chambers and caves can be visited throughout the reserve, although these excursions are risky, so they should not be undertaken without a guide and the appropriate equipment. The trips take the visitor to anywhere from 100 meters to 2,300 meters above sea level, making it advisable to use a four-wheel-drive vehicle and appropriate clothing since it rains constantly in the upper regions. ■■■

El Cielo is located in southern Tamaulipas on two slopes of the part of the Eastern Sierra Madre known as the Cucharas Mountains, an ecological transition area between the southern jungles and the northern temperate climate. It stretches for 144,530 hectares, occupying the municipalities of Gómez Farías, Juamave, Llera and Ocampo. It is accessible by two routes: the Jaumave-Ciudad Victoria Highway 101 and the Ciudad Mante-Ciudad Victoria Highway 85. El Cielo includes a series of small mountain ranges that run north-south and parallel to the Eastern Sierra Madre; among the most important of these are the San Agustín Mountains, the Maroma Mountains and the El Oate, La Cuchilla de San Pedro, Santa Fe, El Duraznillo and El Magueyoso Mountains.



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