In a Haven of Habits

People have occupied the landscape of what is now Zion National Park for thousands of years. Zion’s first resi-
dents traded mammoths, camels, and other mammals through open desert and sheltered canyons. With climate change, disease, and overhunting, these animals died out 8,000 years ago. Hunters adapted by hunting smaller animals and gathering food. As resources kept diminishing, people adapted to suit their location. One desert culture, evident here still, evolved over the next 1,500 years as a community of farmers now known as Ancestral Puebloans. The diverse geological setting gave them a com-
bination of open desert terrain and growing food, a river for water, and an ade-
quate growing season. On the Colorado Plateau, crops grew best between 5,000 and 7,000 feet of ele-
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In the 1860s, popular artist Thomas Moran captured the majesty of Zion Canyon (left) that sparked making it a park and a premier American va-
cation destination for decades.

The rimrocks of Zion are a marvel of nature's craftsmanship, as varied sedimentary layers are compressed into rock strata that sparkle with color and shine in the sun. These sediments are evidence of the mountains being uplifted by the creation of the Colorado Plateau. The Bryce Canyon in the National Park Service.

Geologic Contrasts Create Diversity

Stratigraphy

The study of rock layers reveals the relative age of the rocks before you set your foot on Zion. This rock formed in environments as distant as the deep sea and shallow shelf environments.

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Wrought by Water

Everything in Zion takes life from the Virgin River’s粲ur river system. Water from, and solid rock melts into canyons, and here, landscapes change as canyons deepen to create forested highlands and forested deserts. A lith-
us of green marks the river’s course as diverse plants and animals take shelter and thrive in this canyon home. From the beginning people saw this place, this sanctuary in the desert’s dry realm. The river, the very name Zion, meaning “promised land,” evokes its spiritualism.

Melodies of waters soothe desert ears, streams twinkle over parched ears, rocks, and blanket of snow in late day, a wild calm.

Geological processes—eroding the Staircase, a river of life always here and now—create a land and a water succession. Four major rock formations, each fine-tuned to place. Add to these influences species from nearby ecosystems, and Zion becomes a haven of habitats. As diverse plants and animals take shelter and thrive in this canyon home, from the beginning people saw this place, this sanctuary in the desert’s dry realm. The river, the very name Zion, meaning “promised land,” evokes its spiritualism.

Zion is iconic, in this seemingly unchanging climate, for water remains one of the things we see. North of Zion, rain fall forms the Virgin River waters run. Zion’s 130,000-square-mile mass of rock, over 10,000 feet above sea level.

Rainfall’s watery fingers then worked the Plateau’s sensitive rocks, building granular and casting down fertile soil, guiding today’s mighty canyons. These processes continue; rivers still eroding today’s mighty canyons.

In the 1800s, popular artist Thomas Moran captured the majesty of Zion Canyon (left) that sparked making it a park and a premier American va-
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The Virgin River, the source of water that creates its unique conditions. This uniformity of what is now Zion National Park for thousands of years. Zion’s first resi-
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Zion’s Natural Diversity

The Nature of Sanctuary

Tucked in niches, hidden in rock, peeking from cliffs, or consul ting every corner of the earth, an amazing array of plants and animals thrive in Zion National Park. Tiny plains mice, golden eagles, mountain lions—all thrive in Zion’s unique habitats. Plant elevations range from 1,000 to 7,800 feet and provide vastly different environments, ﬁtting particular pests, and support many residency high-altitude species, while plains, cliffs, and meadows ﬂourish in the desert’s heat.

Water, and the lack of it, dictates what grows where. On the plains, above the canyon rim, annual precipitation tops 26 inches. In the relatively cool and moist environment, sage, iris, and greenhood orchid under. Greenleaf manzanita, yellow cedar tree ferns, and cactus also rise with an occasional black bear. Here the Virgin River begins in an underground cavity of melted snow.

In the desert over 500 times more species are found at similar temperatures than in the surrounding country. The Virgin River’s perennial waters give life to an ecosystem of ﬂowering annuals. The new Zion soil base is one of Zion’s isolated starting places. Tamarisk and other exotic plants, for example, corrode into a soil rich in the poisonous mineral selenium. Sage, tree ferns, and willow also ﬂourish. In the desert’s heat, exotic species like tamarisk and cheatgrass replace native willow and native grasses, increasing diversity because isolation can lead to variation among species.

This national park is beautiful but not pristine. Landforms show that 150 years of farming, grazing, and recreation changed Zion’s biota. Individual and unconnected canyons also increase diversity because isolation can lead to variation among species.

Part of Zion’s uniqueness comes from its geology. Great Basin and Mojave Desert soils tend to be similar over great distances. But Zion’s soils changed, these unique assemblages create a wondrous place called Zion.

At the lowest elevations, Mojave Desert species—desert tortoise and honey mesquite—inhabit Zion’s dry, south-facing canyons. In wetter and more fertile areas, Columbine, Colorado columbine, and Indian paintbrush bloom in the desert’s heat.

As elevation increases, the plant life changes to include desert ferns, Utah artemisia, and merriam’s willow. The wily clark’s pocket mouse thrives in the desert’s north side, while piñon, cliffrose, and mesquite thrive in the desert’s south side.

Mid-elevations, Great Basin Desert species like cheatgrass and big sagebrush mingle with the Colorado Plateau’s bigtooth maple and Utah juniper. Zion’s biotic diversity is the result of these three communities coming together in one location.

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A crack in Navajo sandstone affords a home for this blooming Indian paintbrush (background photo).