Story by Geoff Manaugh and Nicola Twilley

Popular Science presents

The Best Nerd Road Trips

Twenty-five curious, mysterious, or otherwise beguiling destinations to satisfy your inner science-history geek

In the past 16 months, writers Geoff Manaugh and Nicola Twilley have toured 150 of the built, natural, and virtual landscapes of the United States, collecting images and interviews. They call the project Venue, and they are documenting their progress at venue-venue.com. For Popular Science, they selected 25 of their favorite sites, each one open to the public and perfect for a late-summer road trip.

OL SOUDAN UNDERGROUND MINE STATE PARK
SOUDAN, MINNESOTA
N 47.319302 / W 92.242954

This 19th-century iron mine in the boreal forests of Minnesota has been repurposed as one of the deepest physics experiments in North America—and the deepest that's open to the public. In this subterranean lab, a neutrino detector looks for changes in subatomic particles emitted 460 miles away at the
Fermilab particle accelerator. Another experiment searches for dark matter. Visitors take a three-minute mine-cage ride for a physics lesson half a mile below the Earth. Open daily until September 30, 2013; check website for hours and tour times. Adults: $12.

02 AEROJET-DADE ROCKET FACILITY HOMESTEAD, FLORIDA N 25.36211° / W 80.56239° A three-mile walk down a closed road in the Everglades leads to the unprotected remains of an abandoned rocket factory—including the shell of the largest solid-fuel rocket booster ever built, still sealed inside its 150-foot-deep test silo. The aerospace company Aerojet built the facility in 1963 to produce four test rockets for the space program. Aerojet tested three boosters, nose down, with massive detonations that could be seen 80 miles away. But after NASA decided the liquid-fuel Saturn rockets would perform better in space, Aerojet walked away from the project, leaving filing cabinets, ignition panels, and the case of the fourth solid-fuel rocket booster rusting in the swamp. Enter at your own risk. Free.

03 NATIONAL RADIO QUIET ZONE WEST VIRGINIA—VIRGINIA BORDERLANDS N 38.43071° / W 79.81824° The U.S. enforces strict limits on the placement and broadcast power of cellphone towers and other transmitters over 13,000 square miles in the Appalachian Mountains. In the National Radio Quiet Zone, the Green Bank Telescope searches the radio universe for targets like star-forming clumps of gas. Nearby, the Naval Information Operations Command is used by the National Security Administration to intercept international communications. The zone has also become a haven for people who claim to suffer from electromagnetic sensitivity. Free.
05 SPACEPORT AMERICA
SIERRA COUNTY, NEW MEXICO
N 32.990308 / W 106.975261
Virgin Galactic plans to offer 20 minutes at the edge of space as early as next year for a mere $250,000. Those without money to burn will have to settle for ticketed tours of the firm’s future spaceport. So far, the facility consists of a dual-purpose hangar and terminal designed by architect Norman Foster, a smaller dome that houses administrative offices and the air, fire, and rescue team; and a 12,000-foot runway named after former New Mexico governor Bill Richardson, who in 2005 helped pass the legislation that allowed construction of the world’s first commercial spaceport.
Tours twice daily Friday—Saturday, once daily on Sundays. Adults: $59.

06 MCMATH-PIERCE SOLAR TELESCOPE
TUCSON, ARIZONA
N 31.959158 / W 111.598046
The body of McMath-Pierce solar telescope points due north, angled at about 33 degrees—Kitt Peak’s latitude.
A mirror at the top of the building’s hypotenuse reflects an image of the sun into the telescope. The mirror rotates throughout the day to follow the sun across the sky.

07 FORT IRWIN NATIONAL TRAINING CENTER
FORT IRWIN, CALIFORNIA
N 35.349436 / W 116.594167
Prior to combat deployment, units of the U.S. military spend a few weeks at Fort Irwin, a base in the Mojave Desert the size of Rhode Island. There, they simulate combat, clearing tunnels, performing house-to-house sweeps, and reacting to carefully choreographed car bombs. Visitors watch soldiers move through the dusty streets of 11 fake towns built from shipping containers. Twice-monthly tours fill up quickly. Free.

08 CINDER LAKE FLAGSTAFF, ARIZONA
N 35.22696 / W 111.518140
In 1967, NASA engineers unleashed a four-day aerial-bombing campaign in the black cinder remains of an ancient volcanic field 11 miles northeast of Flagstaff. Their goal was to duplicate the precise landscape of craters found in the Sea of Tranquility, where Apollo astronauts would land two years later. Fully suited astronauts drove prototype lunar rovers, practiced their routes for extravehicular excursions, and tested geologic equipment. Today, intrepid visitors can hike half a mile from a small parking area on Forest Road 776 to explore the rapidly weathering Apollo-era potholes. With careful planning, a modern-day explorer could even re-create Neil Armstrong’s first steps. Free.

09 BAY MODEL SAUSALITO, CALIFORNIA
N 37.864216 / W 122.495370
Opened in 1957, the Bay Model served for decades as an analog calculator for high tides and storm surges in the San Francisco Bay. The Army Corps of Engineers still fills the 1.5-acre scale model with flowing water, but as an educational tool and tourist attraction in a waterfront warehouse in Sausalito.
Hours are seasonal; check website for details. Free.

10 KOESHRAN STATE HISTORIC SITE
ESTERO, FLORIDA
N 26.433601 / W 81.812155
In 1894, a “hollow Earth” cult called the Koreshan Unity Foundation settled on a homestead near what is now Naples, Florida. Cult members believed the Earth was round but hollow and that humans lived on the inside, with the sun at the center. Members took to the wide sandy beaches near Naples to try to measure the planet’s curvature, using...
their purpose-built "rectilinicator." The site is now a small state park, preserving for curious visitors the Koreisha Unity houses, general store, and other structures. Open year-round, 8 a.m.-sunset. Adults: $4.

12 CENTRAL PARK BOLT NEW YORK CITY
N 40.769418 / W 73.973436
In the 1810s, before concrete and skyscrapers consumed Manhattan, surveyor John Randel laid out the city's future street grid. An unassuming iron bolt hammered into Central Park bedrock is one of the few remaining products of his work. It marks an intersection that never came to be: West 65th Street and Sixth Avenue. Free.

13 MERCER MUSEUM
DOYLESTOWN, PENNSYLVANIA
N 40.30764 / W 75.127198
What did buckets look like before machines could stamp them out of steel? Henry Mercer, 19th-century gentleman archaeologist, thought future generations ought to know. So he collected the preindustrial tools of everyday life as they were becoming obsolete: tiny butter molds, car-size threshing machines, and, yes, wooden buckets, three feet across and made from the hollow trunks of black gum trees. Today, 40,000 objects are on display in a soaring poured-in-place concrete castle that Mercer built near his home. The sprawling collection is housed behind glass, propped up against walls, and even strapped to arches, banisters, and ceilings. Open Monday-Saturday 10 a.m.-5 p.m. and Sundays 12-5 p.m. Adults: $12.

This "Vampire Killing Kit," a leather-covered briefcase whose contents include flowers of garlic, engraved bullets, and lead balls, is displayed in a hallway outside the museum proper. It was removed from the collection when 21st-century scholarship concluded it was a fake. Likely assembled in the mid-1900s and donated to the museum.

Despite receiving no explicit attempts at preservation or historical signage, the Central Park bolt is now part of the National Spatial Reference System, a database of officially verified physical reference points that allow surveyors to demarcate land in the U.S.

14 FREE ENTERPRISE RADON HEALTH MINE
BOULDER, MONTANA
N 46.271749 / W 112.184152
Visitors to this former uranium mine pay to sit in lounge chairs 85 feet belowground and breathe the radon gas seeping from the tunnel's rock walls. The facility, founded in 1952, is one of four radon-therapy sites in the U.S., all in Montana. Radon gas—emitted by radium, a radioactive byproduct of uranium—causes lung cancer in high doses. Here, exposed to more moderate levels, radon bathers seek relief from arthritis, respiratory, and other chronic illnesses. Hours are seasonal; check website for details. Treatment prices vary: a 60-minute visit costs $8.

15 BERKELEY PIT BUTTE, MONTANA
N 46.017618 / W 112.512016
The Berkeley Pit may be a highly
19 PUENTE HILLS LANDFILL
WHITTIER, CALIFORNIA
N 34.020261 / W 118.009300

Puente Hills is a 500-foot-tall mountain built from 130 million tons of Los Angeles County trash, given shape by garbage-moving heavy machinery and contaminant-sealing geotextiles. Before the recession, the site took in more daily trash than any other U.S. landfill. Today, visitors watch engineers sculpt each day’s deliveries into a terraced landscape. Puente Hills will close its gates on October 31, when its permit expires. The sanitation department will divert trash to other nearby dumps, including the Mesquite Regional Landfill—a site whose 20,000-ton-a-day capacity should last a century. Occasional free public tours (or you can pay to dump).

16 STRATACA
HUTCHINSON, KANSAS
N 38.043384 / W 97.867831

More than 650 feet beneath the prairie, Strataca—also known as the

Kansas Underground Salt Museum—offers tours of the cavernous tunnels created by miners extracting solid rock salt. The site is the only active salt mine in North America that’s open to the public. Visitors see exhibits on the mechanics of a salt operation as they wander the glittering halls of what 275 million years ago was the bed of a Permian Age sea.

Open Tuesday-Saturday 9 a.m.-6 p.m.; Sundays 1-6 p.m. Adults: $14.

17 SAN ANDREAS FAULT
PALMDALE, CALIFORNIA
N 34.692469 / W 118.132467

Heading north from Los Angeles to Palmdale, drivers will glimpse frozen crushing waves of rock, revealed by a roadcut on Highway 14. The undulations mark the San Andreas Fault, sliced open by California highway engineers and laid bare for the geologically curious. To get a better view than a drive-by afforded, visitors can risk walking across some private land from nearby Pelona Vista Park and contemplate geology in action from the western edge of the cut.

Free.

18 CAHKOKA MOUNDS
STATE HISTORIC SITE
COLLINSVILLE, ILLINOIS
N 38.655562 / W 90.059191

The largest pre-Columbian settlement north of Mexico, Cahokia Mounds is a broad meadow punctuated by nearly 90 artificial hills. The site has been studied by anthropologists since the 1960s. At its prime, 900 years ago, Cahokia was larger than London was at the time. Today, volunteers can help uncover American Indian history at ongoing archaeological excavations. Hours are seasonal; check website for details. Recommended donation: $7.
One of the most famous plant breeders and botanical inventor of his day, Burbank used four acres here as his home, seed vault, greenhouse, nursery, and experimental fields. From 1875 to 1926, Burbank introduced more than 800 new plant varieties to American growers — an achievement that inspired the Plant Patent Act of 1930. His Samba Rosa plum and Shasta daisy are still grown today, and his Burbank potato led to the Russet Burbank, the kind McDonald's makes into French fries.

Open Tuesday–Sunday, April–October, 10 a.m.–3:30 p.m. Adults: $7.

In its demonstration garden, the nonprofit Chile Pepper Institute grows 150 pepper varieties, including the world’s hottest—the Trinidad Moruga Scorpion, packing 2 million Scoville heat units—and the former world recordholder—the Bhut Jolokia, deposited in 2011. The institute also grows heirloom and proprietary varieties.

Self-guided tours free; guided tours $25 per person, reservations required.

This honey mushroom is the world’s largest organism, stretching across more than 2,300 acres of forest in eastern Oregon. Though underfoot, the Armillaria ostoyae fungus is hard to see: Its black filaments are one millimeter in diameter and woven like netting throughout the soil and beneath the bark of infected trees. In the fall, the gigantic organism produces fruit, sending out clusters of diminutive brown mushrooms.

Free.