USGS
science for a changing world

RIDE The ROCKIES 2004

Boulder to Idaho Springs June 20–25, 2004 RIDE the ROCKIES 431 Miles

Ride The Rockies Route—431 Miles

Start

DAY 1 Sunday, June 20
Boulder to Estes Park – 56 Miles

DAY 2 Monday, June 21
Estes Park to Granby – 63 Miles
Trail Ridge Road – 12,183 Feet

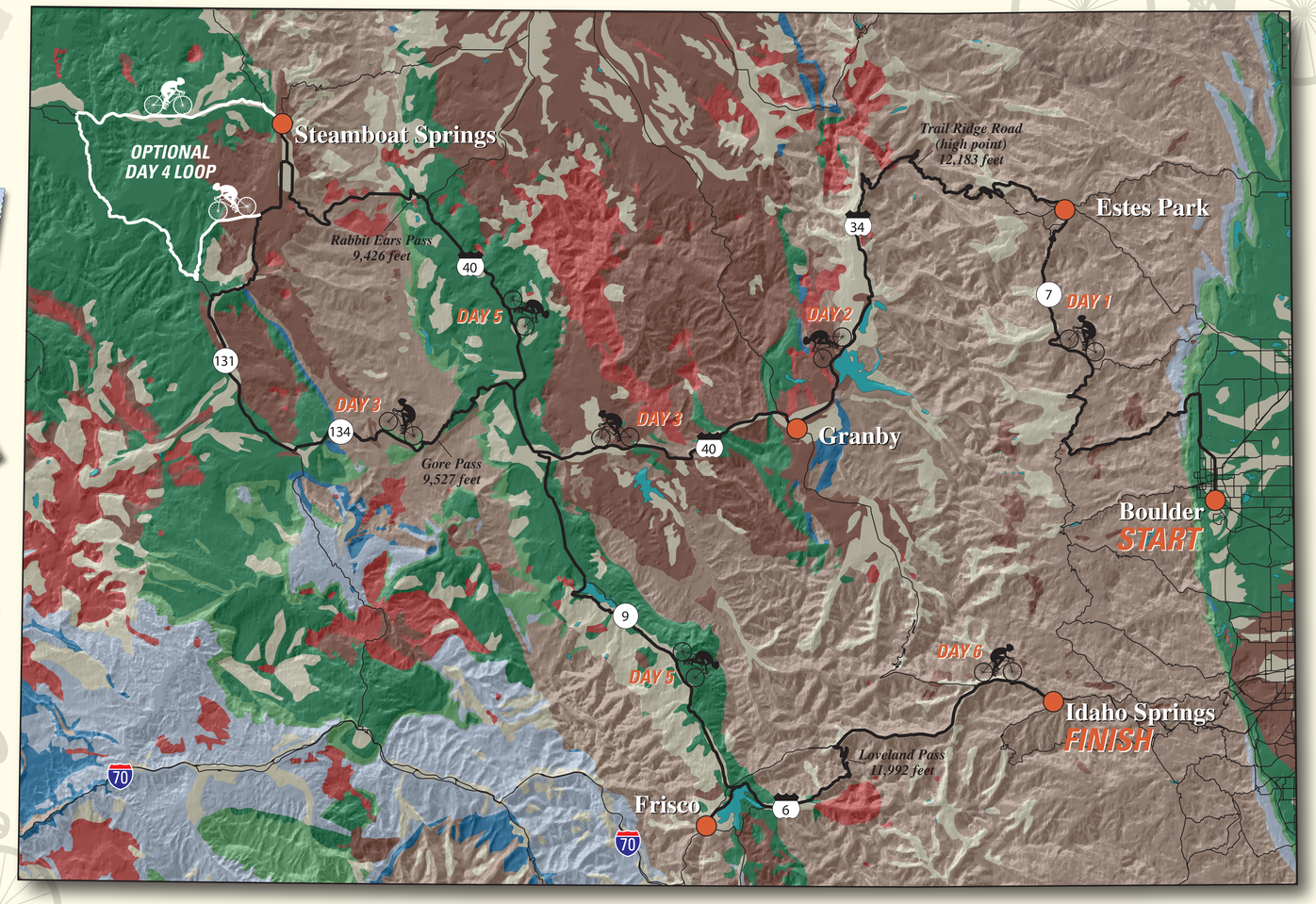
DAY 3 Tuesday, June 22
Granby to Steamboat Springs – 100 Miles
Gore Pass – 9,527 Feet

DAY 4 Wednesday, June 23
Steamboat Springs – Rest Day or Optional Loop Ride – 65 Miles

DAY 5 Thursday, June 24
Steamboat Springs to Frisco – 98 Miles
Rabbit Ears Pass – 9,426 Feet

DAY 6 Friday, June 25
Frisco to Idaho Springs – 49 Miles
Loveland Pass – 11,992 Feet

Finish



0 20 40 MILES
MAP SCALE

Geology Along Ride The Rockies Route

Quaternary – 0 to 1.8 million years ago

This is the period during which the present landscape formed. Glaciation peaked and waned several times, sculpting cirques (semicircular-shaped bowls at the heads of mountain valleys) and U-shaped valleys. Last major glaciers retreated about 12,000 years ago.

Includes alluvium (sand, gravel, and silt deposited by rivers and streams), eolian (windblown) deposits, glacial deposits, landslide deposits, and young volcanic rocks (basalt flows).

Tertiary – 1.8 to 66 million years ago

A major mountain-building episode, the Laramide orogeny, occurred during this period—70 to 45 million years ago. Erosion then exposed basement rocks and created a flat surface. Erosion of this surface during regional uplift—beginning 10 to 5 million years ago—shaped the present mountain landscape. Rifting (faulting) began about 30 million years ago, creating the Arkansas and San Luis Valleys.

Sedimentary rocks of Tertiary age
Includes sandstone, siltstone, shale, claystone, and conglomerate (rounded rock fragments in a fine-grained matrix).

Igneous rocks of Tertiary age
Includes volcanic rocks, such as basalt, rhyolite, and ash-flow tuffs (especially in the San Juan Mountains), and intrusive rocks with compositions similar to granite.

Cretaceous – 66 to 144 million years ago

A seaway flooded Colorado, depositing shallow marine, shoreline, and swamp sediments. Dinosaurs became extinct by the end of this period.

Includes primarily shale, sandstone, and coal, and minor limestone and conglomerate (rounded rock fragments in a fine-grained matrix).

Jurassic and Triassic – 144 to 245 million years ago (includes some rocks as old as 320 million years)

The Ancestral Rockies were eroded during this time of deserts, intermittent streams, salt flats, coastal plains, dunes, and deltas. Dinosaur fossils and footprints are found in deposits of ancient river channels.

Includes sandstone, siltstone, and claystone, and minor limestone, gypsum, and conglomerate (rounded rock fragments in a fine-grained matrix).

Permian and Pennsylvanian – 245 to 320 million years ago

During this time, rocks were uplifted to form the Ancestral Rocky Mountains, which were just as high and rugged as our present mountains. Erosion of older sediments resulted in deposition along mountain flanks and in basins.

Includes sandstone, siltstone, shale, conglomerate (rounded rock fragments in a fine-grained matrix), gypsum, and limestone.

Mississippian to Cambrian – 320 to 540 million years ago

This was a time of widespread marine deposition when Colorado was intermittently below sea level.

Represented mostly by limestone, but also includes quartzite, sandstone, shale, and dolomite.

Precambrian – older than 540 million years ago (includes rocks as old as about 1.8 billion years in Colorado)

The Precambrian Era accounts for more than 85 percent of geologic time. These rocks are referred to as the basement rocks; they are exposed in the cores of major mountain ranges and in some of the deeper canyons. They are the products of metamorphism (changes in the chemistry and fabric resulting from heat and/or pressure) and igneous intrusion (emplacement of molten rock).

Includes intrusive rocks, chiefly granite, and metamorphic rocks such as gneiss, schist, and quartzite.

Lakes

Geology adapted by Janet L. Slate from two U.S. Geological Survey maps: *Geologic Map of Colorado*, compiled by Ogden Tweto (published 1979), and *The Digital Geologic Map of Colorado in ARC/INFO Format*, by Gregory N. Green (published in 1992)

Text by **Janet L. Slate**
Edited by **F. Craig Brunstein**
GIS and digital cartography by **Paco VanSistine**
Layout and design by **Carol Quesenberry**

U.S. Department of the Interior
U.S. Geological Survey

General Information Product 2D

To download this and other USGS materials related to Ride The Rockies, go to ***http://www.cr.usgs.gov/rtr.htm***