

Topics & Parks

1. Landscapes developed by weathering and erosion

- Grand Canyon N.P.
- Zion N.P.
- Bryce Canyon N.P.
- Capitol Reef N.P.
- Canyonlands N.P.
- Arches N.P.
- Mesa Verde N.P.
- Petrified Forest N.P.
- Badlands N.P.
- Theodore Roosevelt N.P.
- Kobuk Valley N.P.
- Death Valley N.P.
- Joshua Tree N.P.
- Black Canyon of the Gunnison N.P.
- Great Sand Dunes N.P.

2. Landscapes developed in carbonate environments

- Mammoth Cave N.P.
- Wind Cave N.P.
- Carlsbad Caverns N.P.
- Guadalupe Mountains N.P.
- Virgin Islands N.P.
- Everglades N.P.
- Biscayne N.P.
- Dry Tortugas N.P.



3. Landscapes developed by continental or alpine glaciation

- Voyageurs N.P.
- Isle Royale N.P.
- Acadia N.P.
- Rocky Mountain N.P.
- Glacier N.P.
- Gates of the Arctic N.P.
- Yosemite N.P.
- North Cascades N.P.
- Olympic N.P.
- Glacier Bay N.P.
- Wrangell-St. Elias N.P.
- Kenai Fjords N.P.
- Denali N.P.
- Kobuk Valley N.P.



4. Landscapes developed by volcanic activity

- Mount Rainier N.P.
- Crater Lake N.P.
- Lassen Volcanic N.P.
- Katmai N.P.
- Lake Clark N.P.
- Hawaii Volcanoes N.P.
- Haleakala N.P.
- Yellowstone N.P.
- American Samoa N.P.

5. Landscapes developed in areas of complex mountains

- Grand Teton N.P.
- Great Basin N.P.
- Sequoia & Kings Canyon N.P.
- Channel Islands N.P.
- Redwood N.P.
- Hot Springs N.P.
- Big Bend N.P.
- Shenandoah N.P.
- Great Smoky Mountains N.P.
- Saguaro N.P.

6. Landscapes developed by fluvial erosion and sedimentation processes

- Congaree N.P.
- Cuyahoga Valley N.P.

ES 105 Geology of the National Parks



Spring 2010



INSTRUCTOR: OZEAS COSTA, PHD

SECTION 1: Mon & Wed, 10am – 12pm

SECTION 2: Mon & Wed, 1:10 – 3:10pm

Interactive Resources

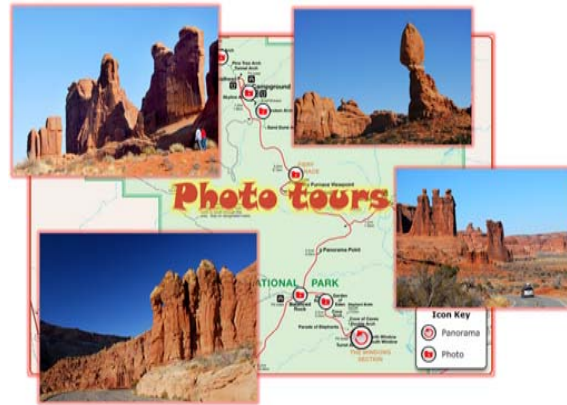
DETAILED PARK MAPS

We will use the most recent editions of the high quality National Park System maps and guides. These maps are digital versions of those found in the official brochures provided to National Park visitors. They show the park topography in high-resolution, allowing you to recognize at a glance the park terrain and its most prominent features. These maps also show major roads, trails, and park services such as campgrounds, restrooms, parking areas and visitor centers.



The maps are also the gateway to all the other interactive resources in the virtual field trips, such as photos that you can zoom in to see the details of a geologic feature, short videos explaining geologic processes and panoramas.

PHOTO TOURS

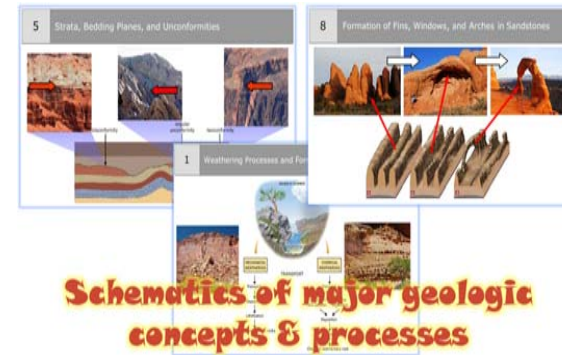


The maps in the virtual field trips are in fact clickable image maps containing hyperlinks and Java scripts that associate links and dynamic actions to graphical cues on the map. From the links indicated in the maps, the user can access descriptive texts, photos, videos, panoramas and schematics of major geologic concepts and processes. Google Earth explorations can also be launched from the clickable maps.

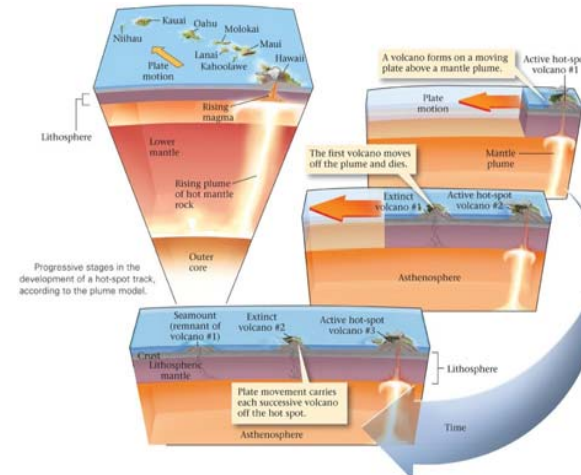


NARRATIVE FIGURES

A picture is worth a thousand words! The clickable image maps in the virtual field trips contain links to a series of pictures and drawings organized into a visual narrative that explain major geologic concepts and processes.



Where relevant, these narratives emphasize successive stages in the development of a geologic feature to help students understand the fourth dimension of geology: TIME.



GOOGLE EARTH



Each topic in the course includes a geotour, which provides a portal through which students can visit the parks and its features to see what geology looks like in the real world.



The geotours are accompanied by active learning exercises that will guide the students in their Google Earth explorations.