Plate Boundaries - Transform Faults

With two continental plates or with two oceanic plates

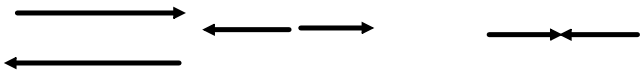
Review:

1. What are some differences between continental and oceanic lithosphere?

   Continental lithosphere is less dense than oceanic, thicker than oceanic and less ductile and more brittle than oceanic.

2. What are the three ways plates can move at plate boundaries?

   Transform, divergent, and convergent

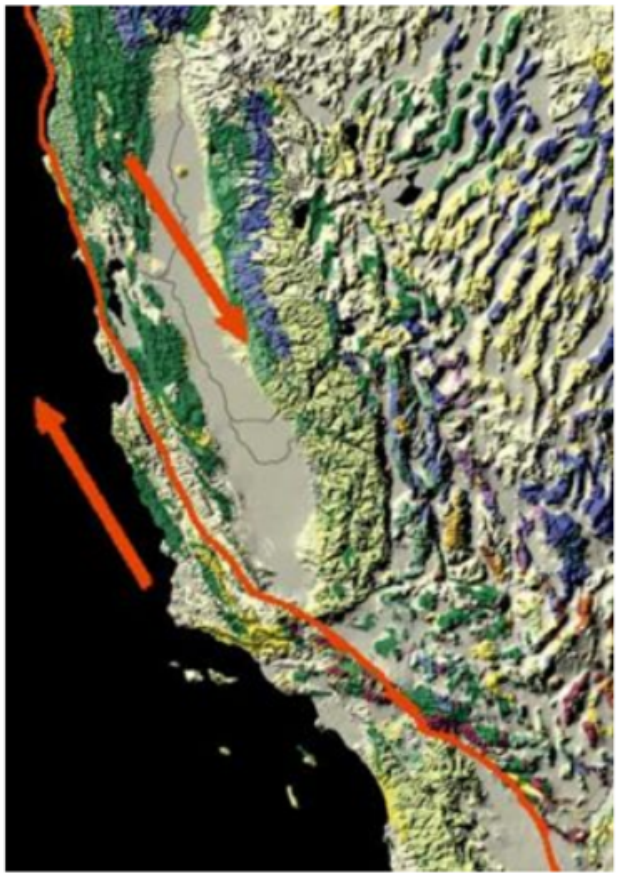


3. What are the three possible combinations of plates at a boundary?

   Oceanic and oceanic

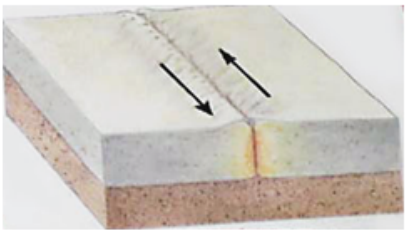
   Continental and oceanic

   Continental and continental



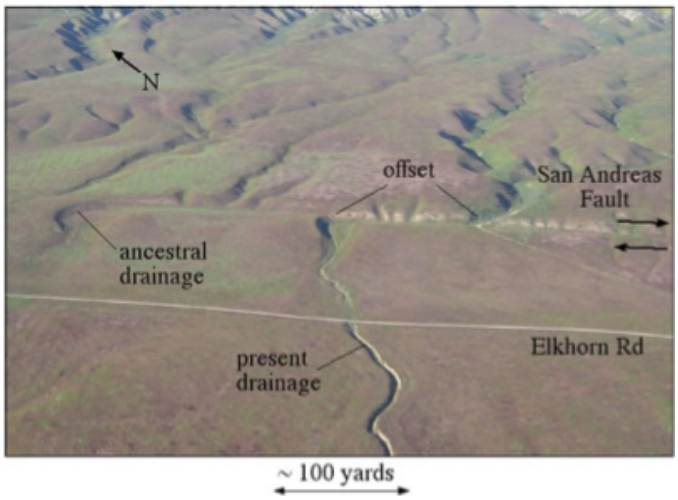
The entire length of the San Andreas in California

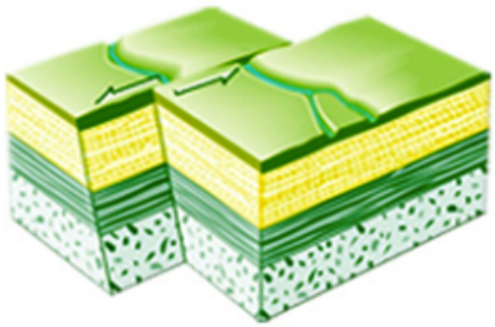
Offset was 20 feet near Pt. Reyes.



Results of movement along a transform boundary

The San Andreas Fault just after the 1906 San Francisco earthquake near Olema


N
offset
San Andreas
Fault
ancestral
drainage
present
drainage
Elkhorn Rd
~ 100 yards

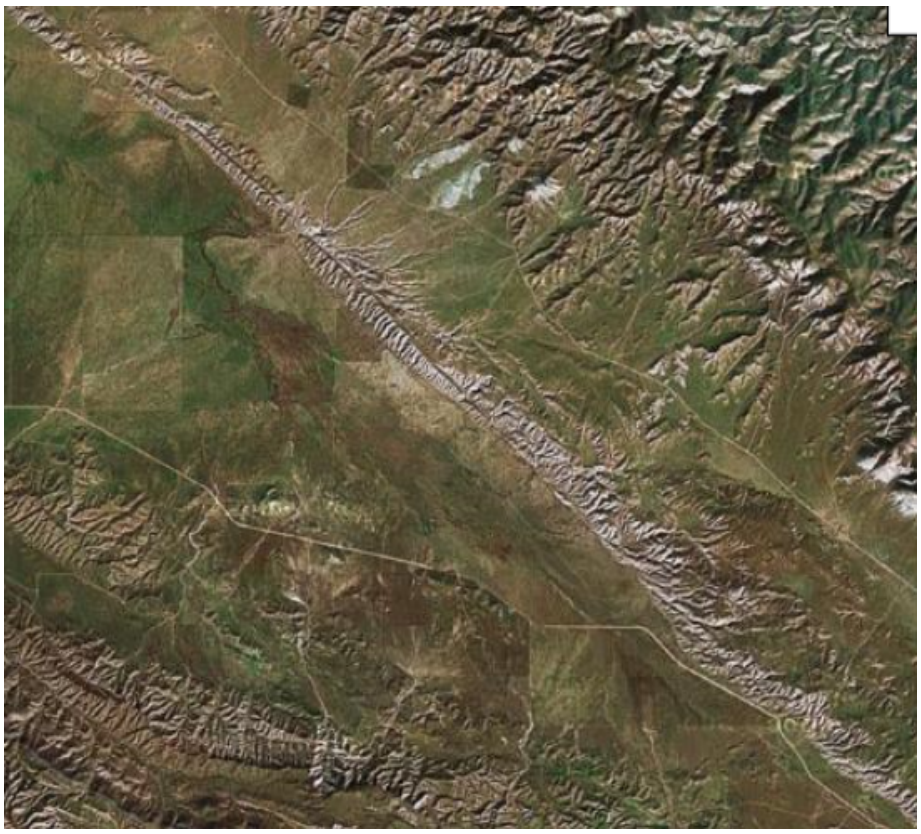


Tomales Bay

The San Andreas fault lies under the water and in the linear valley seen here.

Crystal Springs and San Andreas Lakes

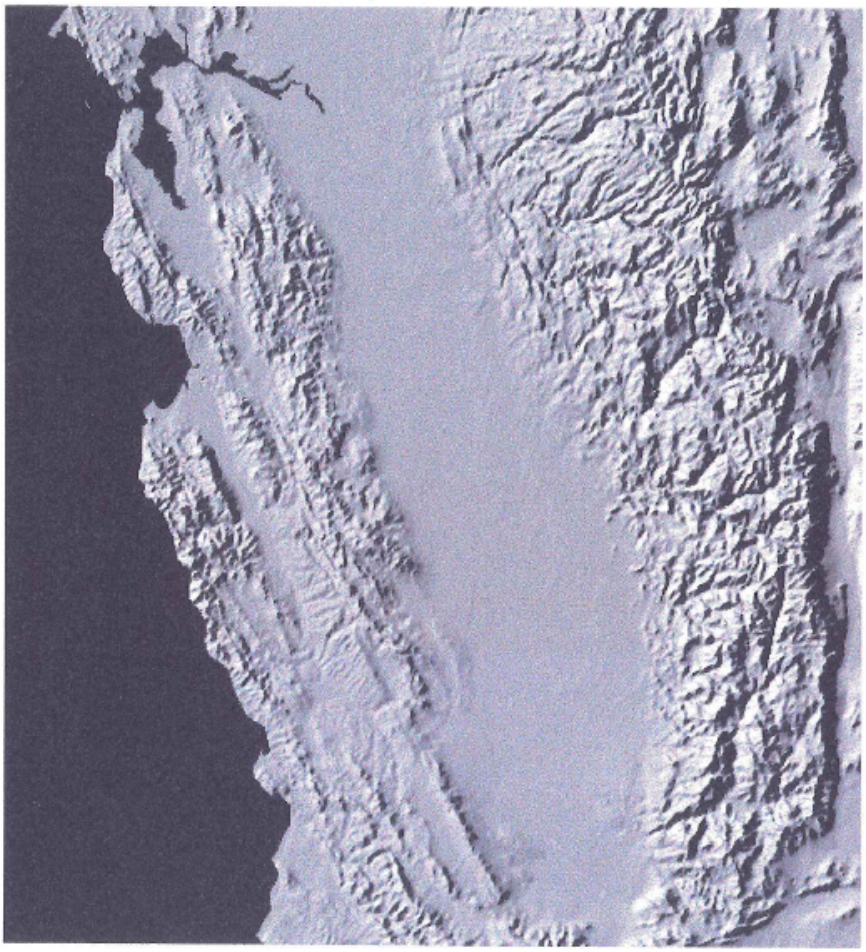
More views of the San Andreas and the linear valley formed by its transform movement.



Carrizo Plain

Two transform faults meeting in Southern California from space.

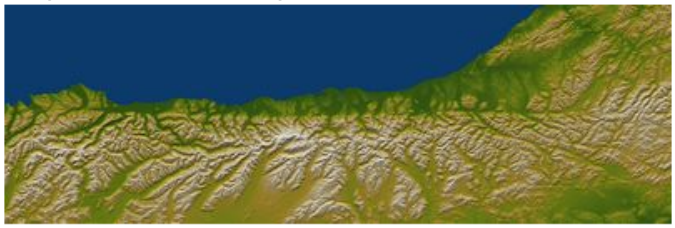
The San Andreas in Southern California



Loch Ness, Scotland

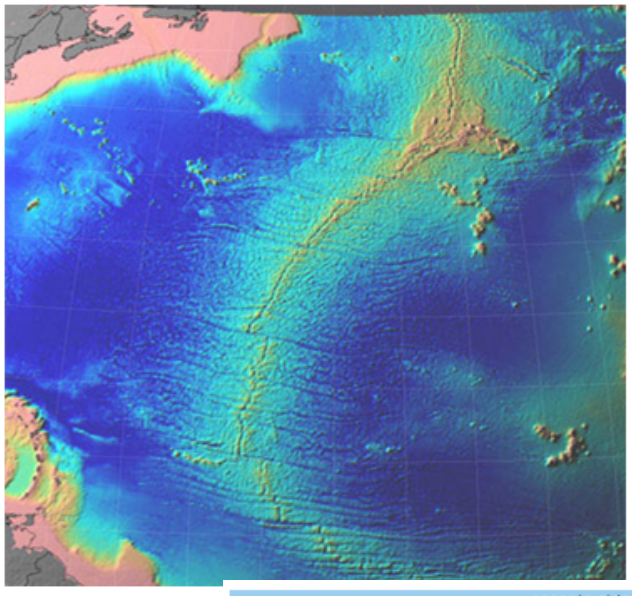
Another large transform boundary

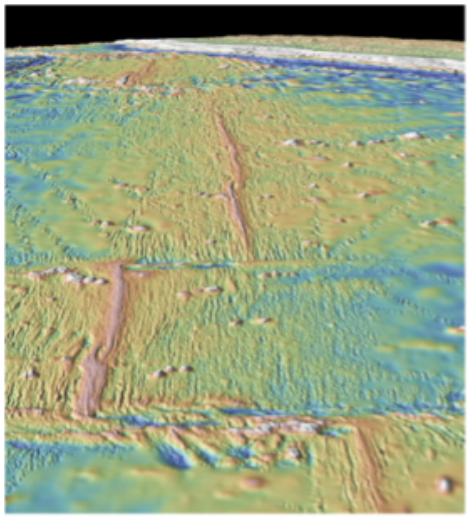
Great Alpine Fault, New Zealand (South Island)

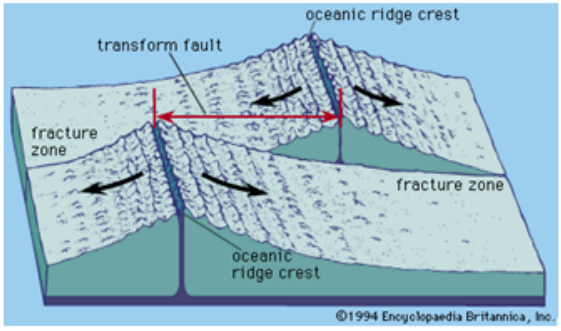


A third transform boundary

Mid-ocean ridge with transform faults







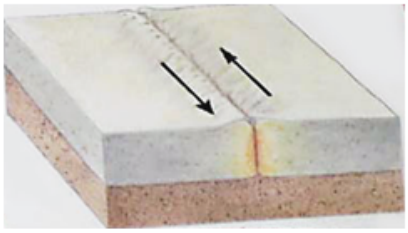
Transform faults on the ocean floor along the mid-ocean ridge

Transform Boundaries (Strike Slip Faults)

1. What two things happened when a transform fault was modeled with sand? (2 points)

2. The shape of the land gives geologist clues as to what is happening along a plate boundary. Look at the pictures of what the surface looks like along transform faults. List at least four observations of what is seen at transform faults on the surface of Earth both on land and on the ocean floor. (4 points)

3. Look at the diagrams that illustrate what is happening at a transform boundary. Make at least three observations of transform faults from these diagrams. (3 points)



4. Get a relief map of Californian and follow the San Andreas Fault along its route in California. What features show you where the San Andreas Fault is located in the state? (1 point)