

# Maps of geology

[Science](#), [Geology](#)



There are different phenomena happening in the earth's crust and some of those are the occurrence of folds and faults. Both phenomena are caused by forces like tension and compression. Folds are bends in the rock surfaces while Faults are fractures in the earth's crust which allows blocks of rocks to move relative to one another. When this movement becomes rapid, it results to earthquakes (" What is a fault? ," 2008). Since there are two blocks of rocks involved in a fault, the block which is above the fault plane is the Hanging-wall while the block below the fault plane is called the Footwall (Laske, 2006).

There are three general types of faults: the Dip-slip, Strike-slip and the Oblique faults. A Dip-slip fault is a type of fault wherein the movement is vertical. Here, one block of rock moves up and the other moves down. In the Dip-slip fault, the fracture may be classified as either a Normal or a Reverse fault. For the Normal type, the Hanging-wall moves down while the Footwall moves up. This type of fault is caused by tensional stress. Unlike the Normal type, the Reverse fault has a Hanging-wall that moves up and a Footwall that moves down.

The force responsible for this fault is the compressional stress. A Strike-slip fault is a type of fault where the movement of the blocks is horizontal. Strike-slip faults can be classified according to the displacement of the block farther when viewed facing the fault line. If the displacement is to the left, then it is a left-lateral fault otherwise it is a right-lateral fault (Gore, 1996). As for faults exhibiting the vertical as well as the horizontal movement, those are classified as the Oblique type of fault (" What is a fault? ," 2008).

A famous right-lateral fault is the San Andreas Fault which involves the North American and Pacific plates. If this would continue its activity, there will be more earthquakes in the area and it is also possible that the two plates involved will be really far from each other as time goes by (Fialko, 2006). With this, one should be really prepared because reported earthquakes in this area are dangerous. People there should be taught on how to deal with this type of situation. Mapping has already been an important part of society.

Maps can show a lot of information about a place depending on what kind of map that is. One kind of map used is the Topographic map wherein contour lines are used to show the surface of the earth. These lines are imaginary lines with equal elevations that can be used for detailed features of an area like streets, vegetation and buildings (" Topographic Map Symbols," 2005). Another kind of map used is the Geologic map. Unlike the Topographic map, this map's concern is to show the geologic details of the area like locations of folds and faults and types of rock present.

Also, geologic maps have distinctive colors which represent different geological units (" Geologic Maps," 2000). Figure 1 is an illustration of a mountain and to be able to identify the slope of the land surface, one can use a Topographic map. If the contour lines that will be seen after mapping the area lie close to each other, the slope is steep otherwise; the land surface has a gradual slope (Rosenberg, 2007). Building a house in a location like that of the illustration may be hard but it may be possible if the location that will be chosen has rocks and soil that are stable and far from folds and fault lines.

This is because one would not want a house built in a place with frequent earthquakes and can be easily ruined by landslides and the like. This may be done by mapping the area through a geologic map. Faults, Folds, Maps 4 Figure 1. An illustration of a cone of a former mountain. As said earlier, different phenomena are caused by different stresses. The compressional, shear and tensional stresses can help form structural features in rocks such as faults, dikes, sills, and bedding planes. Locations for establishing a place also depends on these factors.

Canmore community for example may have been established in its location because of that. Faults, Folds, Maps 5

## References

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