

Structural Geology Vocabulary List

Apparent dip – The inclination of the trace of a plane in a direction other than the true dip direction

- In other words, the dip observed when viewing a plane in cross-section that is not cut parallel to the dip direction

Attitude – Describes the strike and dip of a plane (see definitions for *strike* and *dip*)

- In other words, this describes the complete orientation of a plane in space

Azimuth – Direction given as any number between 0° and 359°

Bed – Defined as a portion of a rock that is separated by distinguishing (or bedding) planes

Bedding surface – A plane that separates two beds

- Marks the end of one bed and the beginning of another

Bed thickness – The actual thickness of a bed measured perpendicular to bedding surfaces (given in map units)

Contact – The boundary surface between two rock bodies

Contour line – Line of equivalent elevation on a land surface

Dike – A tabular-shaped intrusive igneous feature that cuts through the surrounding rock

Dip – Angle between an inclined plane and a horizontal plane

- Given in degrees
- When giving a *strike* and *dip* always give the *dip direction* unless using the *right hand rule*

Dip direction – The direction water would run down a plane

- This is perpendicular to strike in the down-slope direction

Fault – A break in a rock mass along which movement has occurred

Geologic map – Map showing landmarks of geological interest (e.g. unit occurrence and contacts, *faults*, *dikes*, unit *strike* and *dip*, etc.)

Gradient – Describes the slope of something

- Defined as the vertical drop over a fixed distance

Quadrant – Direction given as the angle between north or south and a given line

- Examples:
 - In terms of north, N20E describes a line that is oriented 20° east of north
 - In terms of south, the same line is S20W

Map thickness – The thickness of a unit measured on a map

Map units – The units used on a given map (they should be the same as those on the contour intervals)

Outcrop – An exposure of bedrock

Piercing line – When determining slip vs. separation, this is a line found on both fault blocks that was originally continuous (before faulting). The magnitude of the vector containing both ends of the line defines the slip on the fault

Planar – Describes a plane as being flat (e.g. no folds)

Plane – A two dimensional surface

Plunge – The dip of a *line*

Relief (geology) – Changes in elevation

Right hand rule (azimuth directions) – A convention used while taking the strike of a surface so that the dip direction does not need to be specified

- A strike that is taken while standing in a position such that the bed dips to the right of the taker

Separation (in context of slip vs. separation) – The *apparent* relative displacement between two fault blocks

SI (units) – Standardized international system of units that is used in science

- Distance: meters (m)

- Time: second (s)
- Mass: kilogram (kg)

Slip (in context of slip vs. separation) – The slip is the actual relative displacement between two blocks at a fault

Stereonet – *Stereographic projection* is the projection of lines and planes onto a circular grid or net. *Stereonets* are tools used to carry out *stereographic projection*.

- In practical terms, stereonets may be used to determine the orientation of linear and planar features using strike and dip measurements from the field

Stratigraphic sequence – A cross-section diagram of a sequence of strata summarizing information about the sequence

Strike – The direction (in *quadrant* or *azimuth*) of a horizontal line on a plane (e.g. a bed)

- The horizontal line is defined as the line that forms when intersecting a horizontal plane with the plane in question
- When using the *right hand rule* with an *azimuth* direction, there is only a single strike for a given inclined plane
- When using *quadrant*, there are two strikes that may be given for an inclined plane
 - One is in terms of north, the other is in terms of south, both are 180° apart

Structural contour – Line connecting points of equivalent elevation on a particular plane (e.g. bedding surface)

- Can be determined by connecting the points of intersection between a plane and a particular map contour

Topographic map – Map that contains *contour lines* to convey land *relief*

Trend – The strike of a *line*

(Geologic) Unit – A volume of rock with an identifiable origin and age range that is defined by the distinctive and dominant, easily mapped, and recognizable petrologic features that characterize it

Unit thickness – The actual thickness of a unit (in cross section, the thickness measured perpendicular to the top and bottom planes on a unit)