

Geographical Cycle or Geomorphic Cycle

By

W. M. Davis

Evolution of landform is imagined to be a cycle. It passes through various stages of development with definite orders. This cycle of landform development is called Geographical cycle or Geomorphic cycle.

Davis said that, “geomorphic cycle is that period of time in which an uplifted land area through weathering and erosion is converted into a plain surface without any characteristics”.

According to Davis- “landform is the function of structure, process and time”.

- **Structure** means rock types such as hard rock and soft rock. It also include the nature of landforms.
- **Process** includes weathering and erosion.
 - **Weathering** is the physical disintegration of rocks. Weathering may be- physical, chemical and biological.
 - In **erosion**- landform is worn away and transported by wind and water.
- **Time** refers to the stages of landform development. The stages may be:-
 - 1) Youth
 - 2) Maturity &
 - 3) Old stage

His assumption: Erosional activities start after the upliftment.

When upliftment sets in, consequent streams are formed following the initial irregularities. Streams do not adjust with the structure. Erosional activities start. Landform development takes place in stages stages.

Youth stage:

- Valleys are eroded. Vertical erosion is maximum
- Summits are formed. Valley deepening is active. Steep slopes are formed
- “V” shaped valleys and gorges are formed due to active vertical erosion
- Lateral erosion is less

Mature stage:

- Lateral erosion becomes active, vertical erosion is less
- Summits of the valley eroded rapidly
- Slopes become gentle
- V- shaped valleys converted to U- shaped valley.
- Deposition also started

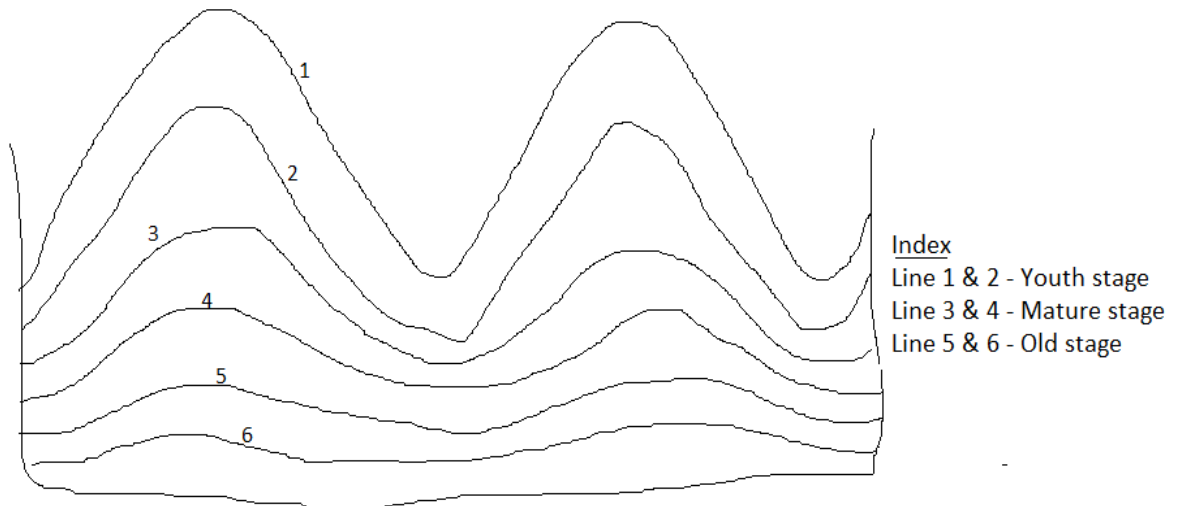
Old stage:

- Vertical erosion stopped
- Rivers almost attain the “Base Level”
- River meandering, flood plains, ox- bow- lakes, open valleys are the characteristic features
- The entire area almost leveled down. Still some very hard rocks remain undestroyed like a hill. At the old stage, this plain area is called “peneplain” and the small hill is known as “monadnock”.

Criticism:

- 1) He said- erosion starts after the upliftment. But this is not so
- 2) Overemphasizing on “Time”
- 3) Relatively ignore “Structure”
- 4) Ignore the “role of deposition”

5) According to him- the cycle ends at the old stage. But it is a never ending process.



Geographical Cycle by Davis in Graph

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Note Prepared by: Dewajit Bora Sir