

ALLUVIAL FANS

Mystery File Question

Is an alluvial fan formed by erosion?



Death Valley is located in southeastern California.

A DIEHARD FAN

Death Valley is the hottest place in the United States. It's known for being bone dry. But did you know it's also famous for amazing landforms called *alluvial* (uh-LOO-vee-uhl) fans?

Alluvial fans look like triangles coming out of the base of mountains. They are made of gravel, sand, and small rocks. How does this sediment get there?

Believe it or not, the natural force of water built the alluvial fans in Death Valley. Even in a desert, it rains sometimes. And when it does, rivers rage down mountains toward the valley. The water is a powerful force of *weathering*, breaking rock into smaller pieces as it flows. The water then carries the sediment downhill. When a river reaches flatter land, it slows down and widens out. Slow-moving water cannot hold as much sediment as fast-moving water. So the sediment falls to the ground in a process called *deposition*.

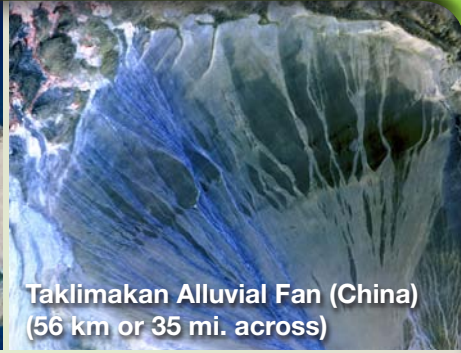
Gradually over time, all this deposited sediment builds up at the base of the mountain. This changes the shape of the land and creates a new landform—an alluvial fan.

Wowser!

The lowest point in North America is Badwater Basin in Death Valley National Park. It is 86 meters (282 ft.) below sea level!



Nile Delta (Egypt)
(240 km or 150 mi. across)



Taklimakan Alluvial Fan (China)
(56 km or 35 mi. across)

DELTA OR ALLUVIAL FAN?

Deltas and alluvial fans look similar. But don't be fooled! These two landforms are not the same.

Both deltas and alluvial fans form when rivers slow down and deposit sediment. A *delta* forms when a fast-moving river flows into a large, slow-moving body of water, such as a lake or ocean. An *alluvial fan* forms when a fast-moving river slows down at the base of a mountain.

Delta vs. Alluvial Fan		
	Delta	Alluvial Fan
What It's Made Of	sediment	sediment
How It Forms	deposition	deposition
Where It Forms	where a river enters a large body of water	at the base of a mountain
Largest Example	the Ganges Delta in Bengal and India (350 km or 220 mi. across)	the Taklimakan Alluvial Fan in China (56 km or 35 mi. across)

Mystery File Response Sheet

Key Question: How does erosion form landforms?

List the details you found in every *I.File* that your team read. Use the **I. Team Evidence** section of your *I.File Response Sheet*.

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Now decide whether each of the details you listed is also true for the *Mystery File*. Circle one answer for each detail: **T = true F = false ? = not sure**

Did you circle **T** (true) for all the details? **Yes No**

Mystery File Question: *Is an alluvial fan formed by erosion?* **Yes No**

Use evidence to answer the Mystery File Question. Write in complete sentences.
