

The Himalayas

Tectonic Motion: Making the Himalayas

February 11, 2011



The Himalayas are a prime example of how tectonic plate motion can manipulate the earth in extraordinary ways. These colliding plates resulted in the formation of the highest mountain range on the planet.

By the Power of My Convections

Our continents are carried by a series of tectonic plates located in the earth’s lithosphere. These plates collide with and separate from each other at different rates determined by a process known as convection. Directly below the lithosphere is the inner mantle known as the aesthenosphere. Convection currents are generated in the earth’s inner mantle as molten rock forms from the radioactive decay of elements. As hot gas and liquid is produced it moves upward, displacing the cooler and denser gas and liquid. As this convection process happens, those circulations push the lithosphere’s plates (and the seven continents that sit on top of them), slowly shifting the globe’s landscape over time. The direction and rate of movement is totally dependent on what kinds of convection currents are at work below.



Making the Himalayas: 250 Million Years in 250 words

Once, all the world’s landmass was connected, forming one super-continent known as Pangea. Approximately 200 million years ago, tectonic forces broke apart this giant continent into pieces, eventually forming the continents we know today. As convection currents worked independently on the plates associated with these new continental pieces, the plates and their respective continents began to drift across the globe to their present-day geographical locations.



More

Eighty million years ago, India was approximately 6400 km (3968 miles) south of the Eurasian plate. Separating the two was the Tethys Sea. The Indo-Australian tectonic plate – containing the continent of Australia, the Indian subcontinent, and surrounding ocean – was pushed northward by the convection currents generated in the inner mantle. For millions of years, India made its way across the sea toward the Eurasian plate. As India approached Asia, around 40 million years ago, the Tethys Sea began to shrink and its seabed slowly pushed upwards. The Tethys Sea disappeared completely around 20 million years ago and sediments rising from its seabed formed a mountain range. When India and Tibet collided, instead of descending with the plate, the relatively light sedimentary and metamorphic rock that makes up the subcontinent of India pushed against Tibet, forcing it upwards, and created a massive mountain fold. The Himalayas.

This process hasn’t stopped. The Indo-Australian plate is still moving toward Eurasia, still pushing Tibet upwards. The Himalayas continue to rise by an average of 2 cm each year. The highest mountains are only getting higher.

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Name

 NOT HELPFUL

5 years ago

this is not what I wanted! I want to know how tectonic plates and the Himalayas are related! not this!!!!!!!!!!!!!! not helpful,sorry

8 ^ v Reply

 Bill Ludlow

4 years ago

NOT HELPFUL

The article was very clear on this.

"Eighty million years ago, India was approximately 6400 km (3968 miles) south of the Eurasian plate. Separating the two was the Tethys Sea. The Indo-Australian tectonic plate – containing the continent of Australia, the Indian subcontinent, and surrounding ocean – was pushed northward by the convection currents generated in the inner mantle. For millions of years, India made its way across the sea toward the Eurasian plate. As India approached Asia, around 40 million years ago, the Tethys Sea began to shrink and its seabed slowly pushed upwards. The Tethys Sea disappeared completely around 20 million years ago and sediments rising from its seabed formed a mountain range. When India and Tibet collided, instead of descending with the plate, the relatively light sedimentary and metamorphic rock that makes up the subcontinent of India pushed against Tibet, forcing it upwards, and created a massive mountain fold. The Himalayas."

^ v Reply

 lil diz

5 years ago

This was not helpful AT ALL!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

9 ^ v Reply

 Abdhh

2 years ago

lil diz

Good

That's ok

^ v Reply

 The HC

8 months ago

There is just too much unknown about tectonic plate movement and mountain building, to reach any objective conclusion! It's all speculative currently.

4 ^ v Reply

 Patricia

7 years ago

This was a delightful program - most pleased to share it with other appreciative beings. The pheasant was stunning. I wish we had been enlightened as to how the musk is taken from the deer and what happens to it. Also, it seems the males spot long teeth that the females lack. What about these?

Overall an OUTSTANDING FILM!!

3 ^ v Reply

 himalayas

5 years ago

i am the himalayas

2 ^ v Reply

 Cjj

2 years ago

himalayas

Oh...

^ v Reply

 swaggy

5 years ago

himalayas

tru

^ v Reply

 Patricia

7 years ago

A treat indeed. So glad someone went there and filmed this for all of us who will never make it in any other way.

THANK YOU!

Cheers,

Patricia

2 ^ v Reply

 swaggy

5 years ago

Patricia

Glad you enjoyed it, Patricia

1 ^ v Reply

 Lucy Nunn

4 years ago

I thought this was awesome!! I know everyone else didn't like it, but this helped me so much with my assignment, I needed to know how the movement of tectonic plated made the Himalayas, thanks guys, who wrote the article though, I need to use in-text referencing. Thanks

1 ^ v Reply

 Charlie

4 years ago

Was very helpful for me. Thank you!

1 ^ v Reply

 NOTHING

5 years ago

This is not answer I wanted!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

1 ^ v Reply

 kugkhgkvkhkjg

5 years ago

it was pretty great info

1 ^ v Reply

 Hawtstuff122

5 years ago

absolutely horrific... I hate this...

1 ^ v Reply

 ure4

4 months ago

Hawtstuff122

well i hate you

^ v Reply

 yolosweg

5 years ago

this is terrible info!! do not waste your precious time on earth reading this please!! I beg you!! boy,.

1 ^ v Reply

 t-bizzz

6 years ago

this is great information it really helped me with my project:)

1 ^ v Reply

 me

4 months ago

fr

^ v Reply

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