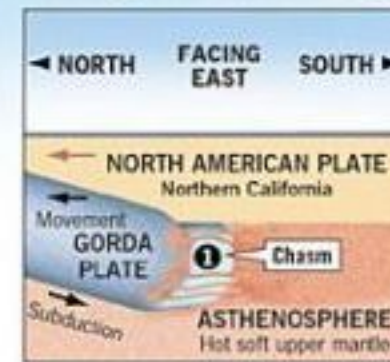
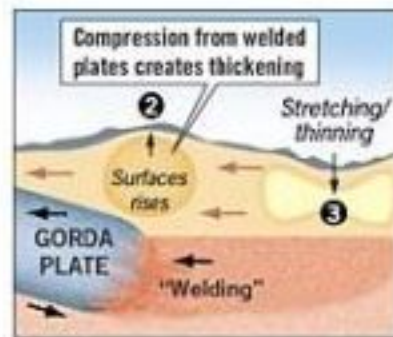




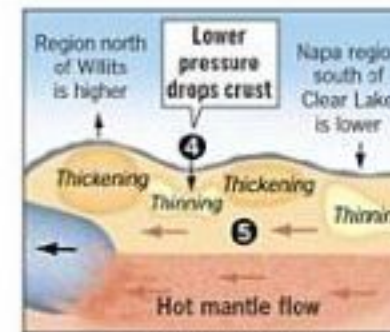
Theory of Coast Range formation



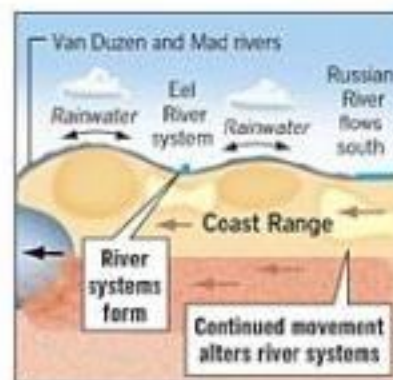
⌘ Migrating plates
The Coast Range has been created above the junction of three tectonic plates — the Pacific, Gorda and North American — which has gradually drifted north over the last 30 million years. This junction creates a chasm ① that fills with hot, partially melted mantle. This material cools and solidifies, “welding” together the Gorda and the North American plates.



⌘ Push and pull
The welding tugs the North American plate, creating compression and raising the plate's surface. ② To compensate, the North American plate thins toward the south, like a piece of pulled taffy. ③



⌘ Two bumps form
The flow of hot mantle following the northward moving plate junction lowers the pressure to the south. ④ The crust above drops down over the low pressure area. This complex array of geological forces forms two camel-like bumps that follow the migrating junction. ⑤



⌘ What is the evidence
As the two bumps migrate north, they alter topography and river flow. Geologists have found evidence of this migration in extinct river beds that are ancestors of the Eel, Russian, Van Duzen and Mad rivers.

Sources:
Kevin Furlong, Penn State University; ESRI