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## Isthmuses

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# Isthmuses

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I have the pleasure of conversing with V. Garth Norman frequently. He is one of the most astute students of the Book of Mormon in our generation. He, along with many others, believes the narrow neck of land referenced in [Alma 63:5](#), [Ether 10:20](#) and possibly [Alma 22:32](#) is the entire Isthmus of Tehuantepec in southern Mexico. I do not believe the text supports that correlation. This article will place Tehuantepec in context among the isthmuses of the world to lay the foundation for relevant Book of Mormon exegesis.

Geographers identify the Isthmus of Tehuantepec as that land in Mexico between the 94th and 96th meridians of west longitude. Its surface area (including water) is 57,629 square kilometers. That is larger than any of the 9 smallest states in the U.S. and nearly the size of West Virginia.

- 14.40 times larger than Rhode Island, 4,002 square kilometers
- 8.94 times larger than Delaware, 6,447 square kilometers
- 4.01 times larger than Connecticut, 14,357 square kilometers
- 2.55 times larger than New Jersey, 22,588 square kilometers
- 2.38 times larger than New Hampshire, 24,216 square kilometers
- 2.31 times larger than Vermont, 24,901 square kilometers
- 2.11 times larger than Massachusetts, 27,336 square kilometers
- 2.04 times larger than Hawaii, 28,311 square kilometers
- 1.79 times larger than Maryland, 32,133 square kilometers
- 91.83% as large as West Virginia, 62,755 square kilometers

The Isthmus of Tehuantepec is larger than dozens of countries on earth including Croatia (56,594 square kilometers), Denmark (43,094 square kilometers), Taiwan (36,193 square kilometers) or Israel (20,770 square kilometers). Placing a north-south transect at the narrowest point, the width of the isthmus between the Gulf of Mexico (Gulf of Campeche) and the Pacific Ocean (Gulf of Tehuantepec) is 216 kilometers. Placing an east-west transect between the 94th and 96th meridians of west longitude, the length of the isthmus is 211 kilometers. The Isthmus of Tehuantepec, as defined by geographers, is

shown as a white polygon on the map below. As with all images on this blog, click to enlarge.



Isthmus of Tehuantepec in white, surface area 57,629 square kilometers

Parts of 4 Mexican states are included in the isthmus: Oaxaca, Veracruz, Tabasco and Chiapas. The name comes from the Oaxacan town of Santo Domingo Tehuantepec. The name "Tehuantepec" derives from the Nahuatl "tecuan-tepec" or "jaguar hill". Shortly before the Spanish conquest, the Aztecs conquered Santo Domingo Tehuantepec, but only after a prolonged siege battle. The locals fought ferociously from fortified positions on a prominent hill (summit 120 meters) east of the Tehuantepec River. This Google Earth view shows the hill just above the yellow line representing the Tehuantepec River, on the right hand side of the image with the modern town built up around it.



Modern town of Santo Domingo Tehuantepec showing jaguar hill

Because the natives fought like jaguars on their hill, the Aztecs named the place tecuani-tepec.

Four major river systems drained the isthmus during Book of Mormon times: the Papaloapan, Coatzacoalcos, Tehuantepec and Mezcalapa-Grijalva (today the Tonalá). On the map below, the Mezcalapa-Grijalva system (as it flowed in Book of Mormon times - see the article "[Wandering River](#)" in this blog) is in blue, the Usumacinta is in red, other rivers are in yellow, the continental divide is in white, and the trans-isthmian railroad is shown in magenta. It requires 302 kilometers of track for the railway to connect Salina Cruz, Oaxaca with Coatzacoalcos, Veracruz. The railroad crosses the continental divide at Chivela Pass, altitude 224 meters.



Isthmian rivers, continental divide and railroad

Chivela Pass funnels prevailing winds, known as Tehuanos, from south to north. Occasionally, contrary winds blow through the pass in the opposite direction, from north to south, with such force that they have been known to sandblast paint from ships in the Gulf of Tehuantepec. The largest wind power project in Latin America is currently under development on the Oaxacan side of the isthmus. Elevations within the isthmus range from 2,500 meters to sea level. Five different climatic zones are present in this area. The following map shows the world standard Köppen climate classification system for Mexico.



Köppen climate map of Mexico showing five zones within the isthmus

In general, the southern side of the isthmus is much drier than the northern side. This is graphically shown in a [NASA](#) true color satellite image taken in April at the height of the dry season.



NASA Blue Marble image of the isthmian region in April

Satellite images of the earth's lights at night provide a good visual representation of relative population density. Notice that in the Tehuantepec region, both coasts are heavily populated while the interior Selva Zoque remains largely in its natural state.





Tehuantepec too wide to be classified as an isthmus. Here is a comprehensive, although not exhaustive, list of generally accepted isthmuses (aka isthmi) organized in ascending order by width at the narrowest point:

Isthmuses of the World				
Isthmus	Between	and	Width (km)	Notes
Bruny Island, Tasmania	North Bruny	South Bruny	0.04	
Olympia, Washington	West Olympia	East Olympia	0.04	
Nahant, Massachusetts	Nahant	Massachusetts	0.06	
Quetritihue, Argentina	Quetritihue Peninsula	Neuquen, Argentina	0.09	
Mavis Grind, Shetland Islands	North Mavine Peninsula	Shetland	0.11	
La Coupee, Sark, Channel Islands	Little Sark	Sark	0.12	
Eaglehawk Neck, Tasmania	Tasman Peninsula	Tasmania	0.14	
Portland Beach, U.K.	Portland Bill	Dorset, England	0.16	
Bardsey Island, U.K.	North Bardsey	South Bardsey	0.19	
Derbyhaven, U.K.	Langness Peninsula	Isle of Man	0.20	
Coronado, California	Coronado Island	California	0.25	
Saint Pierre and Miquelon, Newfoundland	Island of Miquelon	Langlade Island	0.25	
Sutton, Dublin, Ireland	Howth	Ireland	0.37	
Cape Clear Island, Ireland	Gathabawn	Cape Clear	0.43	
Kushimoto, Japan	Cape Shiono-Misaki	Honshu Island	0.47	
Catalina Island, California	Western Catalina	Eastern Catalina	0.61	
Munoz Gamero Peninsula, Chile	Munoz Gamero	Chile	0.80	
Madison, Wisconsin	Lake Mendota	Lake Monona	0.93	
Bolbs, Spain	Gibraltar	Spain	1.08	
Potidea, Greece	Kassandra Peninsula	Greece	1.08	
East Falkland Island	Northern East Falkland	Southern East Falkland	1.24	
Sechelt, British Columbia	Sechelt Peninsula	Canada	1.25	
Llundudno, Wales	Great Orme	Wales	1.29	
Rongotai, New Zealand	Miramar Peninsula	North Island, N.Z.	1.31	
Similk Beach, Washington	Fidalgo Island	Washington	1.75	
Tarbert, Scotland	Kintyre Peninsula	Scotland	2.17	
			2.96	median
Auckland, New Zealand	Northern Peninsula	North Island, N.Z.	3.75	
Seattle, Washington	Puget Sound	Lake Washington	4.00	

Medanos, Venezuela	Medanos Peninsula	Venezuela	4.05	
Summerside, Prince Edward Island	Western P.E.I.	Prince Edward Island	4.12	
Carlos Ameghino, Argentina	Valdes Peninsula	Chubut, Argentina	5.07	
Avalon, Newfoundland	Avalon Peninsula	Newfoundland	5.75	
Corinth, Greece	Peloponnese Peninsula	Greece	5.80	etymological origin
Perekop, Crimea	Crimea	Ukraine	9.46	
Westfjords, Iceland	Westfjords Peninsula	Iceland	9.47	
Rhins of Galloway, Scotland	Galloway Peninsula	Scotland	9.60	
Maui, Hawaii	West Maui	Maui	11.00	
Quezon, Philippines	Bicol Peninsula	Luzon	12.00	
Punta Arenas, Chile	Brunswick Peninsula	Chile	15.00	
Rivas, Nicaragua	Lake Nicaragua	Pacific Ocean	18.00	
			20.20	mean
Ofqui, Chile	Taitao Peninsula	Chile	21.00	
Chignecto, Nova Scotia	Nova Scotia	Canada	24.00	
Adam's Bridge (former isthmus), India	India	Sri Lanka	29.00	
Catanzaro, Italy	Calabria Peninsula	Italy	30.00	
Kra Isthmus, Thailand	Malay Peninsula	Asia	43.00	
Karelian Isthmus, Russia	Gulf of Finland	Lake Ladoga	46.00	
Forth-Clyde, Scotland	Scottish Highlands	Central Lowlands	50.00	
Panama	Central America	South America	57.00	
Suez, Egypt	Sinai Peninsula	Egypt	122.00	
Olonets, Russia	Lake Onega	Lake Ladoga	125.00	
Onega, Russia	Lake Onega	White Sea	154.00	
Tehuantepec, Mexico	North America	Central America	216.00	
			20.20	mean
			2.96	median

If you want to play around with the data, you can download the Excel spreadsheet [here](#) by clicking on file, then download.

The word "isthmus" derives from the Greek "isthmos" meaning "neck". The use of the term in geography originated with the Isthmus of Corinth which is 5.80 kilometers wide at its narrowest point.





Isthmus of Corinth (Korinthos) in Greece

The Isthmus of Corinth joins the Peloponnese Peninsula to the Greek mainland. It is about 7.45 kilometers long and has a surface area of approximately 56 square kilometers. The modern Greek village of Isthmia is at the narrowest point of the isthmus.



Isthmus of Corinth closeup

The Isthmus of Paracas in Peru, 4.61 kilometers wide, is typical. The atypical Isthmus of Tehuantepec is 37 times wider (216 kilometers/5.80 kilometers) than the Isthmus of Corinth which defines the genre.