

Volcano Data List

Volcano	Region	Location
Soputan	Sulawesi, Indonesia	1.1°N, 124.7°E
Anatahan	Mariana Islands	16.4°N, 145.7°E
Canlaon	Philippines	10.4°N, 123.1°E
Chikurachki	Kurile Island, Russia	50.3°N, 155.5°E
Colima	Mexico	19.5°N, 103.6°W
Fuego	Guatemala	14.5°N, 90.9°W
Karymsky	Kamchatka, Russia	54.0°N, 159.5°W
Kilauea	Hawaii, USA	19.5°N, 155.3°W
Reventador	Ecuador	0.1°S, 77.7°W
Santa Maria	Guatemala	14.8°N, 91.6°W
Shiveluch	Kamchatka, Russia	56.7°N, 161.4°E
Soufriere Hills	Montserrat, West Indies	16.7°N, 62.2°W
Mount St. Helens	Washington, USA	46.2°N, 122.2°W
Tungurahua	Ecuador	1.5°S, 78.4°W
Karthala	Comoros Islands, Indian Ocean	11.8°N, 43.4°E
Aso	Kyushu, Japan	32.8°N, 131.1°E
Kliuchevskoi	Kamchatka, Russia	56.1°N, 160.6°E
Krakatau	Sunda Strait, Indonesia	6.1°S, 105.4°E
Popocatepetl	Mexico	19.0°N, 98.6°W
Talang	Sumatraz, Indonesia	1.0°S, 100.7°E
Villarrica	Chile	39.3°S, 71.9°E
Ulawun	New Britain, Papua New Guinea	5.1°S, 151.3°E
Ebeko	Kuril Islands, Russia	50.7°N, 156.0°E
Manam	Papua New Guinea	4.1°S, 145.0°E
Bagana	Bougainville Island, Papua New Guinea	6.1°S, 155.2°E
Suwanose-Jima	Ryukyu Islands, Japan	29.6°N, 129.7°E
Atka	Aleutian Islands, USA	52.4°N, 174.2°W
Egon	Flores Island, Indonesia	8.7°S, 122.6°E
Spurr	Southwestern Alaska, USA	61.3°N, 152.3°W
Veniaminof	Alaska Peninsula, USA	56.2°N, 159.4°W
Karangetang	Siau Island, Indonesia	2.8°N, 125.4°E
Piton de la Fournaise	Reunion Island, Indian Ocean	21.2°S, 55.7°E
Soufriere St. Vincent	St. Vincent Island, West Indies	13.3°N, 61.2°W
Etna, Sicily	Italy	37.7°N, 15.0°E
Galeras	Colombia	1.2°N, 77.4°W
Poas Volcano	Costa Rica	10.2°N, 84.2°W
Sangay	Ecuador	2.0°S, 78.3°W
Nviragongo	Democratic Republic of the Congo	1.5°S, 29.3°E
Erta Ale	Ethiopia	13.6°N, 40.7°E
Oyama	Miyakejima, Japan	34.1°N, 139.5°E
Ruapehu	New Zealand	39.3°S, 175.6°E
Grimsvötn	Iceland	64.5°N, 17.3°W
Shishaldin	Unimak Island, Alaska	54.8°N, 163.9°W
Asama	Honshu, Japan	36.4°N, 138.5°E
Mauna Loa	Hawaii, USA	19.5°N, 155.6°W

Earthquake Data List

Earthquake Region	Magnitude	Date	Location
Los Angeles, CA	4.5	January 9, 2009	34.1° N, 117.3° W
Luzon, Philippines	5.1	January 9, 2009	16.1 N°, 119.8° E
Bolivia	4.7	January 9, 2009	19.3 S°, 66.6° W
Southern Peru	4.3	January 7, 2009	15.9° S, 69.4° W
Alaska	4.3	January 7, 2009	54.1° N, 165.3° W
Southern Japan	5.0	January 6, 2009	24.1° N, 124.0° E
Japan	5.1	January 5, 2009	37.7° N, 142.9° E
Mariana Islands	4.8	January 5, 2009	20.1° N, 147.0° E
Azores Islands	4.9	January 5, 2009	42.4° N, 30.6° W
Southern Greece	4.2	January 4, 2009	36.8° N, 22.3° E
Nicobar Islands, India	5.3	January 4, 2009	6.3 N°, 94.1° E
Northern California	4.2	January 4, 2009	38.8° N, 122.8° W
Santa Cruz Islands	5.4	January 3, 2009	12.4° S, 166.7° E
Bouvet Island Region, Antarctica	5.8	November 14, 2008	53.7° S, 8.8° E
Oregon Coast	5.4	November 14, 2008	43.6° N, 127.5° W
Gulf of California	4.7	November 13, 2008	24.2° N, 109.1° W
South Sandwich Islands	5.6	November 13, 2008	56.0° S, 27.3° W
Puerto Rico	4.7	November 13, 2008	19.5 N, 66.4° W
Democratic Republic of the Congo	5.0	November 13, 2008	6.4° S, 26.9° E
Fiji	5.0	November 13, 2008	21.8° S, 178.1° W
Costa Rica	5.3	November 13, 2008	10.8° N, 86.1° W
Northern Mariana Islands	4.6	November 13, 2008	18.4° N, 145.3° E
Vanuatu	4.9	November 12, 2008	17.4° S, 167.2° E
Central Turkey	4.6	November 12, 2008	38.9° N, 35.5° E
Philippines	5.0	November 12, 2008	7.0° N, 126.3° E
Carlsberg Ridge, Indian Ocean	5.0	November 11, 2008	0.0° N, 67.2° E
Qinghai, China	5.4	November 11, 2008	37.6° N, 95.8° E
Southern Iran	4.9	November 11, 2008	26.7° N, 54.9° E
Guatemala	4.9	November 11, 2008	14.1° N, 90.7° W
Myanmar	4.8	November 11, 2008	19.3° N, 95.3° E
Sumatra, Indonesia	5.0	November 11, 2008	4.2° S, 102.2° E
Halmahera, Indonesia	4.9	November 10, 2008	1.8° N, 127.4° E
Northern Peru	4.6	November 10, 2008	8.8° S, 79.2° W
Papua New Guinea	4.8	November 10, 2008	5.6° S, 151.9° E
Aleutian Islands, Alaska	4.3	November 10, 2008	51.2° N, 178.4° W
Hokkaido, Japan	4.7	November 10, 2008	45.2° N, 145.3° E
Kermadec Islands	5.2	November 10, 2008	32.1° S, 179.2° W
Sumatra, Indonesia	5.2	November 10, 2008	0.2° S, 100.0° E
Fiji	5.1	November 10, 2008	17.9° S, 178.5° W
Southern Alaska	4.3	November 9, 2008	60.0° N, 153.2° W
Chile	4.8	November 9, 2008	30.6° S, 70.7° W
Tonga	5.5	November 8, 2008	15.2° S, 174.2° W
Sakha, Russia	5.1	November 8, 2008	56.8° N, 123.0° E
Tajikistan	4.3	November 8, 2008	38.6° N, 69.5° E
Banda Sea	6.2	November 7, 2008	6.8° S, 129.3° E

*** MAP PLATE BOUNDARIES** IN6881

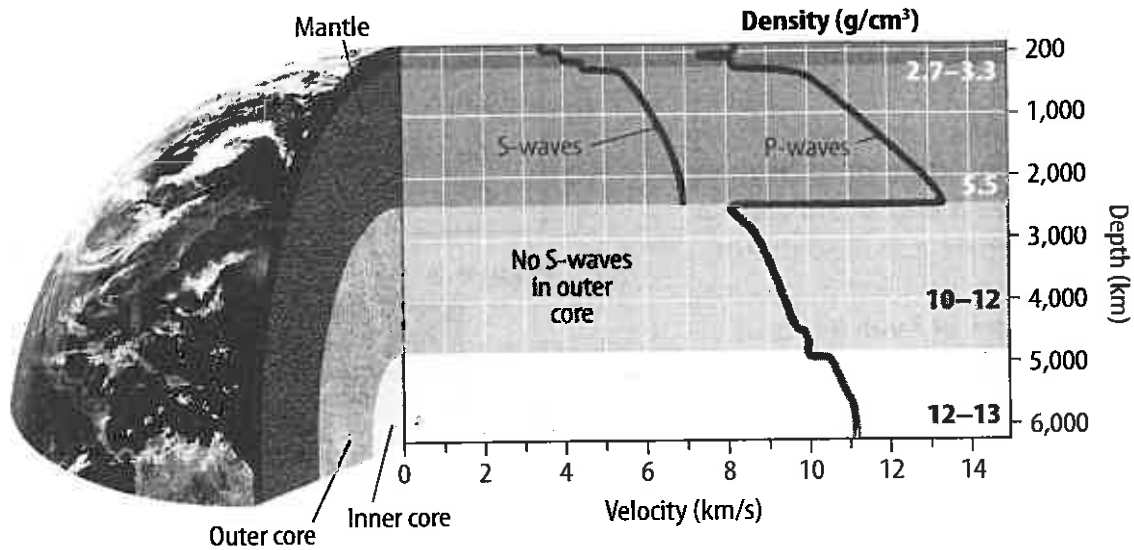
Challenge

LESSON 1

Interior of Earth

Geologists have used the properties of the P-waves and S-waves generated by earthquakes to predict the composition of Earth's interior. Figure 1 is a graph of the behavior of P-waves and S-waves as they travel through Earth's layers.

Directions: Use the graph to answer each question.



- How fast do P-waves move in the crust?

- How fast do S-waves move in the crust?

- What happens to S-waves approximately 2,900 km below Earth's surface?

- What does the behavior of S-waves between the depths of approximately 2,900 km and approximately 5,100 km tell you about the outer core?

- How does the velocity of P-waves change as they travel through the mantle, outer core, and inner core?

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