SIO15: NUMBERS AND TRIVIA - PART 3



Shells

like an onion, Earth comes in shells. Depending on how you look at it - rock type or mechanical properties - we distinguish 3 or 5 basic shells: crust-mantle-core or

lithosphere-asthenospheremesosphere-outer core-inner core



5000°C current estimate temperature at Earth's center. This would be 20x higher than the hottest oven.



~9.5° the current deviation of the magnetic dipole axis from Earth's rotation axis.



~200 Mio years the age of the oldest crust found in the oceans. This is much younger than

the oldest rocks found on continents (4.3 billion yrs). A recent study found 300 Mio yr old ocean crust in the eastern Mediterranean Sea believed to be remnant of the ancient Tethys ocean.

670 km

the depth of the deepest earthquakes. They occur in the down-going slabs in subduction zones.



Isostasy

keeps a balance between gravitational force and buoyancy force. It keeps the lithosphere afloat in the denser asthenosphere much like an iceberg in the ocean.



14h30m time it takes for a tsunami to travel from Valdivia, Chile to Hilo, Hawaii.



behaves like a liquid. Structures on such ground collapse.

3.5 Mio

earthquakes per year worldwide. Most are too small to be felt by people.

Shrinking sea	Uplifted beach
Rebound	ł
* *	Asthenosphere flows back.

postglacial rebound

at the end of an ice age, the lithosphere rises after it lost the burden of its ice sheet. So local sea level lowers.



10 cm/yr speed of the fastestmoving plates: Cocos and Nazca plates. A few cm/yr is more 'normal'.



9.5

magnitude of the largest measured earthquake. The 22 May 1960 Valdivia, Chile earthquake sent a huge tsunami across the Pacific ocean that bent parking meters in Hilo, Hawaii and killed 61 people there.



Cordón Caulle volcano erupted 38 h after the 1960 Chile earthquake. Scientists think that the earthquake triggered the eruption.