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SSS32-06 Room:A04 Time:May 26 15:30-15:45

Relationship between half-graben and high-velocities area at depths of 10km 8

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Figure indicates four special geological areas at the depths of 10km in Japan after tomography of Nakamura 2008.
1 high velocities and high Poisson's ratio area (HVHP area) indicated in purple or red

Purple indicates HVHP areas. Red also indicates HVHP areas, but where major destructive earthquake occurred since around 1800.It is a noteworthy fact that five of the eight major destructive earthquakes since 1995(Han-Shin Awaji 1995, Western Tottori 2000, Northern Miyagi 2003, Chuetsu 2004, West Off Hukuoka2005) occurred in these areas.

MORB(Mid Ocean Ridge Basalt) in Muroto and Kii peninsula,mantle peridotite in The Central Hokkaido, and Izu Peninsula are in HVHP area. We might say that HVHP area is alike MORB, mantle peridotite, oceanic island. By the way breaking start point of March 11, 2011 Disaster exists on the plate boundary of the surface of subducting Pacific plate that is HVHP area.

2 high velocities and low Poisson's ratio area (VHLP area) indicated in blue

Many of normal fault earthquakes around Idosawa Fault occurred in one of these areas after Mach 11 Disaster.
3 low velocities and high Poisson's ratio area (LVHP areas) indicated in brown
For example oil fields in Niigata and Shizuoka prefecture.

4 low velocities and low Poisson's ratio area (LVLP areas) indicated in yellow

These areas have Unzen, Beppu, (Japanese famous hot spring) Kakutou caldera, Aira caldera and so on.

Given the situation, we can say that these areas may concern with felsic caldera and smectite, volcanic activity, volcanic ash, volcanic gas and so on.

Northern Nagano earthquake 2014 (Hakuba, northern part of Itoigawa-Shizuoka Tectonic Line) also occurred in LVLP area. By the way Azumino and Matsukawa are LVLP areas on the same Tectonic Line. I want to watch this area closely.

M7 class earthquake on March 9 and Slow quakes since January 27 in 2011 around on the plate boundary of subducting Pacific plate that is LVLP area lying east from the epicenter of March 11 Disaster. The existence of smectite on the plate boundary of the shallow part of the fault on March 11 Disaster, C0019 (Ujiie 2014) is congruent with this finding.

It may be a clue to the mystery of interlocking movement of Mach 11, 2011 Disaster to study smectite (especially whose fluidity and conduction property) and to study electric outbreak by particle of smectite bombardment and electrolysis of the water by the electrogeness. And more, casifications such as oxygen and hydrogen gas by the electrolysis of the water, outbreak of the water by the explosion of the gas, and movement of the smectite between the plates. It is thought that a complex study is necessary.

Keywords: high velocities and high Poisson's area(HVHParea), MORB, low velocities and low Poisson's ratio area (LVLP area), smectite, caldera

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