

What a mantle scientist hopes geoscience education

*Natsue Abe¹

1. R&D Center for Ocean Drilling Science Japan Agency for Marine-Earth Science and Technology

When asking what kind of images you have about the Earth's mantle, most people answer "molten magma". People are probably influenced by movies broadcasting on TV, novels such as "Journey to the center of the earth by Jules Verne" and "Japan Sinks by Sakyo Komatsu", or many movies (such as Center of the earth) are strongly influenced. In general, people seem to think as follows. Because there is a hot substance deep under the ground, the "mantle" under the crust is a melted magma, and thinking that the liquid that reached the surface with some meter will erupt as lava It seems to be. I heard a conversation in the Kanto region and was shocked. Since the aftershock of the Great East Japan Earthquake on March 11, 2011, the aftershocks occurred quite a lot, "the Japanese archipelago became loose and decided to sink into the melted" mantle = (magma, but this is wrong!) " There was a person who was threatened by the fear of sinking into the lava. We geoscientists know the Japanese archipelago will never sink into the mantle in that short time-scale and never disappear our life time. Just having this basic knowledge, we are not trapped such fear, and probably know better how to deal with natural disasters such as earthquakes than general people. I think we earth scientists need to act and prepare for natural disasters as a norm for the general public. In this presentation, I would like to talk about some examples cited from my lecture and outreach experience.

As a mantle petrologist who study mantle peridotite, I strongly expect "geoscience classes" in junior high and high school that students learn basic knowledge to be able to properly fear natural disasters and prepare for it. Not only the students who are currently taking "Basic Earth Sciences", but also students entering the Department of Science other than those who wish to enter the Department of Earth Sciences at least as living in Japan, I hope that you will learn the knowledge of Geoscience literacy as a compulsory subject in high school. Contents that are covered within the scope of the current high school "basic earth science" is sufficient, broadly "scientific literacy" is needed for thinking deeply and act properly when something happens.

Keywords: geoscience education, mantle