One Point Advice

What's the Difference between Magnitude and Intensity?

マグニチュードと震度の違い

Seismic intensity, or *shindo* in Japanese, is a measurement of the strength of tremors at certain locations. That is why when you see earthquake reports on TV, there are different numbers all over the maps they show. The Japanese *shindo* scale has 10 levels going from 0 to 7 (5 and 6 are divided into 'weak' and 'strong'), but in most other countries a 12-level scale is used.

Magnitude, on the other hand, is a measurement of the energy released in an earthquake, and as this epicenter can be very deep underground, a high magnitude does not necessarily mean a lot of damage on the surface. A difference of 1 in magnitude means 32 times more or less energy, so an earthquake of magnitude 5 releases 32 times more energy than magnitude 4, and more than 1000 times more energy than magnitude 3.

So, basically both seismic intensity and magnitude indicate the power of the quake, but the intensity is all about the shaking on the surface of the earth. So, if an earthquake with a very high magnitude happens very deep in the earth's crust, we may not even notice it. But if an earthquake with even a low magnitude occurs close to the surface, the intensity may be very high, and we could be in big trouble.