



Seven Italy earthquake predictions with satellite cloud images

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Cloud anomaly is found in 1997 by Russian scientist, while it is not widely studied in the last 16 years and not widely accepted. Our study show that cloud anomaly shown in satellite images may have three features: 1, the clouds do not move with winds, they stay there for several hours while the normal clouds move continuously; 2 the shape of these clouds edge is straight; 3 these clouds exist over fault systems. When the three conditions are met, we consider that they are related with underground seismic activity and can be used to make earthquake prediction. With this method we made 7 predictions about Italy in last 2 years. Two predictions are made in 2012 and a M6.0 and M5.3 quake followed the predictions, five predictions are made in 2013 and five quakes with M4.9, M4.9, M4.5, M5.3 and M5.0 followed the predictions.

For the seven predictions, the magnitude estimation is good, the time estimation is in 1-2 months, the longest time is about 3 months, and the location estimation is bad, most of them have 200-400km error. Because we have no local in-situ data, such as radon gas, air temperature, ground water, ground electricity and so on to reduce the location error, it is reasonable that our location estimation error is bigger. Another reason is that cloud anomaly is very long that it is difficult to estimate the epicenter within 100km error. Considering the good performance at magnitude and time estimation, extremely low cost and quick analysis, if combined with other geophysical method, we think that cloud anomaly method is very promising in earthquake prediction.