

# New Concepts in Global Tectonics NEWSLETTER



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## CONTENTS

Financial report from March, 2006 to September, 2007.....	2
Articles	
What's in a name? The "discovery" of Neotectonics, <i>C. Rowl TWIDALE</i> .....	3
NW Pacific seamount/trench interaction, <i>N. Chris SMOOT</i> .....	8
Precursory luminous phenomena used for earthquake prediction – The Taro Valley, northwestern Apennines, Italy, <i>Valentino STRASER</i> .....	18
Diagonal strain lines, <i>Howard F. DE KALB</i> .....	33
Short Notes	
The Great September 12, 2007 Southern Sumatra Earthquakes, as predicted by the seismic energy transmigration concept, Part 1, <i>Claude BLOT and Dong R. CHOI</i> .....	38
Plato's polyhedra as shapes of small satellites in the outer solar system, <i>Gennady G. KOCHMASOV</i> .....	43
Comments and Replies	
Global shear deformation, <i>Leo MASLOV and Howard F. DE KALB</i> .....	46
Earthquake activity and bushfires, <i>Peter JAMES</i> .....	47
Earthquake vapour clouds, <i>Zhonghao SHOU</i> .....	50
Publications.....	53
Book review	
Ages in chaos: James Hutton and the discovery of deep time (Stephen Baxter), <i>Chris SMOOT</i> .....	54
The greatest lie ever told (N.A. Mörner), <i>Cliff OLLIER</i> .....	55
Conference report	
Report of Vladivostok Workshop, <i>Yasumoto SUZUKI, Alexander A. GAVRILOV and Boris I. VASSILIEV</i> .....	57
News.....	60
Financial support and About the Newsletter.....	61

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## EARTHQUAKE VAPOUR CLOUDS

### REPLY TO BAPAT:

**A. Bapat and Z. Shou, 2007. Earthquake vapour clouds. *NCGT Newsletter*, no. 43, p. 71-75.**

**B**apat proposed, “Prior to the occurrence of **any** moderate to large earthquake (magnitude > 6.5) the ground water comes up in the form of a fountain or spring” to claim “The explanation by Shou ... needs to be corrected.” (1). However, the key word ‘**any**’ is unsuitable since he only gives two examples. In NCGT 43, I already pointed to the M6.8 Bam, Iran earthquake on 26 December 2003 which did not have a reported fountain or spring (2). In fact, a lot of moderate and large earthquakes, such as the M7.7 Northern Iran earthquake on 20 June 1990, the M6.7 Northridge earthquake on 17 January 1994 etc do not have a fountain or spring. Therefore, Bapat would need to find their fountains or springs in order to claim “**any**”.

He stated a **2**-day window for his fountain or spring precursor before my reply (3), and extends it to **28** days after my reply (1). However, it is still unreliable given that he only cites two events. The more and better data such a figure is based on, the more reliable it will be. That is why I still apply the longest time window for my vapor precursor although I published a 49-day window based on 100 events in 1999 (4), a 104-day window based on 500 events in 2005 (5) and a 105-day window based on 509 events in 2006 (6).

To convince Bapat, I would like to reveal a good example for my extending a 103-day window to a 104-day window. On 2 November 2004, an earthquake cloud appeared from the vapor source at about 41.7-41.9°N and 79.2-79.5°E, Xinjiang, China, marked “Epicenter” in Figure 1. I used this cloud to predict an earthquake of magnitude 6 or above in the circle within 96 days to the public on 9 November 2004 or within 103 days from 2 November 2004 to 13 February 2005. This prediction has a probability of 5.3% or 1 in 18.8 of being successful. However, there was no earthquake of magnitude 6 or above even in the area of 90°S-90°N, 30-90°E, 1/6 of the Earth, within the 103 days, but an M6.2 earthquake happened at 41.72°N, 79.44°E coincidentally with the vapor source on 14 February 2005 or on the 104<sup>th</sup> day (6). Like the M6.8 Bam cloud (5, 6), the M9, M7.5 and M6.8

Indonesia and India clouds (7) etc, this cloud proves earthquake vapor from an impending hypocenter again. Moreover, a 104-day window should replace the 103-day window. This cloud exposes a conflict between his theory of earthquake vapor from a fountain or spring and his 28-day window from a fountain or spring to an earthquake. Thus, one of them or both of them should be wrong. In addition, this earthquake does not have a fountain or spring, so the key word “any” is incorrect.

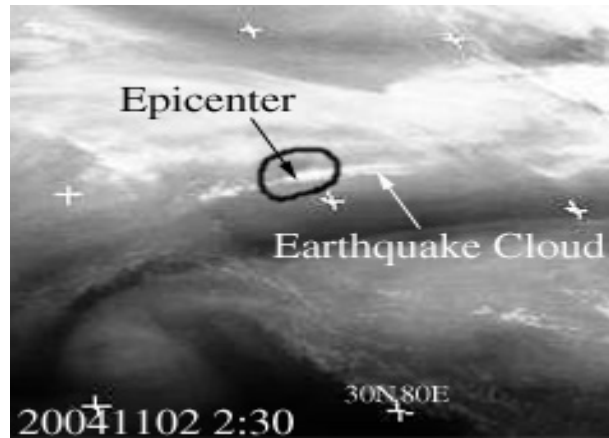


Figure 1. This infrared image, originally from satellite IODC of EUMETSAT (<http://www.eumetsat.de/en/index.html>), transformed and offered to the public by Dundee University, UK (<http://www.sat.dundee.ac.uk/pdus.html>), reveals an earthquake cloud in Southern XinJiang, China on 2 November 2004. Shou used it to predict an earthquake of magnitude greater than or equal to 6 in the circled area within 96 days to the public on 9 November or 103 days since 2 November 2004. However, no earthquake happened during the period, but one day later an M6.2 earthquake occurred at 41.72°N 79.44°E, arrowed, exactly in the predicted area on 14 February 2005. This fact suggests a 104-day window should replace the 103-day window.

Bapat stated, “Shou’s remark that there should have been 182 earthquakes at Yellow Stone, Wyoming, is uncalled for and could have been avoided. I have never said that the water springs or fountains appear from any water body on the surface”. But he had not given a clear definition to distinguish his use of the term ‘springs or fountains’ from public use of the term. There was a moderate earthquake of magnitude 4.7 at 43.28°N, 110.68°W, Yellow Stone on 20 June 1998. Can he show its relevant spring or fountain and explain the difference between that spring or fountain and others in Yellow Stone?

Bapat mentioned two springs or fountains: one for the M7.8 India earthquake on 26 January 2001 and the other for the M7.6 Pakistan earthquake on 8 October 2005 as examples, but without details how can readers believe them to be precursors? Fig. 2 shows an earthquake cloud moving eastward over India on 9 November 2000. Its 830 km length indicates its relevant magnitude 7.5 or above. In the area of 0-30°N, 0-90°E, the M7.8 India earthquake is the only one of magnitude 7 or above from 9 November 2000 to 31 December 2004 at least. The high coincidence between this cloud and the M7.8 India earthquake suggests that the cloud predicts the earthquake. The duration from this cloud to the M7.8 earthquake is 78 days, far outside his 28-day window. Therefore, his theory and his 28-day window conflict with each other again.

There are more problems. I hope that he will investigate at least 100 large or moderate earthquakes to find how what percentage of earthquakes have springs or fountains and the longest duration from springs or fountains to their subsequent earthquakes. I also hope he will establish a model to explain why major earthquakes do not have a spring or fountain and how to distinguish the spring or fountain of the M4.7 Yellow Stone earthquake on 20 June 1998 from others in Yellow Stone.

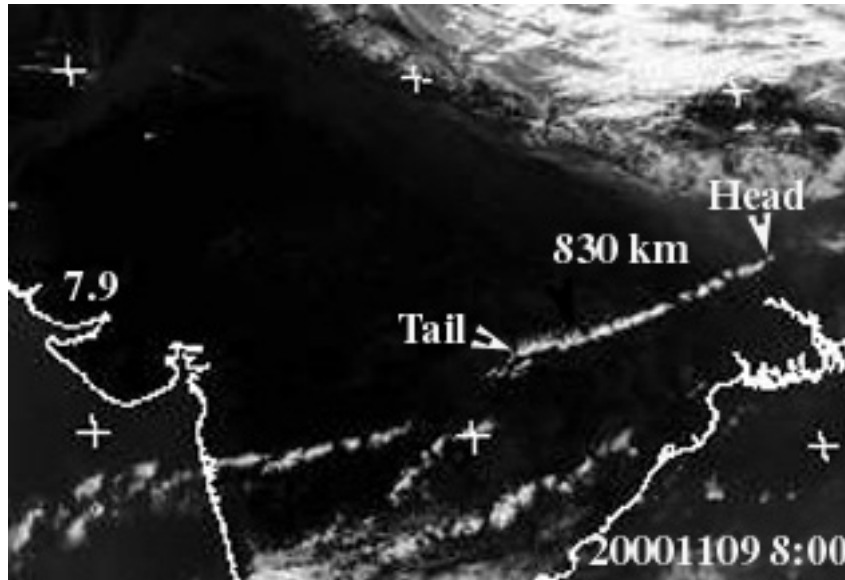


Figure 2. This infrared image, originally from EUMETSAT's IODC satellite, transformed and offered to the public by Dundee University, UK, reveals a linear earthquake cloud in India moving eastward on 9 November 2000. It appeared at 2:00 suddenly and disappeared at 15:00. Meteorology can not explain its sudden appearance and long, linear shape, but Shou's vapour theory can (4-7). It predicted the M7.8 India earthquake on 26 January 2001.

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