SURFACE DISPLACEMENT OF THE TSERLUNGPU FAULT ASSOCIATED WITH THE 1999 CHI-CHI EARTHQUAKE (M=7.3), TAIWAN.

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On September 21, 1999, a M=7.3 devastating shallow earthquake (named as Chi-Chi earthquake), occurred in Central Taiwan, causing more than 2200 people died, more than 10000 people injured, 100,000 people homeless and 13000 buildings destroyed. This earthquake was attributed to the displacement of the N-S trending Tserlungpu thrust fault, which is about 80 km and is a part of the second array of active faults behind the mountain front of Taiwan. The surface displacement clearly shows the characters of thrust faults. The relative vertical displacement eastern side of the fault increases from ca. 2m at the southern portion to ca.7m at the northern end. The most serious hazards occurred on the frontal tip of the hanging wall, while the buildings on the near-by adjoining lower wall generally remains in good shape. Besides the displacement along the fault-line, there were many large-scale landslides, some of which damed up river channels to form large reservoirsss with capacity up to 1.51×108m3. This unstable dam will be very dangerous in the near future. Many very impressive photographs of the harzards will be shown.