

## CHAPTER VIII

### CONCLUSION

Based on the results of remote-sensing analysis (Landsat TM5, JERS SAR, and aerial photograph) integrated with ground-truth investigation as well as those of focal mechanism, seismic profile and TL-dating of fault-related sediments, and neotectonics of the southeastern segment of the Phrae fault system, the conclusions can be drawn as follows:

1. The southeastern segment of the Phrae fault system located at the southeastern margin of the Phrae basin, is characterized by the NNE-trending basin-bounded fault with approximate length of 20 km long.
2. The southeastern segment of the NE-trending Phrae fault system is composed of one major fault which bounds between the basin and mountainous areas and the minor faults which serves as antithetic faults to the major fault.
3. The southeastern segment of the Phrae fault system can be subdivided into three subsegments, namely, the Ban Thung Charoen, the Ban Kwang, and the Ban Pa Daeng subsegments locating in the south, central, and north parts, respectively.
4. Tectonic geomorphological evidences along the southeastern segment of the Phrae fault system are supported by triangular facets, a shutter ridge and offset stream channels.
5. The fault segment is believed to be undergoing left lateral with normal component.
6. Study on contemporary stress axis orientation reveals that extension axis lies approximately in the E-W trend and compression axis in the N-S trend. In contrast, paleostress axis orientation indicates the extension axis lies in the approximate N-S trending and the compression axis in the E-W trending.
7. Two events of large earthquakes with the magnitude ( $M_w$ ) of almost 7 in the Richter scale were encountered along the southeastern segment of the Phrae fault system. The first event occurred between 0.9 Ma and 1.1 Ma and the

second event experienced between 0.05 Ma and 0.16 Ma both with slip rate of 0.06 mm/yr.

8. Based upon classification of active fault by Charusiri et al. (2001), the southeastern segment of the Phrae fault system is classified as a potentially active fault.
9. Additional data of small earthquake distribution scattered throughout the Phrae basin also indicated that this area is tectonically active. However, due to scattered characteristics of these earthquake epicenters and accuracy of the epicentral locations, source of the small earthquakes (active fault) is still in doubt.



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