

Supplemental file 1

Sixteen of the rapid-pool-benchland systems (RPBS) in China, USA, Australia and Africa are as follows. There are many other RPBS in the upper and lower reaches of these RPBS in the photos.



No.1 A rapid-pool-bench land system in the upper reach of the Yangtze River in China. The square symbol: pool; the triangular symbol: rapid; the circle symbol: benchland. The same below.



No. 2: A rapid-pool-bench land system in the Jingshajiang River in China.



No. 3: A rapid-pool-bench land system in the upper Beiluo River in Shanxi Province in China.



No. 4: A rapid-pool-bench land system in the upper reach of the Yellow River in China.



No.5 :A rapid-pool-bench land systems in the lower reach of the Yallow River in China.



No. 6: A disappearance of the rapid-pool-bench land system in the lower reach of the Jingsha River in China, where a dam has been built.



No. 7: A rapid-pool-bench land system in the upper reach of the Dulu River in China (a RPBS for sampling).



No.8 A rapid-pool-bench land system in the middle reach of the Dulu River in China (a RPBS for sampling).



No. 9: A rapid-pool-bench land system in one river in USA.



No.10: Another rapid-pool-bench land system in one river in USA.



No.11: A rapid-pool-bench land system in the Mississippi River in USA.



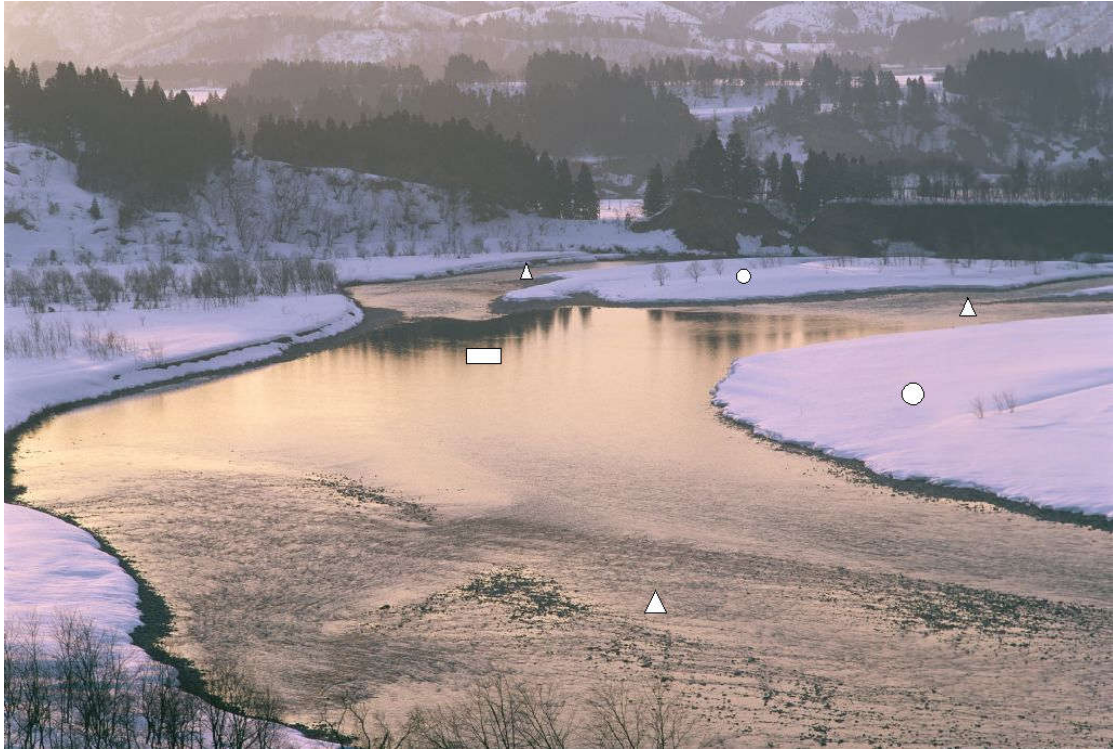
No.12: A rapid-pool-bench land system in one river in Africa.



No.13: Another rapid-pool-bench land system in the river in Africa.



No.14: A rapid-pool-bench land system in the Nile River in Africa.

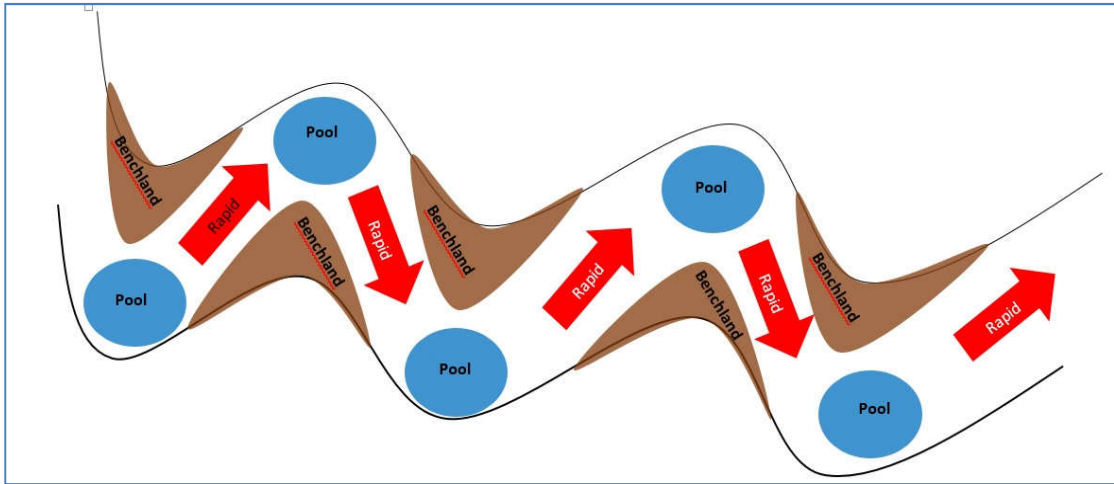


No.15: A rapid-pool-bench land system in one river of Australia.



No.16: A rapid-pool-bench land system in the Tarim River of China





No.17 The basic model of the rapid-pool-benchland system in a natural river