



# ASSESSMENT OF AVALANCHE HAZARDS USING REMOTE SENSING IN THE LOWER YELLOW RIVER, CHINA (Lu Gao, Xiangzhou Xu\*, Ying Zhao, Paolo Tarolli)

Dalian University of Technology, Dalian 116024, China (xzxu@dlut.edu.cn)

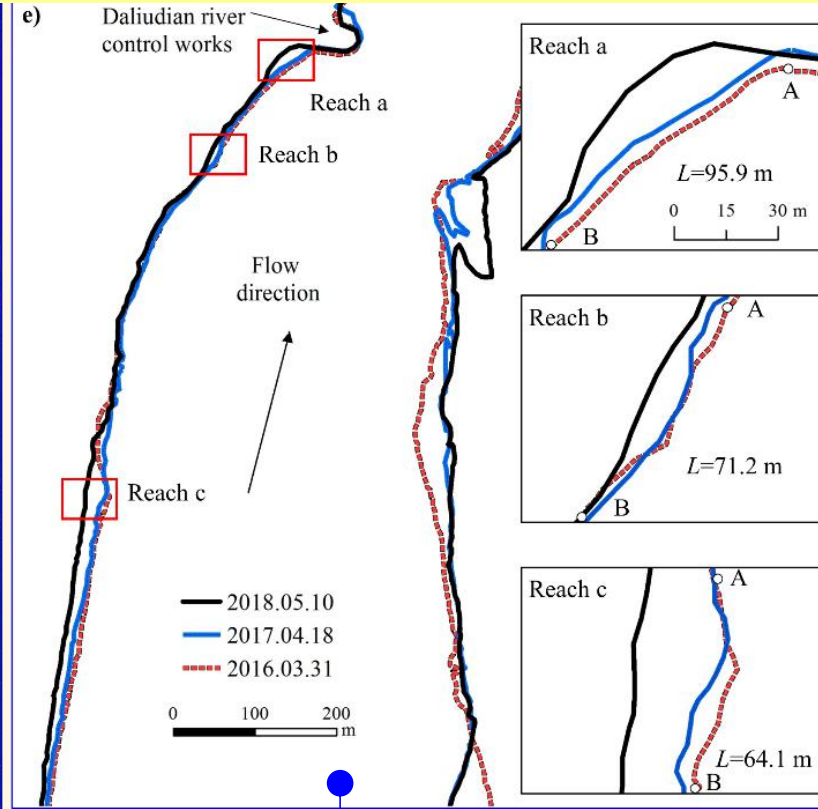
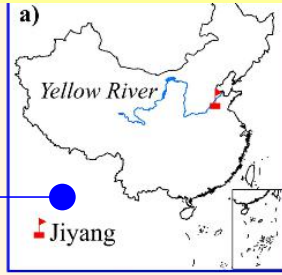
<https://doi.org/10.5194/egusphere-egu21-1000,2021>.

VEGU21: GATHER ONLINE

**Location:** Jiyang Reach, a representative meandering reach of the lower Yellow River. (117° 8' N, 36° 51' E)

**Collapse characteristics:**

- farmland area lost
- tension cracks
- upward-concave collapse
- failed soil remained
- backstream
- damaged 1# dam



**Incident causes:**

- the unqualified effect of the river control works
- scouring effect of backstream and mainstream
- no protection practice after collapse
- curved and narrow channel
- .....

**Macroscopic analysis:**

A new calculation method

$$\overline{B_{La}} = (A_R + A_D) / L_v$$

$$|B_{pm}| = \text{Max}|B_{pi}|^v$$

Duration	Characteristics	reach a	reach b	reach c	Average	Maximum
3/31/2016-5/10/2018	$A_R$ (m <sup>2</sup> )	1220.4	502.9	1528.1	1083.8	--
	$\overline{B_{La}}$ (m)	12.6	6.3	23.8	14.2	--
	$B_{pm}$ (m/a)	15.5	9.7	26.0	--	26.0

**Defense scenario:**

- Substitute material: Building materials
- Develop: Ecological bank protection works

