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Supplement of

A reduced-complexity model for river delta formation – Part 1: Modeling deltas with channel dynamics

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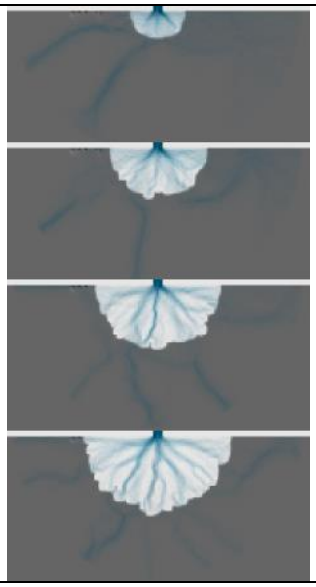
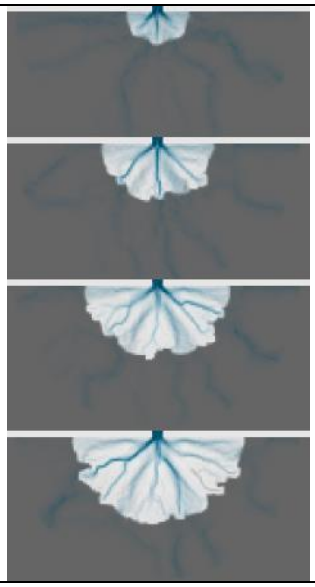
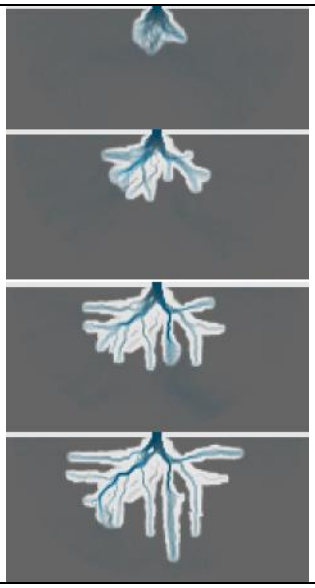
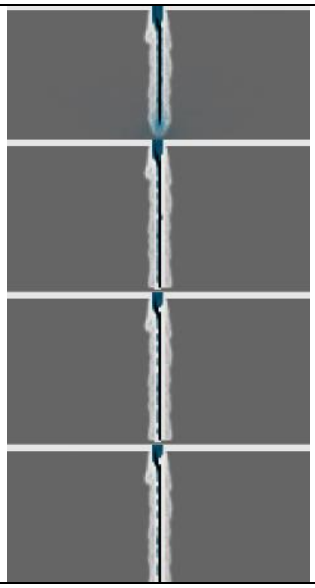
Supplement document

1. The effects of topographic diffusion (α).
Default value: $\alpha = 0.1$.
- Run S1: 100% sand, default value;
- Run S1a: 100% sand, $\alpha = 0$.

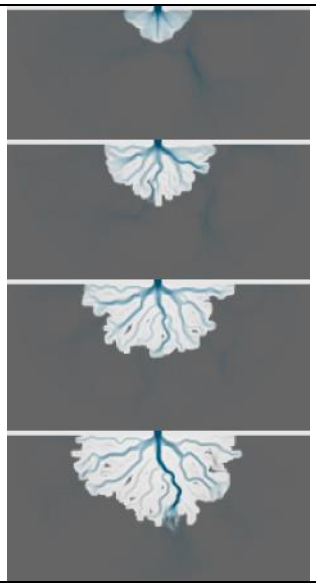
S1	S1a
	

2. The effects of threshold velocity for mud parcels (U_{dep}, U_{ero})
Default value: $U_{dep} = 0.3*U_0$, $U_{ero} = 1.5*U_0$
- Run S2: 0% sand, default value;
- Run S2a: 0% sand, $U_{dep} = 0.15* U_0$, $U_{ero} = 1.8*U_0$;
- Run S2b: 0% sand, $U_{dep} = 0.6* U_0$, $U_{ero} = 1.2*U_0$.

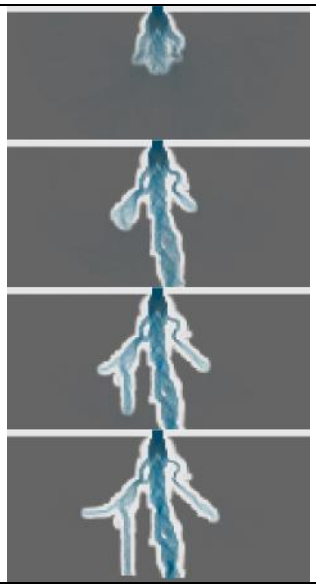
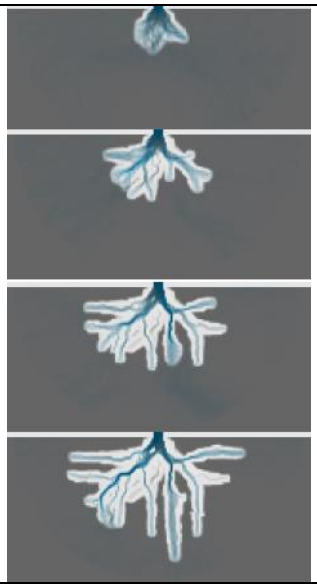
S2	S2a	S2b
		

3. The effects of depth dependence in routing water and sediment (θ)
Default value: 1.0-water, 1.0-mud, 2.0-sand.

- Run S3: 50% sand, default value;
- Run S3a: 50% sand, 1.5; 1.5; 3.0;
- Run S3b: 50% sand, 1.0; 1.0; 1.0.

S3	S3a	S3b
		

4. The effects of partitioning between routing by water surface and routing by flow inerta (γ).
- Run S4a: 0% sand, γ = 0.02;
- Run S4b: 0% sand, γ = 0.05;
- Run S4c: 0% sand, γ = 0.15;
- Run S4d: 100% sand, γ = 0.02;
- Run S4e: 100% sand, γ = 0.05;
- Run S4f: 100% sand, γ = 0.15.

S4a	S4b	S4c
		

S4d	S4e	S4f