

## The dynamics of the freshwater discharge at the Ganges-Brahmaputra river mouth

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The Bay of Bengal receives significant freshwater input from the Ganges-Brahmaputra river. This freshwater discharge is observed with a prominent seasonal cycle, a minimum in late winter to early spring and a maximum in late summer to early fall. However, the river mouth of the Ganges-Brahmaputra river is a mega-delta and thus has multiple channels rather than just one. We have carried out regional numerical experiments utilizing a land-river-ocean seamless model to investigate the basic dynamics of how this river discharge events near the river mouth occur. On a large-scale, we find freshwater discharge to create river plumes along the coast and to establish a coastal current that flows southwestward when the oceanic currents are assumed quiescent. On a river mouth scale, however, the pathways of the freshwater discharge is complex. Preliminary analysis indicates that this is because of river-ocean interaction and that the various channels of the Ganges-Brahmaputra river delta are dynamically connected.