

Prospects for Fingerprinting Source to Sink Sediment Dynamics in Large Rivers

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Large rivers play an important role in the transfer of sediments and nutrients from terrestrial sources to the global ocean. Human impact has greatly modified biogeochemical cycles in rivers, through increasing sediment input through accelerating soil erosion and through reducing downstream conveyance because of abstraction and impoundment. Articulation of the sediment budget is required to evaluate the impact of humans on source to sink sediment dynamics. A number of geochemical tracing techniques have been developed in smaller basin to ascribe provenance to suspended sediment based on distinction of location-specific attributes (e.g. geology) or nature of erosion process (relative contribution from surface and subsurface sources). The paper will review prospects of using tracers in sediment budget studies with example from around the Asia-Australia Pacific Rim.