

Deltas in Crisis:

Dams, drying rivers, and lost soil fertility for tens of millions

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12:00-1:30 PM (Lunch provided)

Marshall Building – Room 531 (5th Floor)

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While soil erosion and downstream sediment deposition in river channels and floodplains have been major threats in the past centuries in the regions of the globe experiencing intensive land use and climatic crises, the 20th century displays a completely different picture in an increasing number of watersheds. Sediment trapping by dams (and the success of erosion control) has deeply changed sediment budgets and sediment transit at the world scale.

While deltas encroached over the sea until the early 20th century, they are presently retreating, experiencing loss of fertility, decreasing food and fish production, and increased flooding, while they are facing sea level rise. The future of deltas is alarming and millions of people are at risk because of unanticipated impacts of human actions. The measures to be implemented at the delta scale, and solidarity at the watershed scale, are of prime importance in the perspective of the worst emerging regional crisis on the globe. Climate change must not be an excuse to get rid of human direct responsibility in river management.

To learn more, Dr. Bravard's book *Sedimentary Crisis at the Global Scale 2: Deltas, a Major Environmental Crisis* is available here: <https://onlinelibrary.wiley.com/doi/book/10.1002/9781119597599>

Jean-Paul Bravard is professor of geography emeritus at the University of Lyon. He obtained a *doctorat* (PhD) in 1985 and was successively professor in universities Lyon 3, Paris 4 Sorbonne and Lyon 2. Specialist of environmental geography, he focused his research on rivers, impacts of dams, sediment, and geoarchaeology of alluvial plains. J.-P. Bravard was in charge of the Rhône River Workshop Zone (2001-2008), elected senior professor at the French University Institute in 2001, rewarded with the CNRS silver medal in geography (2004) and with a doctorate *honoris causa* awarded by the University INRS, Quebec (2013).

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