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## **Building the Global Rivers Observatory**

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Ongoing changes in the Earth's surface environment provide a unique opportunity to observe how surface systems respond to anthropogenic and natural forcings. River systems integrate processes over the landscape. Observing how the biogeochemistry of rivers changes will therefore provide insights into processes and feedbacks that are otherwise difficult to obtain. For the past decade we have been building observatories, operated collaboratively with global partners, in order to facilitate such time-series observations, with a particular focus on the organic and inorganic carbon cycles. Observatories are operational on the Yukon, Mackenzie, Ob, Yenisei, Lena, Kolyma, Yangtze, Brahmaputra, Ganges, Congo, Amazon, Mississippi, and Fraser rivers. We are currently evaluating organizational and funding structures to sustain and expand to the 30 largest rivers with the goal of capturing half the terrestrial runoff into the ocean. Intercalibrated organic and inorganic analyses of water and sediments, the study of microbial communities, sample archiving and the development of a data handling infrastructure require a communal approach to ensure that the infrastructure meets the need to fully mine the unique opportunity global environmental change is providing us with.