TABLE S1 | Explanation of the metrics of environmental variables collected in the work.

Variables	Description	Metrics Collected
Land Cover and Use	This assesses vegetation cover and land use around the stream.	Vegetation cover, proportion of agricultural and non-agricultural areas, mining areas.
Human Influence	Identifies direct and indirect human influences in the area.	Proportion of human impacts, presence of infrastructures, industrial activities.
Type of Substrate in the Streambed	Analyzes the different types of sediments in the streambed.	Proportion of sand, gravel, rocks, and other sediments in the streambed.
Flow	Measures the quantity and velocity of the streamflow.	Water volume, flow velocity, average water depth.
Wood Placement	Assesses the presence and arrangement of logs and wood within the channel.	The amount of wood, arrangement of logs, and large organic material.
Channel Morphology	Describes the physical and structural characteristics of the stream channel.	Width and average depth of the channel, sinuosity pattern, slope.
Water Physicochemical Quality	Measures essential physico-chemical parameters for characterizing stream water.	pH, dissolved oxygen (mg/L), electrical conductivity (mS/cm), temperature (°C) at three equidistant points.
Landscape	Evaluates land use and land cover around the stream.	Percentage of Forest, Agriculture, Mining, and Exposed Soil cover, calculated within a 300 m buffer using MapBiomas.
Fluvial Distance	Measures the connectivity and spatial positioning of the streams.	Calculation of the fluvial distance between streams using AEMs, considering water flow and tested by Moran's I.

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