07
AVR.
2016

de 11h à 12h

Bioindication tools for ecological assessment of French wadeable streams quality

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To meet the Water Framework Directive requirements, a new multimetric index (I2M2) has been designed for the invertebrate-based ecological assessment of French wadeable streams. Integrating five taxonomy- and trait-based metrics selected for their high discrimination efficiency, low pressure specificity, high stability in least impaired conditions and low redundancy, this index is meant to identify impaired reaches for 17 anthropogenic pressure categories potentially impairing water quality or habitat. Based on I2M2, any river reach is assigned an ecological quality class among "Bad", "Poor", "Moderate", "Good" and "High". I will present the I2M2, the strategy underlying its construction and on-going developments to help local managers for restoration and conservation programs: (i) assessment of the uncertainty associated to the I2M2 to make it a probabilistic ecological indicator, (ii) development of diagnostic tools based on conditional tree forest models to estimate the risk that each pressure category occurred at any river reach from sampled community traits (iii) simulation of reference conditions for large streams

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