Analyzing the vulnerability of socio-ecological systems as complex systems

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Since uncertainty is a fact of life, humans and the environment face systematic and permanent changes. Predicting and preventing negative and long-term impacts from human actions and environmental changes require alternative theoretical and methodological frameworks. Vulnerability is a useful theoretical tool for this purpose. This article attempts to expand our current understanding of socio-ecological system vulnerability by using a comprehensive and dynamic approach that considers systems’ complex nature. Certain mathematical and computational tools can be used for modeling vulnerability as a complex concept.