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Developing an Adaptive Science-Infused Governance Framework with Accountability: the Role of Babel Fish

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Abstract: Science and policy governance, and the development of modeling and decision support tools, suffer from common problems that can affect the management of natural resources and environments. Focusing only on the expertise of scientists and policy makers is not sufficient when designing and implementing effective adaptive strategies to manage complex systems and issues with inherently high uncertainty. Public and stakeholder participation in both science and policy making is essential and can be fostered with greater accessibility, transparency, and accountability in the science and decision-making processes, or what we would call “Babel Fish” enabled responsive communication (cf. Douglas Adams, Hitchhiker’s Guide to the Galaxy). Management actions and decisions can be interleaved with evidence-based knowledge production through an adaptive science-infused governance framework that also recognizes human Beliefs, Biases, Heuristics, and Values (BBHV). “Open Data,” “Open Tools,” and “Open Models” are necessary, but “Open Traceable Accountable Policy-making” is also critical. There is a need for decision support tools that not only reflect scientific evidence and modeling scenarios, but that also consider the complexity of societal and institutional systems and rules. BBHV need to be recognized at the level of individuals because they underline this social complexity and influence the conduct of science and policy-making at the level of institutions. However, we need to balance this additional complexity with the importance of developing models and tools that enhance implementation of science-infused governance.

Keywords: Human biases; heuristics; decision support; open data; open policy