

## **Biogeoclimatic Ecosystem Classification in a Changing World: Applying Complex Systems Theory to Ecosystem Classification**

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Biogeoclimatic Ecosystem Classification (BEC) has served as the underpinning for forest ecosystem management and conservation planning in British Columbia since the early 1970s. BEC has served BC well for over 30 years as expectations for the use and management of the public land base have changed, but the system is critically challenged by accelerating changes in climate and other environmental drivers because it is founded on the notion of climax ecosystems in equilibrium with climate. The continuing relevance of BEC is also challenged by the retirement of the first generation of BEC champions in government, academia and the private sector. The younger generation of ecologists tends to view a system based on Clementsian ideas of forest succession and European phytosociology as hopelessly outdated.

In this updated version of a talk I gave to the BC Ministry of Forests and Range ecology program scientists in Spring 2009, I outline how the BEC system is very compatible with complex systems theory. I describe how it needs to adapt from equilibrium to non-equilibrium concepts (i.e., think of it as a complex adaptive system rather than a stagnant, outdated system!) in order to guide forest and range ecosystem management during very difficult times, and to continue challenging and enlightening a new generation of scientists and citizens.