

	Future Forest Ecosystems Scientific Council Seminar Series 2012
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Climate Change Adaptation for Northwest Skeena Communities

Thursday, July 12, 2012

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Abstract

Our goal was to find ways to encourage climate change adaptation within the communities of the Skeena region: communities bordered on the east by landscapes which continue to experience the profound ecological and economic impact of the mountain pine beetle epidemic. The First Nations of the Skeena and all municipalities are rightly concerned about reducing the risks of similar shocks from climate change; a threat that could compound the region's existing social and environmental challenges.

To understand the perceptions and needs of the communities of Prince Rupert, Lax Kw'alaams and Terrace, UBC sociologists and graduate student carried out in-depth interviews with community leaders, exploring and quantifying their perception of climate and climate change, how each community values the natural environment, and how these values and perceptions have changed over the past two decades. Coupled with the community studies, vegetation modelers from ESSA worked with their counterparts at the [ARVE](#) modeling group at L'École Polytechnique Fédérale de Lausanne, to [develop and apply](#) the climate sensitive [LPJ-Guess vegetation model](#) to a 32,000 km² landscape within the Skeena watershed. The sociological and ecological studies were complemented by additional concurrent landscape planning research done by the World Wildlife Fund and Cortex Consultants, and by a program to sample and monitor [fisheries sensitive watersheds](#), sponsored by the BC Ministry of Environment.

Results of the ecological simulations and community engagement were summarized in [presentations](#) and workshops held in each of the three communities. The ecological presentations were geared to a non-technical audience and included explanations of climate change, climate modeling and future climate scenarios. The simulation results were explained in terms of possible changes in seasonal runoff patterns over the next 60 years, as well as possible changes in how the landscape is suited to various tree species over the same period and how carbon storage will be affected under a variety of climate and harvesting regimes.

Biography

Don is a systems ecologist with 25 years of experience in ecological simulation modelling and statistical analysis, including the development and implementation of numerous simulation models for aquatic and terrestrial ecosystems; a comprehensive understanding of a wide range of statistical methods and probability theory; years of applied experience in theoretical and mathematical ecology and numerical methods, and multivariate visualization and analysis. His research efforts over the past decade have been applied to the development of spatial statistical modelling approaches, climate-sensitive vegetation models, terrestrial disturbance models including fire and Carbon accounting, and salmonid models for water management planning. Mr. Robinson has also participated in and led countless technical and scientific workshops covering a variety of topics, specializing in the design of simulation models that transfer and integrate complex scientific knowledge into management-oriented modeling systems.