

Climate Change Adaptation Research Needs, Themes and EOI Results

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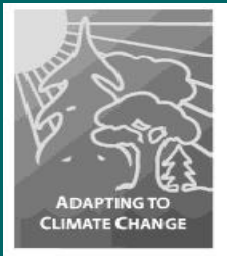
FFESC Research Coordinator

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Outline

- Research needs analysis (Jan. 2009)
 - 2-pg Summary
 - List of 165 Recent Funded Projects
 - List of 122 Potential FFESC Topics
 - EOI results
- FFESC
webpage

THEMES & STRUCTURE
to guide proposal development

From Global to Local

- Global to national initiatives (IPCC, MEA, USCCCSP)
 - Compatibility with international frameworks & standards (Spittlehouse 2008)
 - Adapting best scientific practices
- Exploiting BC's strengths in ecosystem-based management
 - Contiguous publicly-owned land base
 - 30-50 yr research databases (BEC)
 - Highly engaged citizens



Collaboration & Interdisciplinarity

- Lack of technical knowledge rarely the critical barrier to change
- Artificial dichotomy between natural & social science impedes progress
- Complex systems-thinking needed
- Engaging decision-makers, resource practitioners & communities

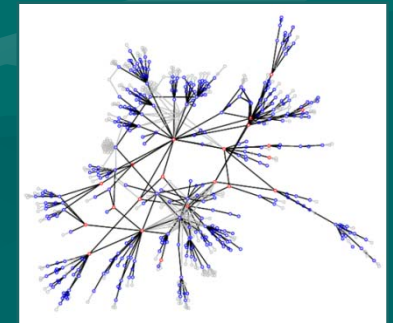
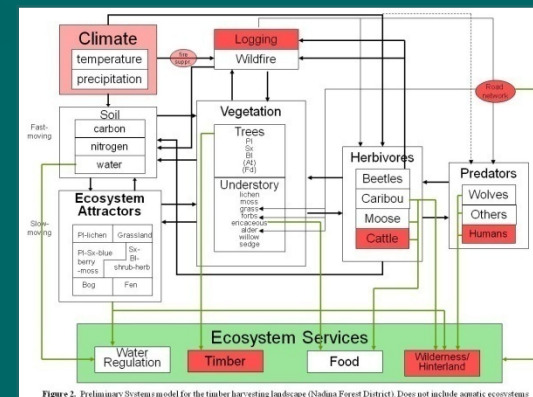
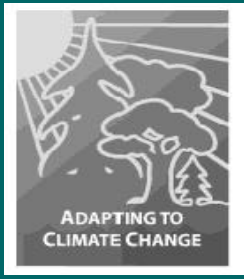


Figure 2. Preliminary System model for the timber harvesting landscape (Nadina Forest District). Does not include aquatic ecosystems.



Filling Knowledge Gaps

- Communicating & addressing uncertainty & risk
- Urgency demands coordinated vs. scatter-gun research
 - Use best available data
 - Field & lab research addresses critical model parameters &/or discrete policy questions
 - Pool resources within a domain
 - Case study approach for scientific progress

Recent Research Projects

- Mitigation: carbon cycle & GHG emissions

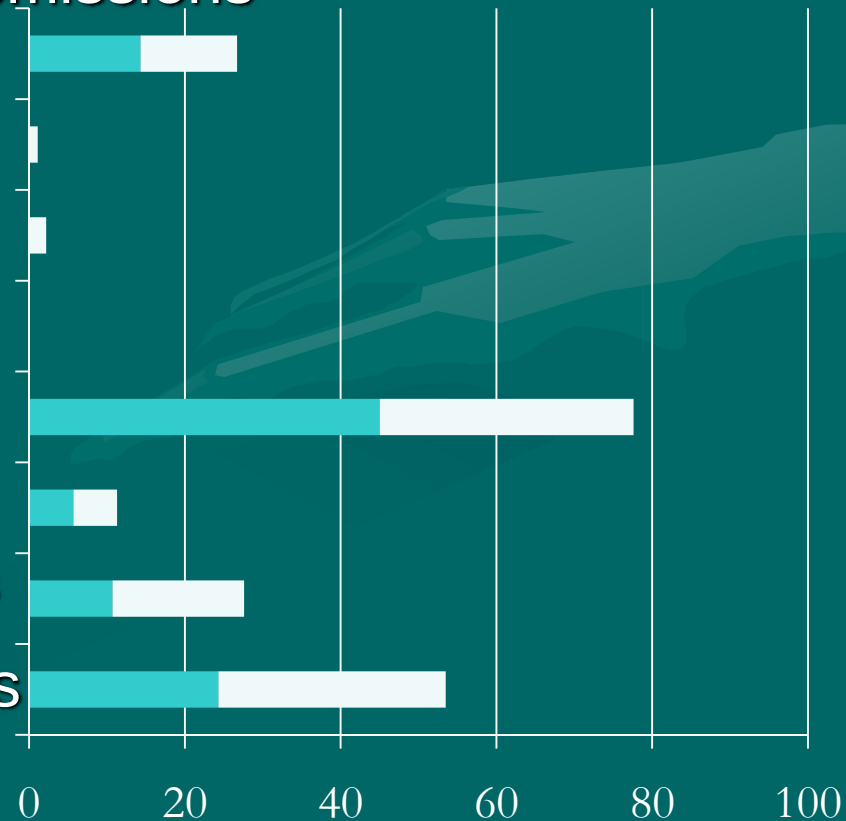
- Ecosystem-focused
- Industrially-focused
- Mitigation-Adaptation integration

- Impacts

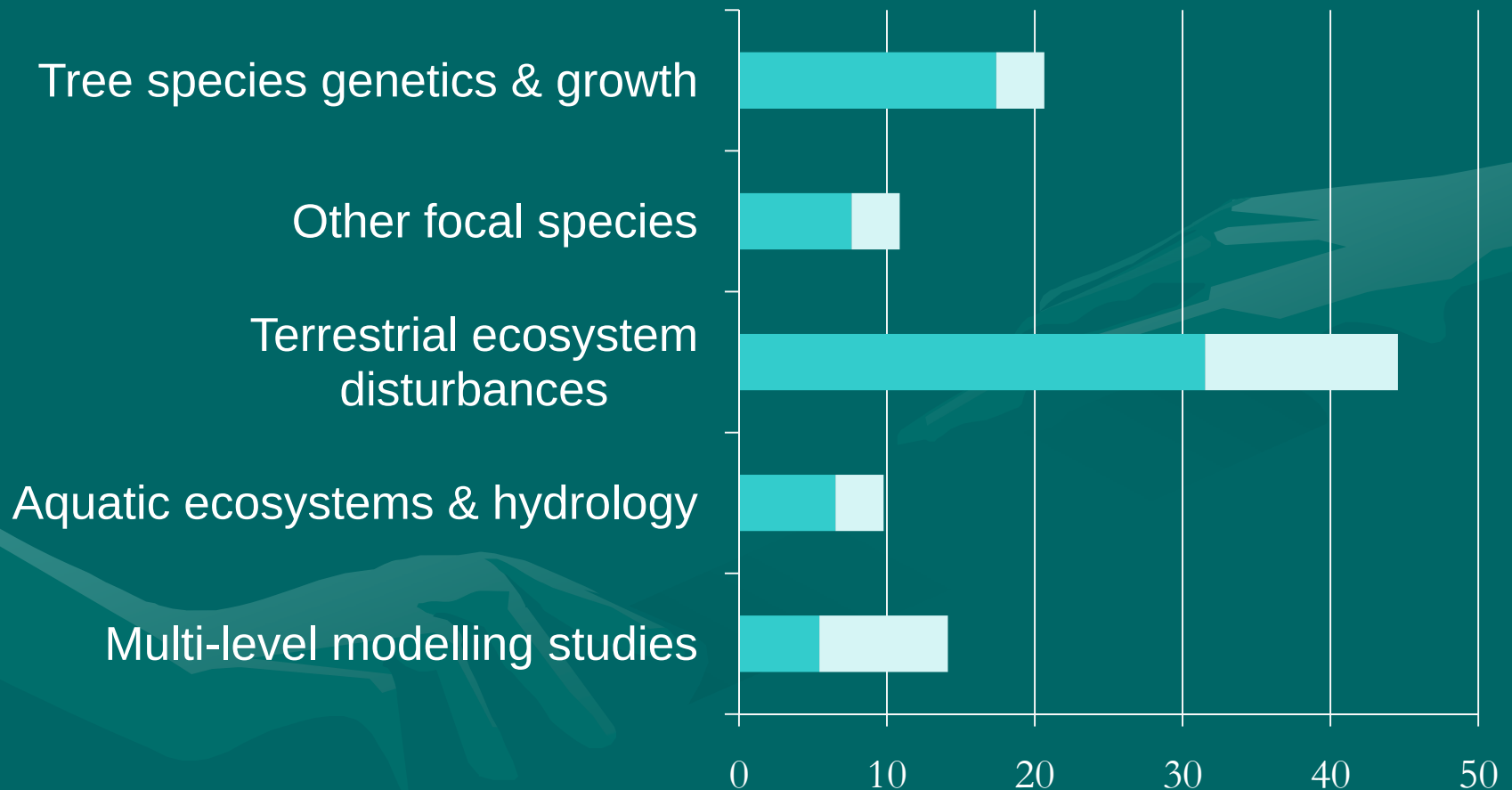
- Predicting impacts on spp. & ecosystems
- Monitoring & Risk Assessment (methods)

- Adaptation of Policies & Practices

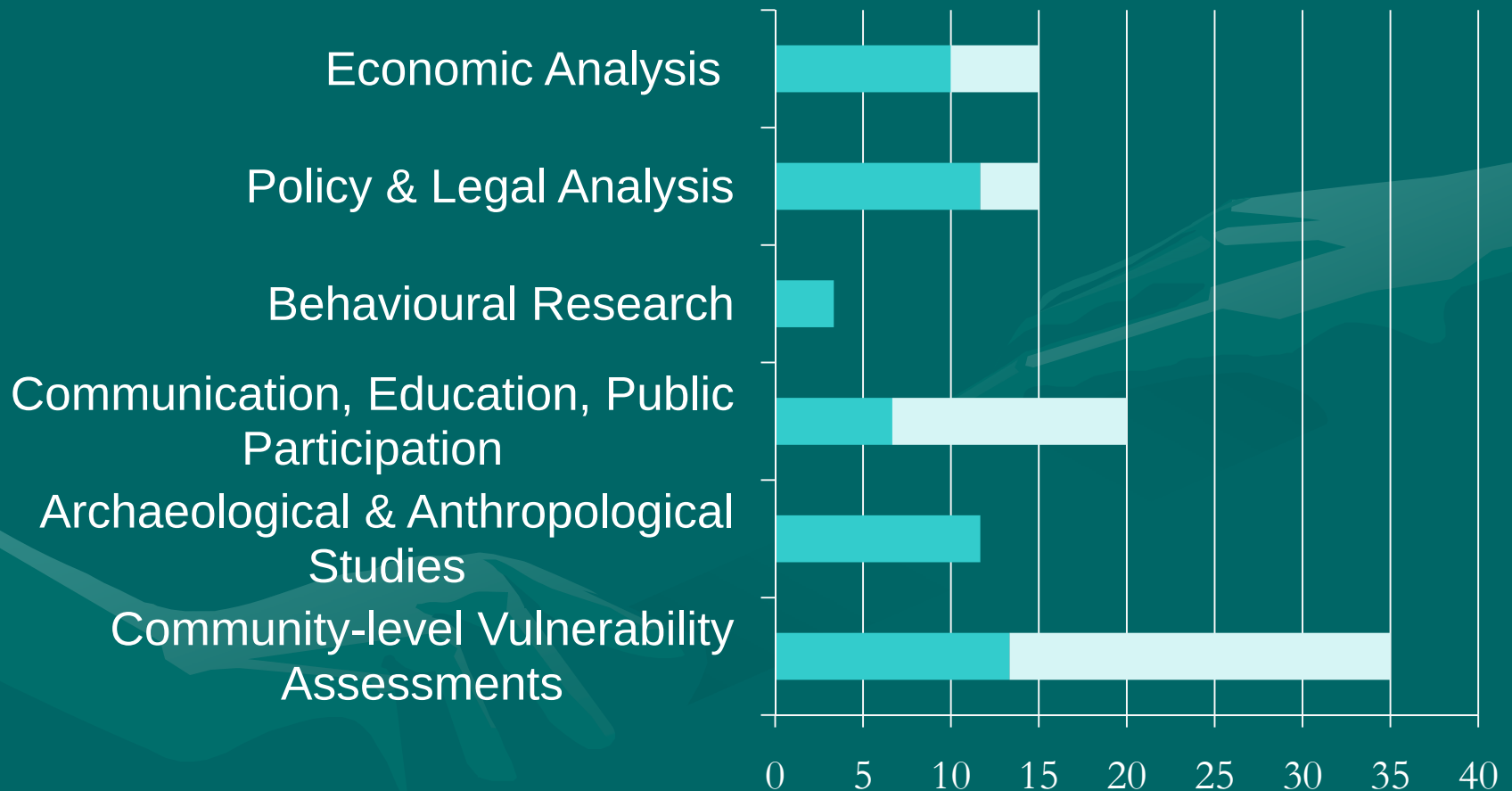
- Social & Economic Consequences



Impacts on Species & Ecosystems



Social & Economic Consequences



Identified Needs

- Integrate Mitigation & Adaptation
- Shift from Impacts to Adaptation
- Break down barriers between Spp. & Ecosystem Impacts vs. Social & Economic Consequences
- Integration of these themes/stages via feedbacks and adaptive management

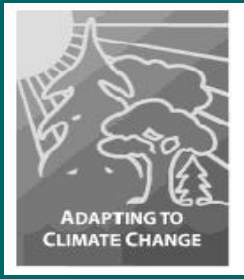


Classification/categorization of research invariably creates barriers to integration!



*BC needs fewer ecologists and
more ecological economists!*



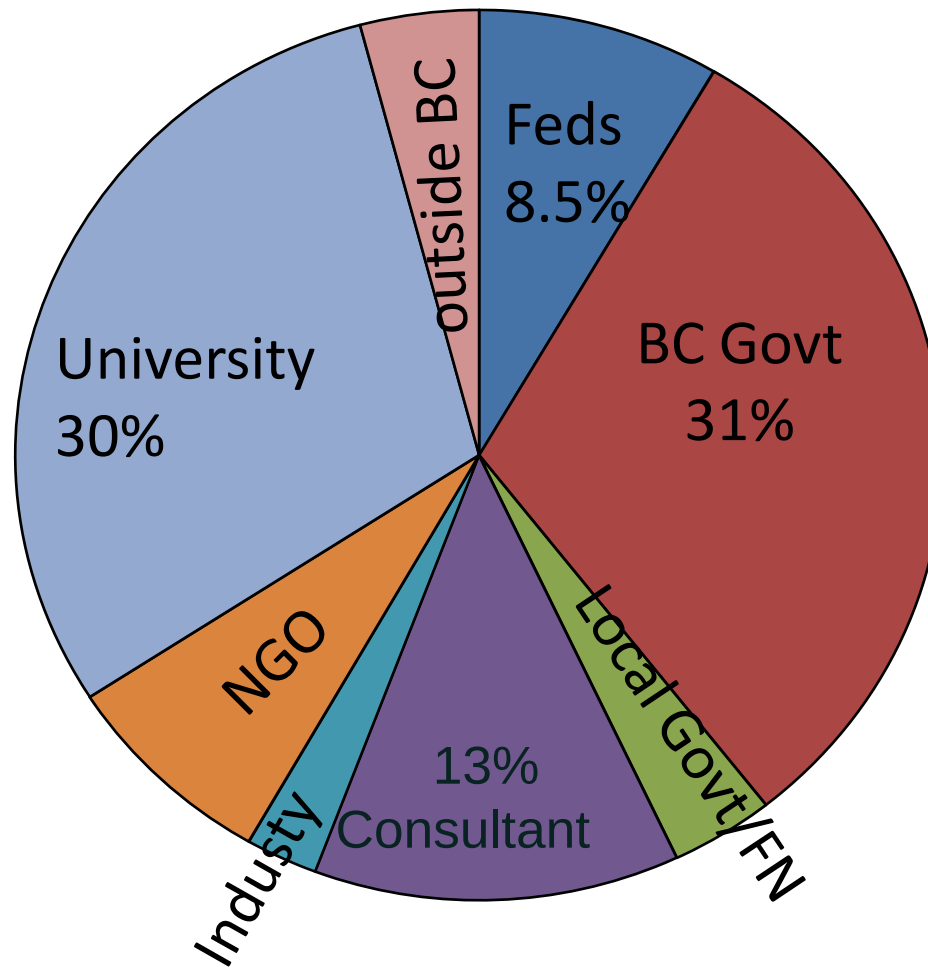


EOI Results

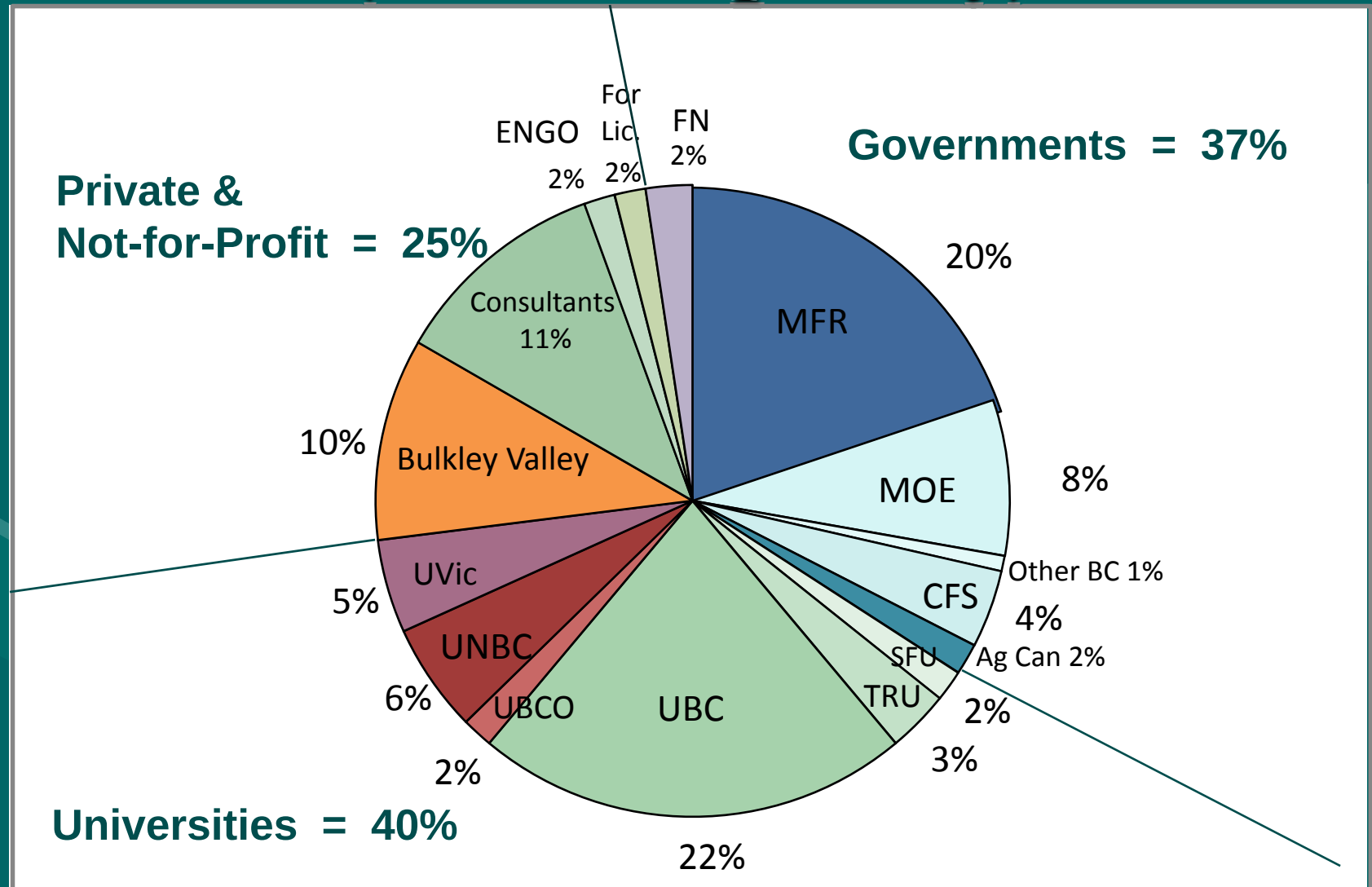
- 168 EOIs received – 556 unique team members
- 95 Project Leaders/Representatives Invited (representing at least 116 EOIs)
- Who are we?
- What do we want to do?
- Are there any emergent themes?
- How well do EOIs coincide with needs?

Team Member Affiliations

All EOIs



Project Leader Affiliations (Workshop Only)





Researcher Networks

Top 10 best connected “Mavens”

3 tied at 12 EOIs, remainder 7 - 11 each

Included:

Climatologists (3)

Managers (3)

Silviculturists (2)

Hydrologist (1)

Climate geographer (1)

Vegetation ecologist (1)

Wildlife ecologist (1)

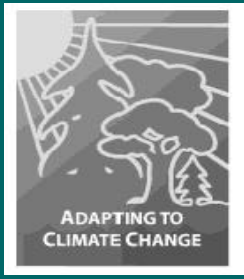
Affiliations:

MFR (3), UBC(2),

UVic/PCIC (2)

Bulkley Valley (2)

UNBC (1)



Themes/Structure

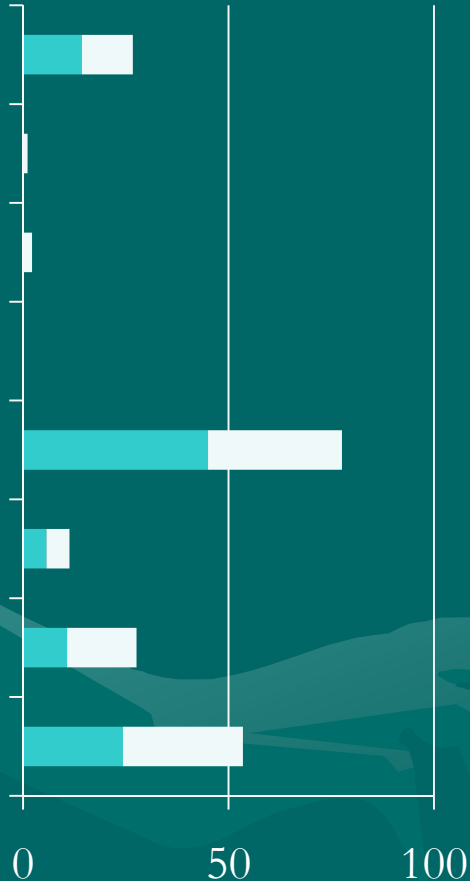
- IPCC stages: Impacts, Adaptation, Vulnerability, Integration
- Disciplines: Trees, Wildlife/Biodiversity, Ecosystem Aquatic
- Scales of Inference: organism, stand, landscape, region, province
- Geographic scope: boreal, S. Int, coastal, province-wide
- Sources of data: lab, field, PSP, monitoring network, literature, survey
- Anticipated products: model, map, decision support tool

NMS Ordination

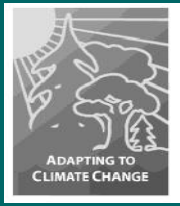
Three Major Axes

- Aquatic ----- Ecosystem/Wildlife ----- Trees
- Human-Cultural ----- Climate Science
- BC-wide ----Integrated Case Study----Local Trial

Comparing Past to EOI



- Mitigation: 14%
 - Ecosystem-focused 2%
 - Industrially-focused
 - Mitigation-Adaptation integration 12%
- Impacts ~25-30%
 - Predicting impacts on spp. & ecosystems
 - Monitoring & Risk Assessment (methods)
- Adaptation of Policies & Practices ~60%
- Social & Economic Consequences
 - 24% major / 24% minor

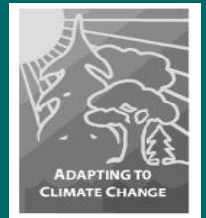


Province-Wide

- Downscaling & improving climate & models
- Predicting wildfire risk
- Synthesis of Disturbance Regimes
- Climate-based seed transfer system
- Monitoring networks for Criteria & Indicators
- Tree species selection strategies
- Forest policy effectiveness assessment

Proposed Case-Studies

- Highly Integrated
 - Kimberley vulnerability study
 - Bulkley-Valley/Northwest BC
 - Kamloops Future Forest Strategy
- More Forestry-Focused?
 - Williams Lake TSA Northwest Coast forest adaptation
 - Campbell River TSA Revelstoke Community Forest
 - Quesnel TSA Inland ICH rainforest
- Water-Focused
 - Okanagan-Similkameen
 - North Okanagan watersheds
- Rangeland-Focused
 - Caribou-Chilcotin



Thanks, and have a valuable workshop



Francois Lake