Forest Change

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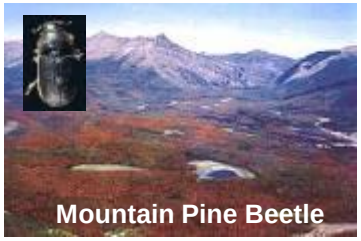
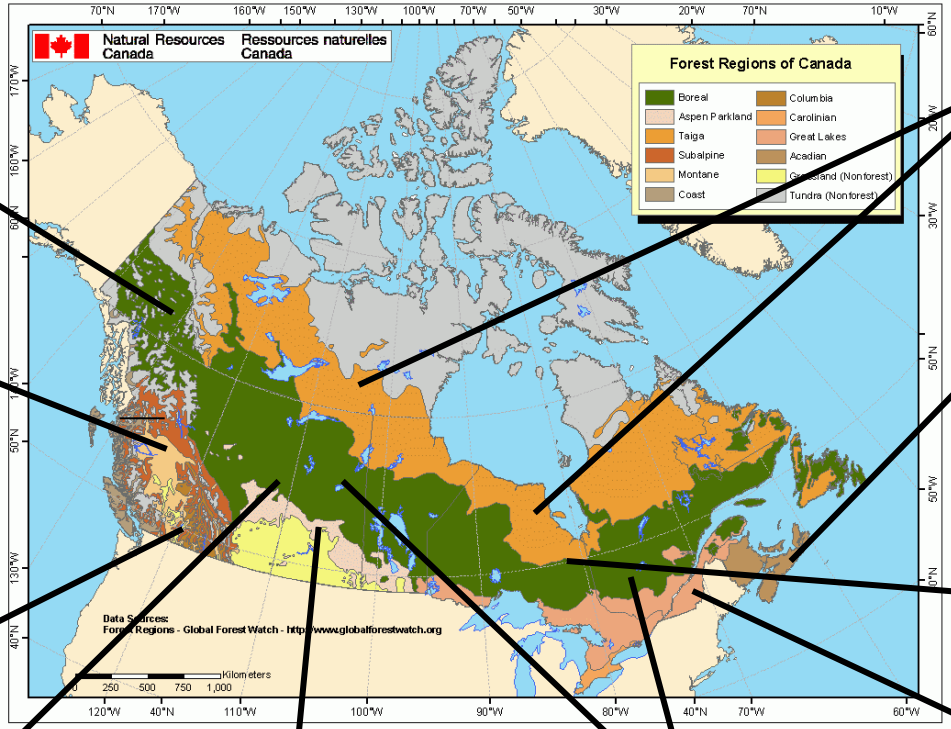
Canadian Forest Service, Natural Resources Canada

Ressources naturelles Canada
Natural Resources Canada

Canada

Climate Change impacts are already evident





Enhancing Competitiveness of Canada's Forest Sector in a Changing Climate

In budget 2011, Government of Canada announced a new adaptation program which includes funding for the Canadian Forest Service.

Forest Change is CFS conribution to this new program.

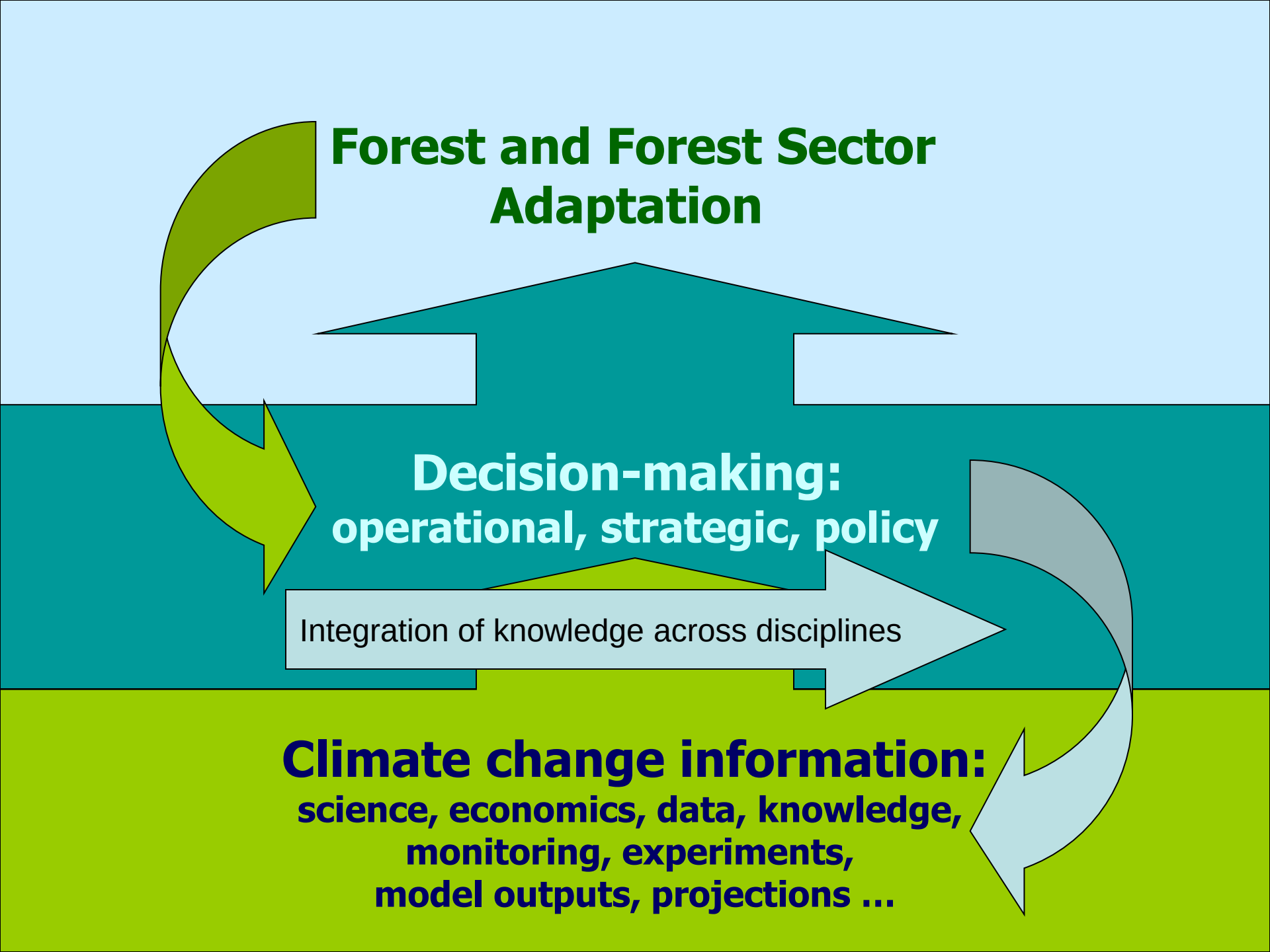
Canada

Forest governance in Canada

- 77% of Canada's forest is under provincial jurisdiction
- The forest industry has management responsibilities through legal arrangements with provinces

Canadian Forest Service (CFS) contribution to forest sector adaptation

- CFS is a science-based policy organization
- There is already significant capacity and knowledge in climate change science in the CFS and globally
- Decision-makers often say that there is ***too much information*****!**
- Information has to be available and accessible. It also has to be applicable


Forest and Forest Sector Adaptation
Decision-making:
operational, strategic, policy
Integration of knowledge across disciplines
Climate change information:
science, economics, data, knowledge,
monitoring, experiments,
model outputs, projections ...

Forest Change Portal:
A focal point for information and tools

1. **A tracking system** that reports on indicators of climate change impacts to identify forest sector vulnerabilities
2. **An adaptation toolkit** of actionable science for sustainable forest management under a changing climate
3. **Integrated assessment** of climate change implications for the forest sector to guide policies and investment

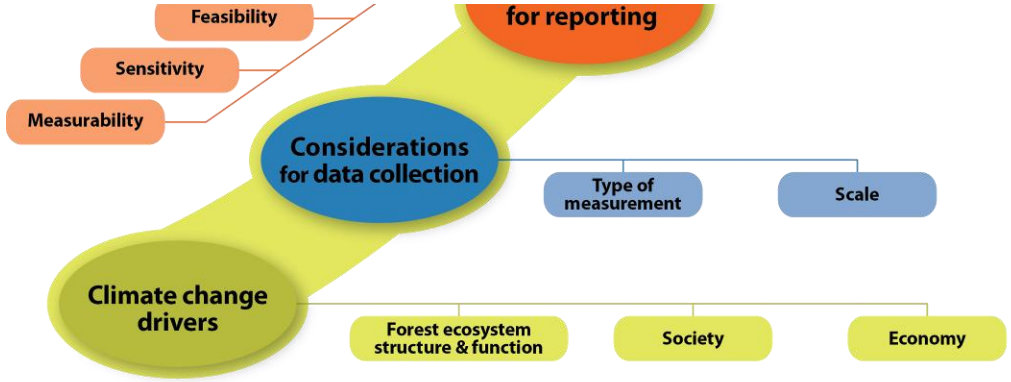
Tracking Climate Change Impacts

- Monitoring is necessary to make adaptation decision – Where and how to adapt?
- Monitoring is highly resource consuming given the size and remoteness of our forests
- Information is collected and compiled for many different reasons and by several agencies, institutions and industries in Canada

Tracking Climate Change Impacts - The *diagnosis tool*

- To report on relevant and useful indicators
- Building on existing monitoring efforts
- Optimizing the use of new technology

Opportunity for cross-border collaboration



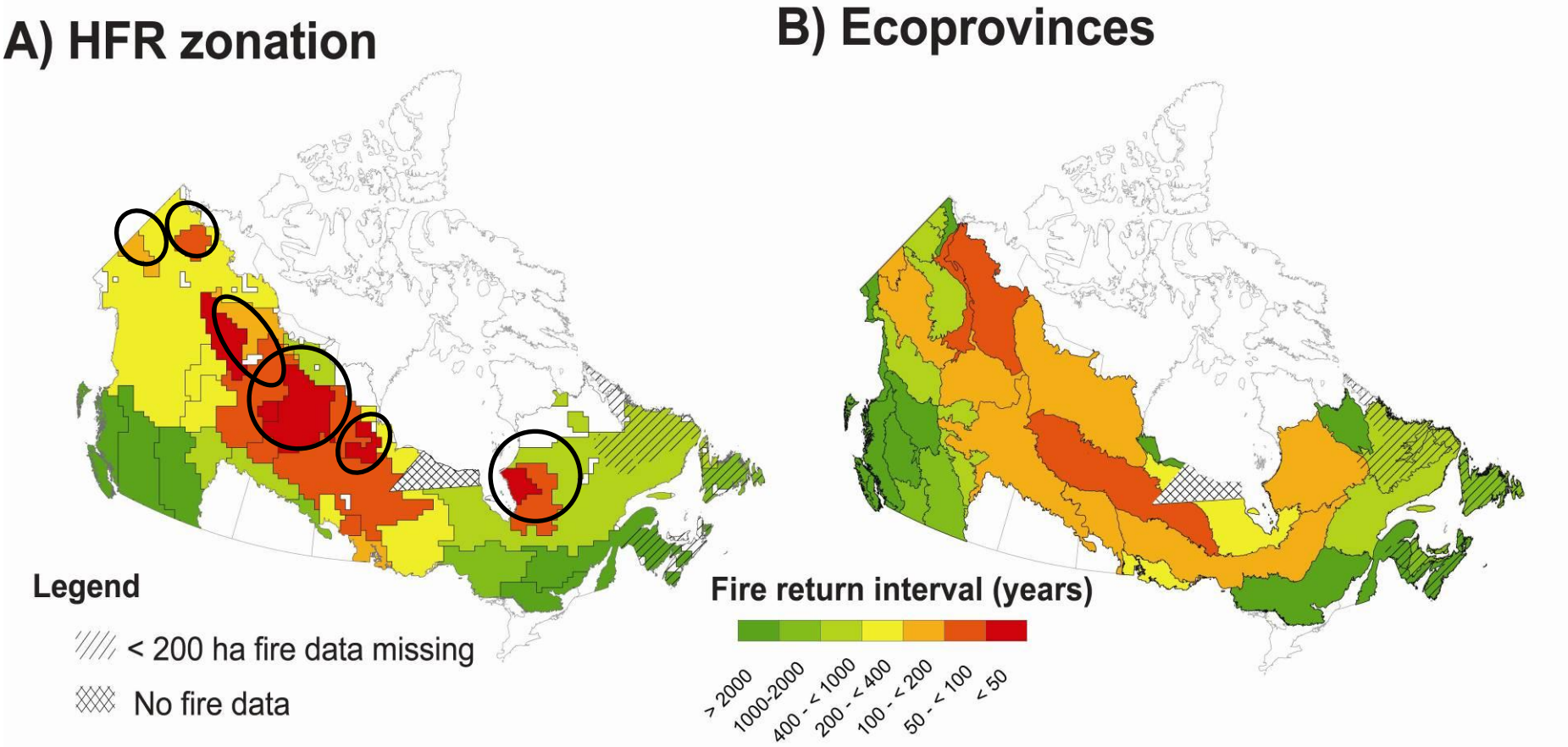
Gauthier, Sylvie, Burton, Phil, and others

The Adaptation Toolkit
- Actionable science – projection tools

- Building on existing work
- Consultation with end-users from the beginning and throughout the development of information products
- Integration of knowledge across disciplines

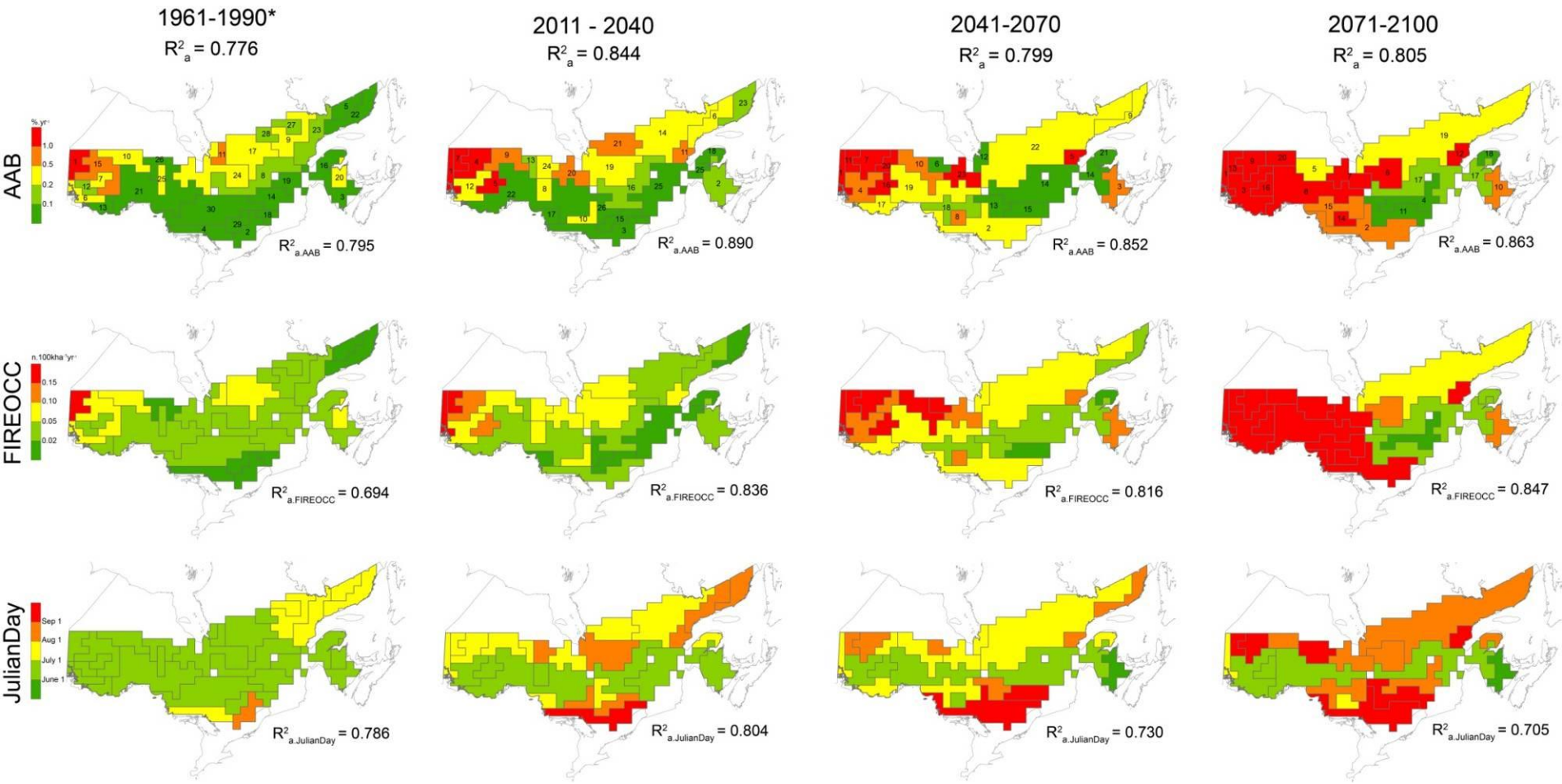
Disturbance Zonation

Yan Boulanger, Sylvie Gauthier & Philip. J. Burton



Projected fire regimes

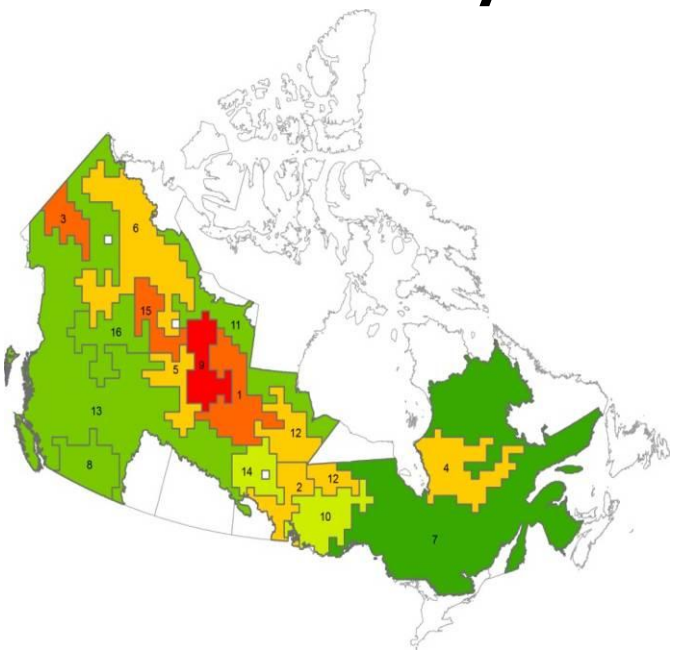
Yan Boulanger, Sylvie Gauthier & Philip. J. Burton



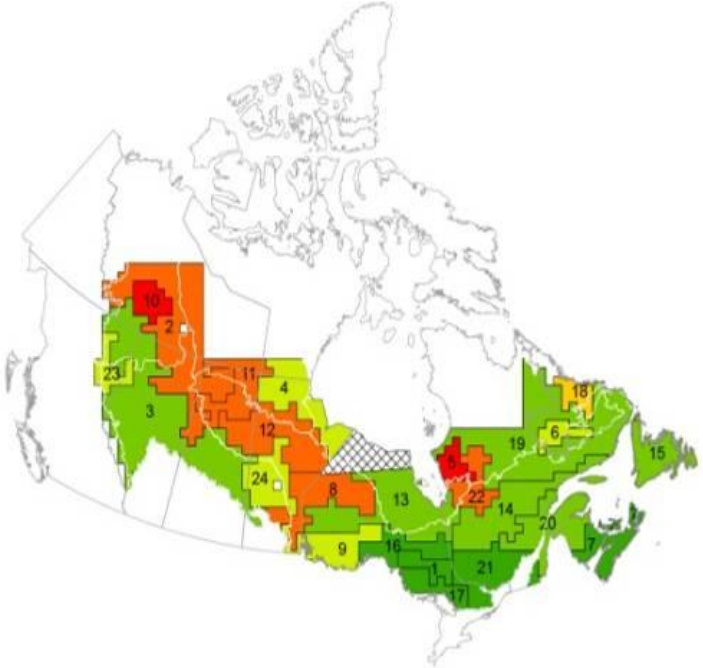
Zonation FIRE x SBW

Yan Boulanger, Sylvie Gauthier & Philip. J. Burton

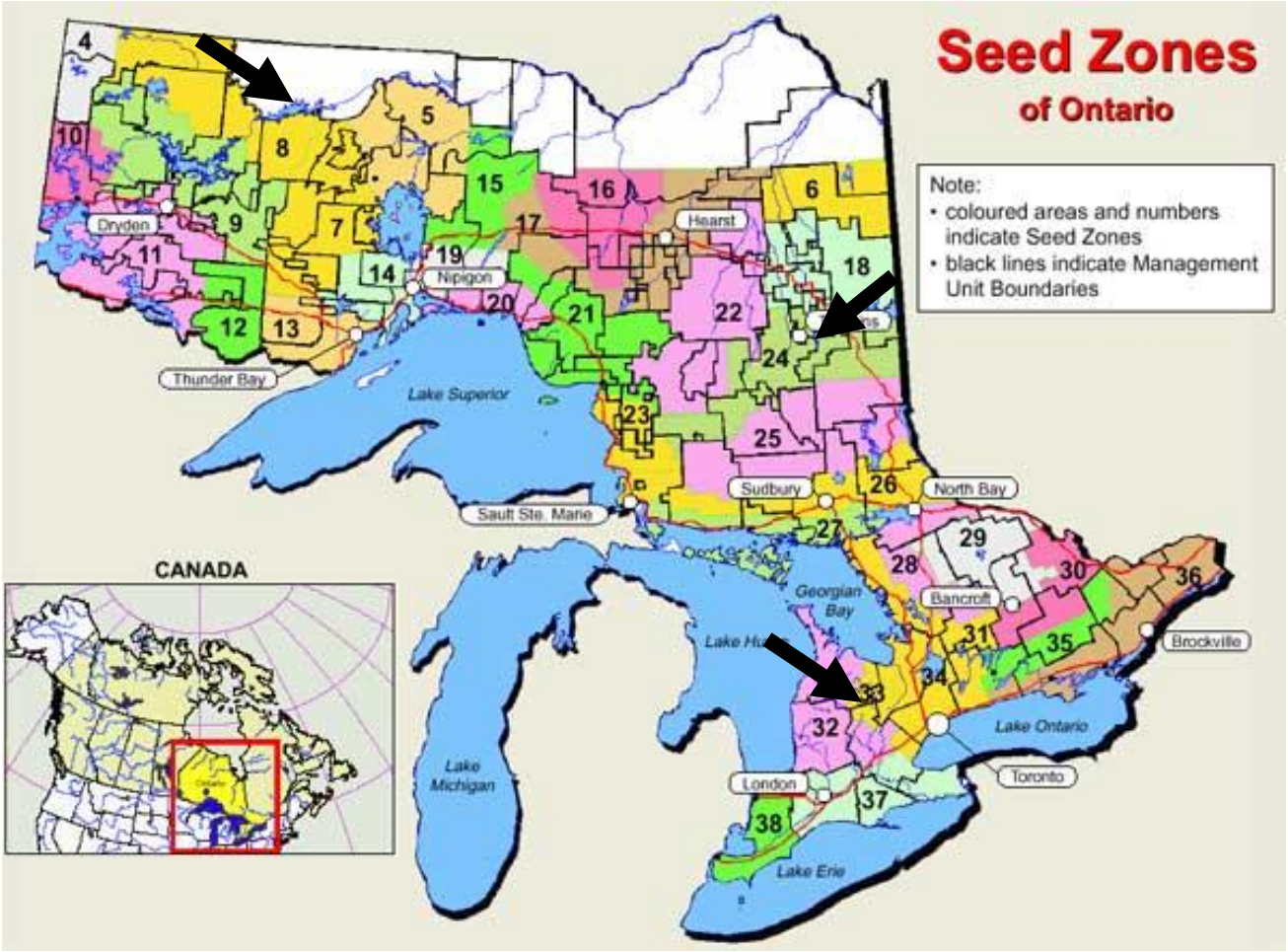
Fire data only



Fire x SBW



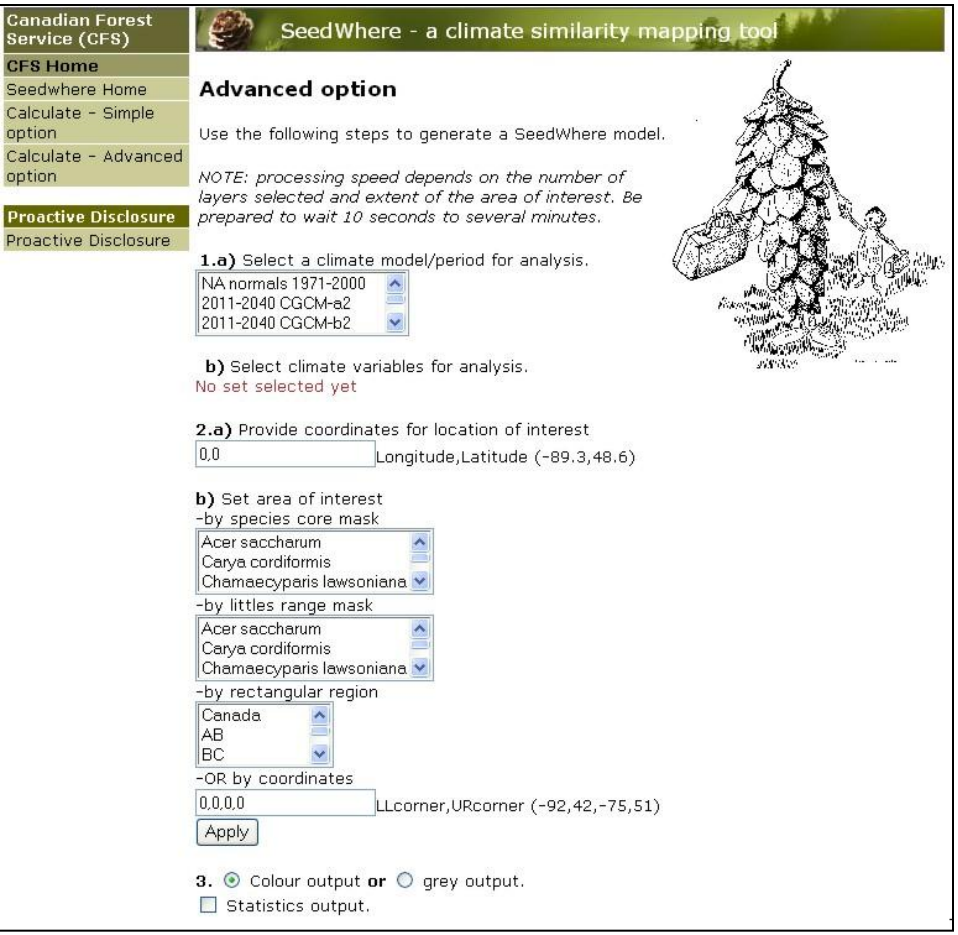
Informing seed transfer decisions



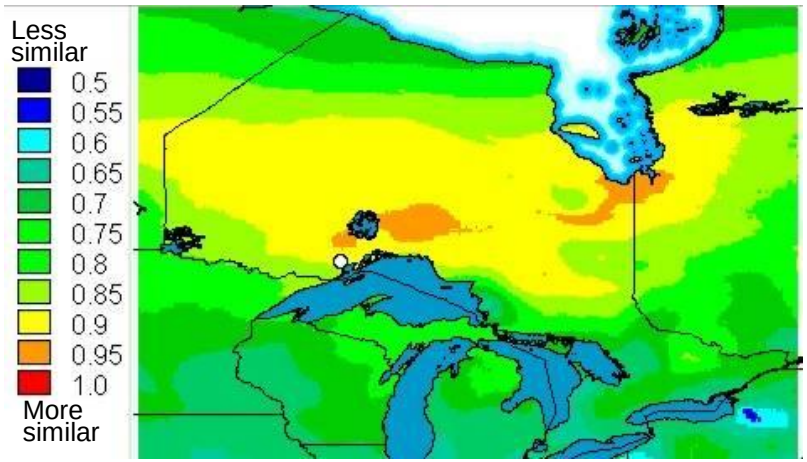
Ontario Ministry of Natural Resources

Seedwhere

Dan McKenney and his team



Climate Variable	Point value	Min value in AOI	Max value in AOI	Range
1.Annual Mean Temperature	13.00	-52.00	115.00	167.00
5.Max Temperature of Warmest Period	238.00	160.00	325.00	165.00
6.Min Temperature of Coldest Period	-239.00	-478.00	-53.00	425.00
12.Annual Precipitation	749.00	437.00	1369.00	932.00
18.Precipitation of Warmest Quarter	264.00	188.00	367.00	179.00
19.Precipitation of Coldest Quarter	120.00	39.00	333.00	294.00



The functional trait approach

Isabelle Aubin

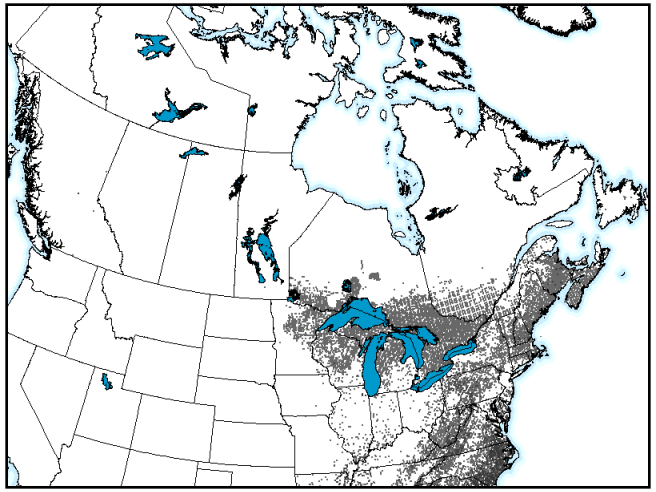
TOPIC

Traits of Plants in Canada

A Canadian network of plant functional trait data

The functional trait approach

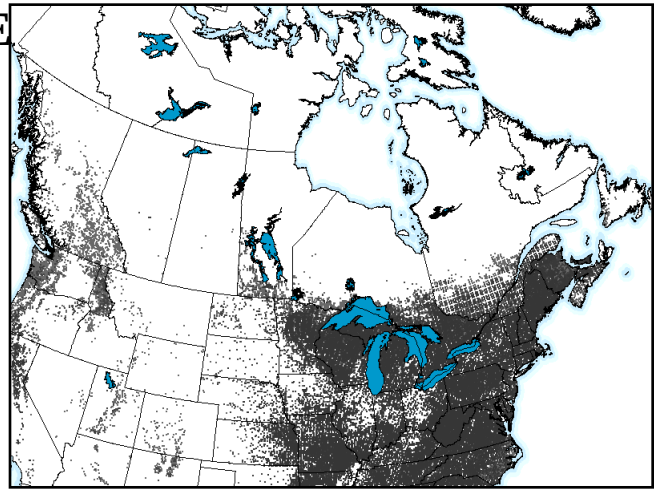
Isabelle Aubin

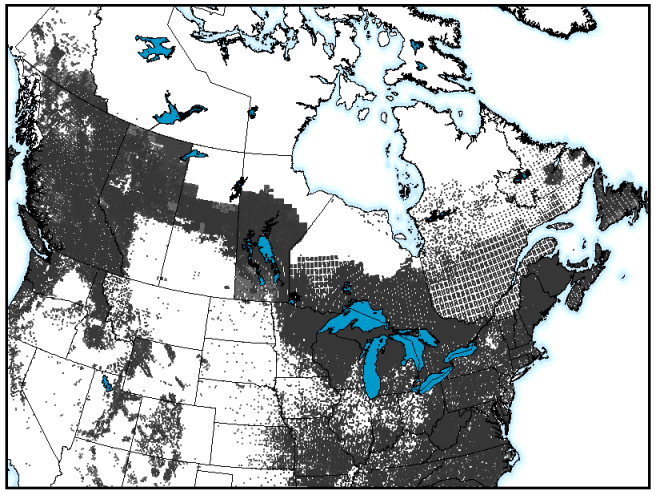


DROUGHT TOLERANCE

No tolerance

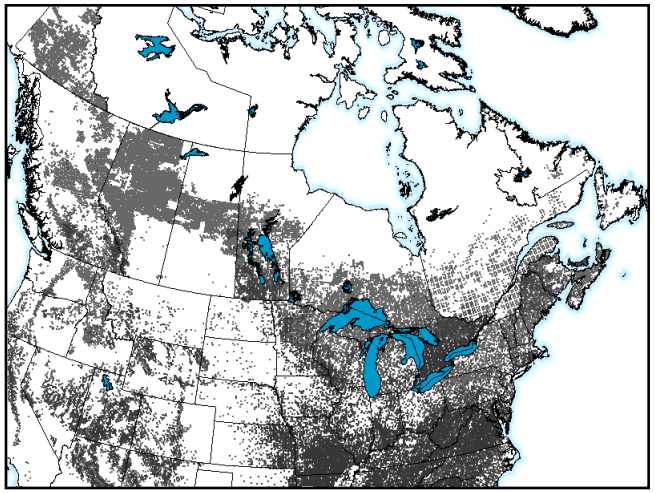
Medium tolerance





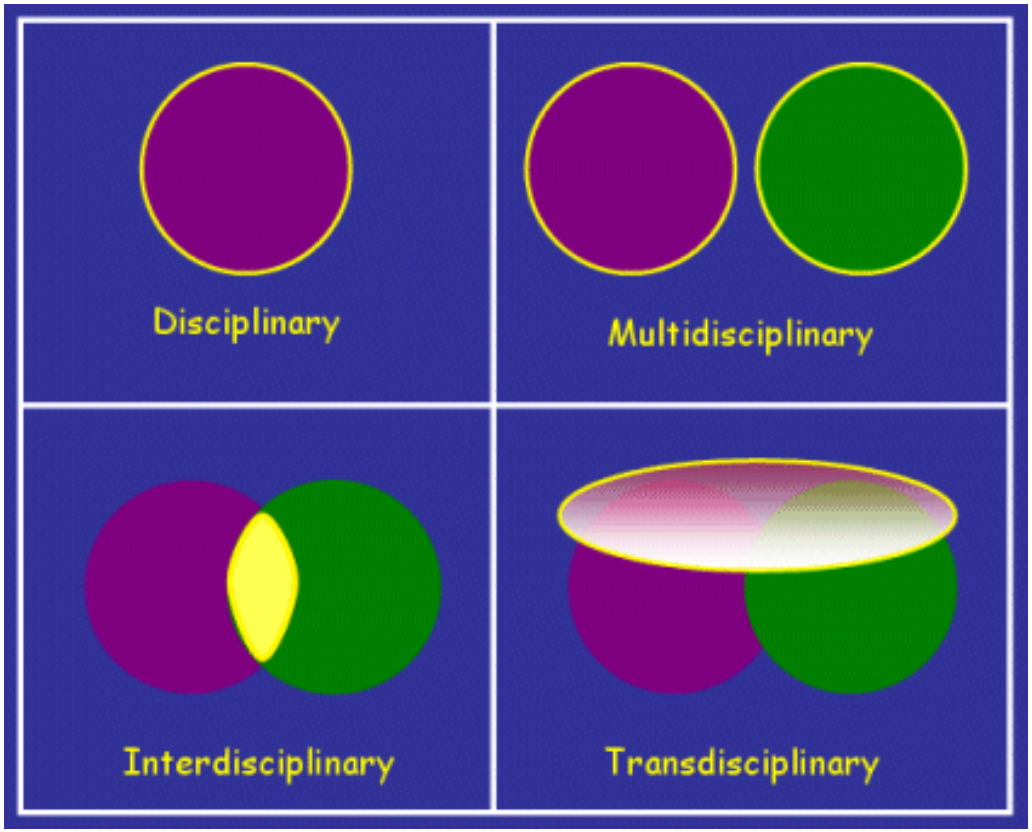
Low tolerance

High tolerance



Integrated assessment

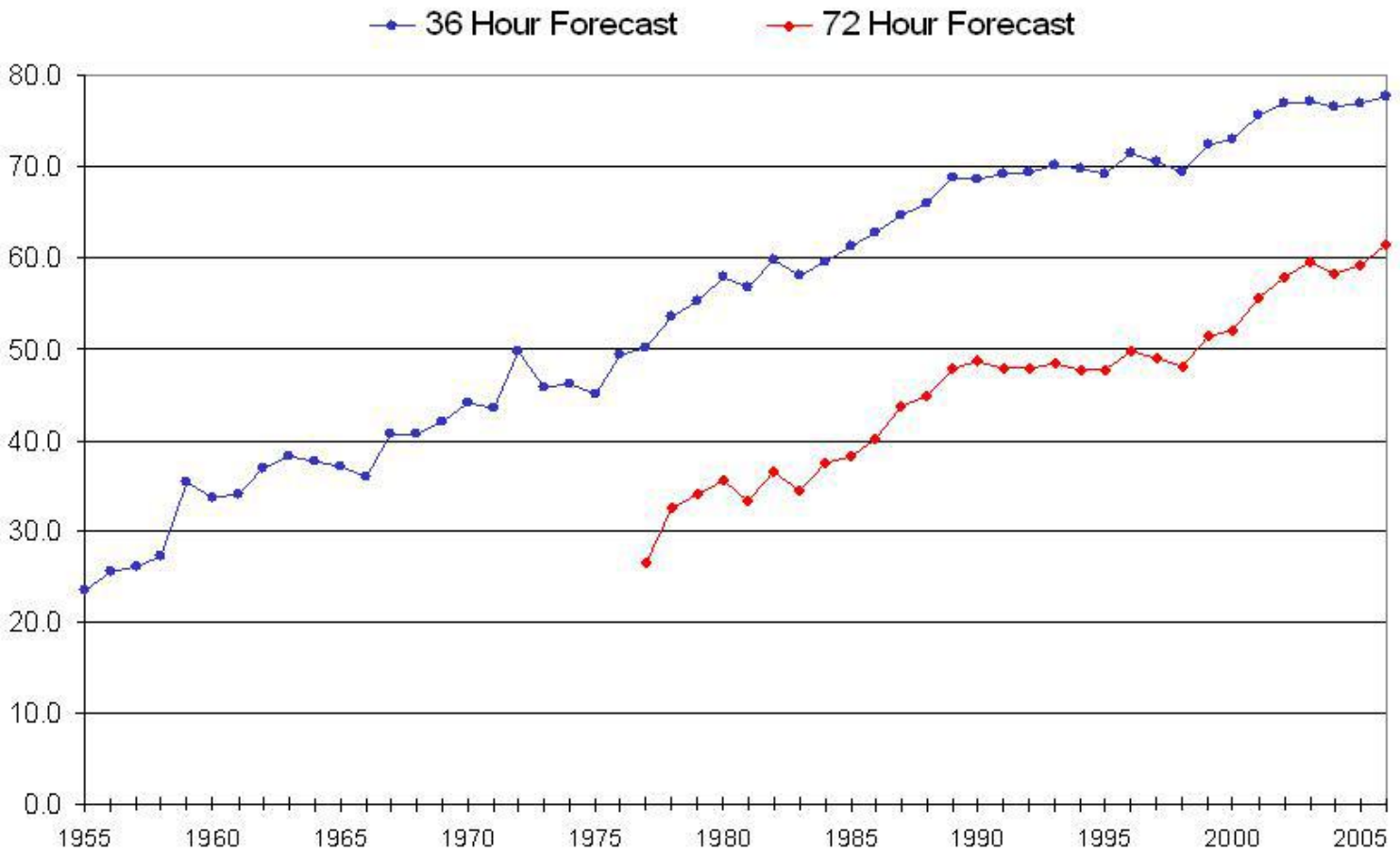
→Working across multiple disciplines: combining socio-economic, practitioners, policy and scientific knowledge



NCEP Operational Forecast Skill

36 and 72 Hour Forecasts @ 500 MB over North America

[100 * (1-S1/70) Method]



NCEP Central Operations January 2007

Merci! Thank you!

“The future ain't what it used to be”

-Yogi Berra