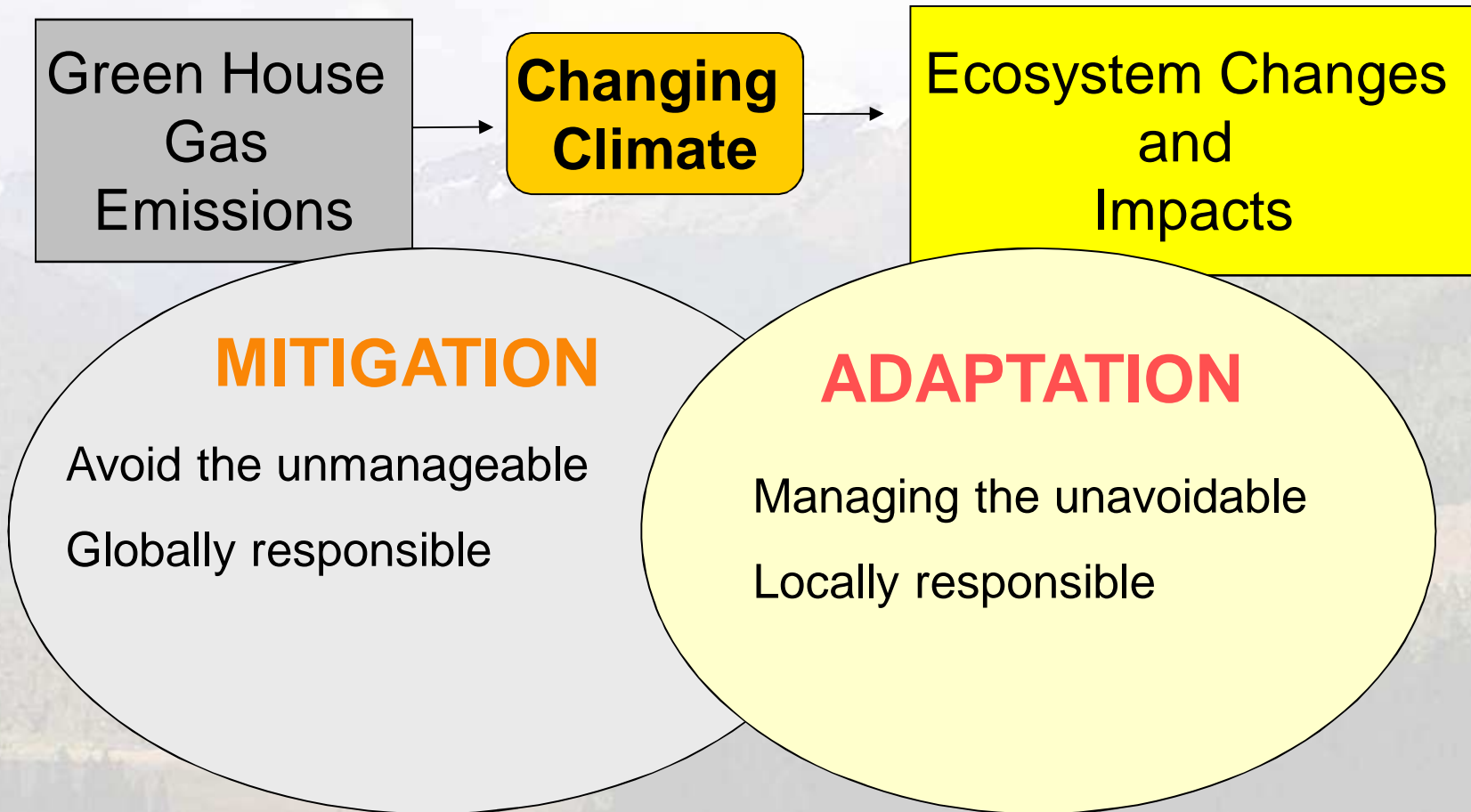

Adapting to a Changing Climate: Impacts, Opportunities & Tools for BC CFs

BCCFA AGM

May, 2012

Cindy Pearce, Panel Moderator

TWO Aspects of Climate Change



Adaptation is a Business Issue



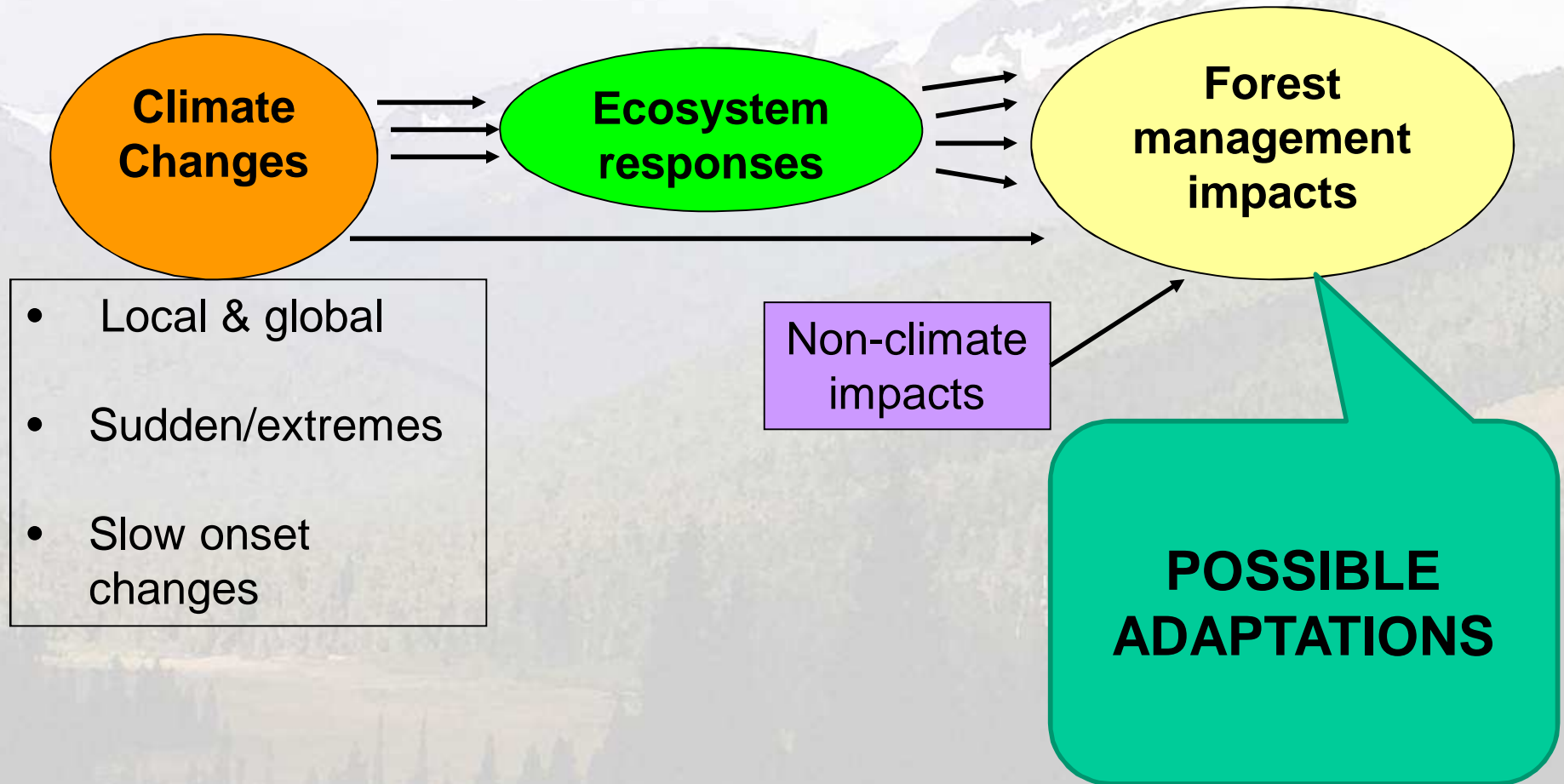
World Business Council for Sustainable Development

FACT members	Company	Country	
Anne Lauvergeon	Areva	France	Co-Chair
Eivind Reiten	Norsk Hydro	Norway	Co-Chair
Chad Holliday	DuPont	USA	Co-Chair
Charles Taylor	Chevron	USA	
Andrew Brandler	CEP Holdings	SAR Hong Kong (China)	
Henrik Madsen	Det Norske Veritas	Norway	
Pierre Gadonneix	EDF	France	
Christoph Dänzer-Vanotti	E.ON	Germany	
Jacob Maroga	Eskom	South Africa	
Dave Kepler	DOW Chemical	USA	
Elizabeth Lowery	General Motors	USA	
Jorma Ollila	Royal Dutch/Shell	Holland/UK	
Wang Jiming	Sinopec	China	
Richard George	SUNCOR	Canada	
Teruaki Masumoto	TEPCO	Japan	
Ernesta Ballard	Weyerhaeuser	USA	

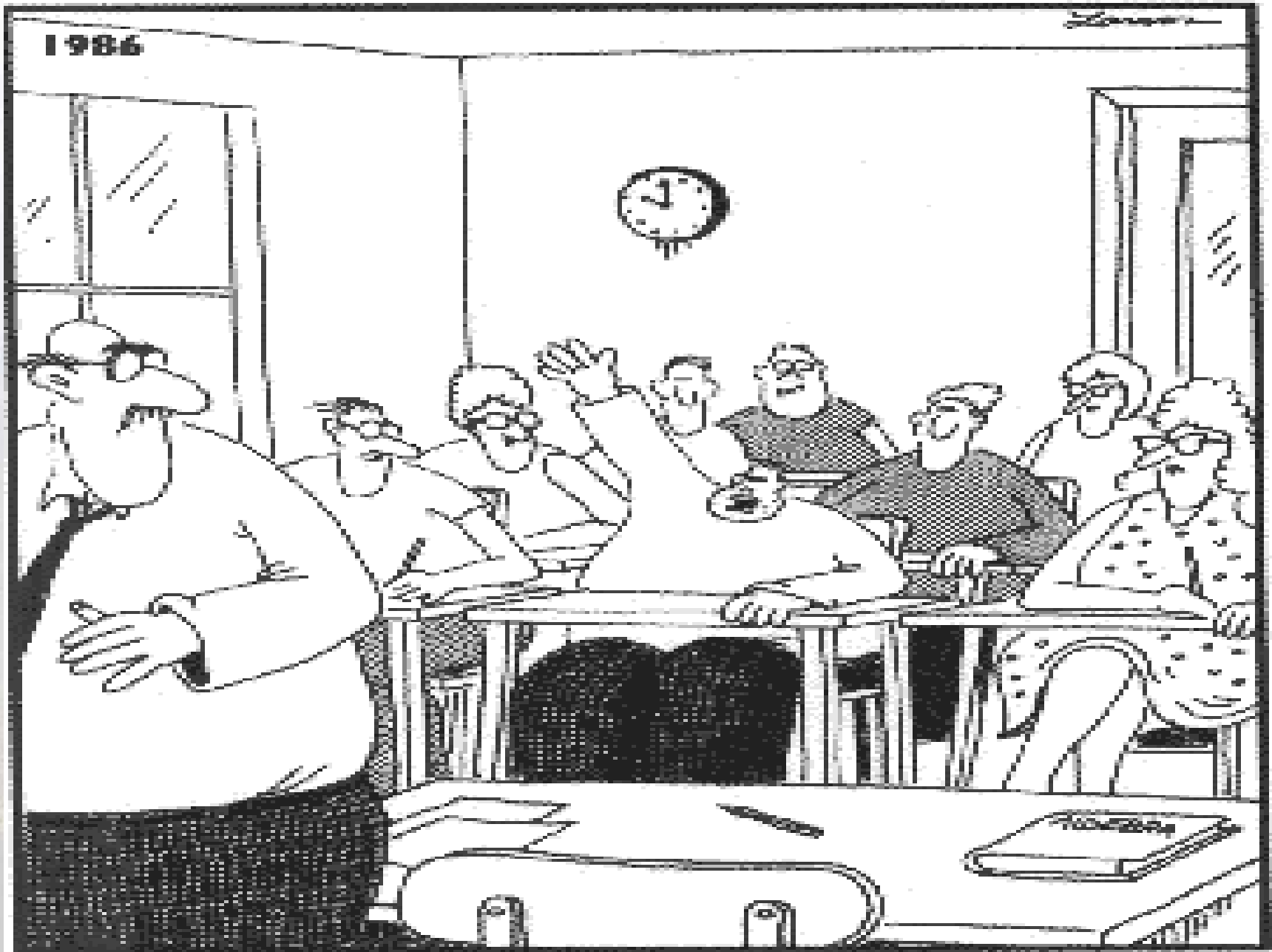
Panel Members & Topics

- Dave Peterson, CF & ADM, MFLNRO - **Why should I adapt?**
- Dr. Mel Reasoner - **Past and future climate changes in BC's regions**
- Greg Utzig, Kutenai Nature Investigations – **West Kootenay impacts case study**
- Ken Day, Manager, UBC Alex Fraser Research Forest – **One manager's response**
- Ella Furness, UBC Forestry Masters Candidate - **Adaptive capacity of BC CFs**
- Closing - What you can do & Workshop tomorrow

Observations of Changes?







"Mr. Osborne, may I be excused? My brain is full."

Possible Adaptive Actions

MANAGEMENT DIRECTION

1. Adaptive actions / direction



Planting different tree species.



Targeted Harvesting



Other Stand Treatments



Integrated Strategic Planning

Next Steps for CFs?

- **Learn** about **local** changes & impacts
- **Collaborate** w/ MFLNRO, public, etc.
- **Analyse** vulnerabilities/risk & **decide** on robust adaptations
- **Monitor & refine**



Resources – See handout

- **Climate**
 - Past (Environment Canada climate normals)
 - Future scenarios (PCIC Plan2Adapt)
- **Impacts & adaptations** – Regional projects & researchers, most recent edition of BC Journal of Ecosystem and Management
- **Analyze & decide** – Business risk management, Ohlsen et. al, 2005, Alberta Framework, etc.
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DNA for Success in Uncertain Times

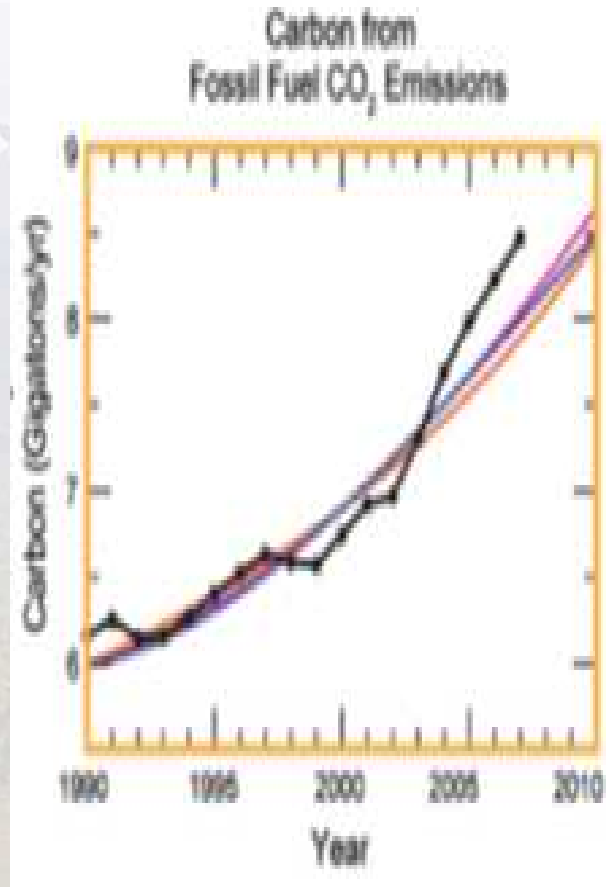
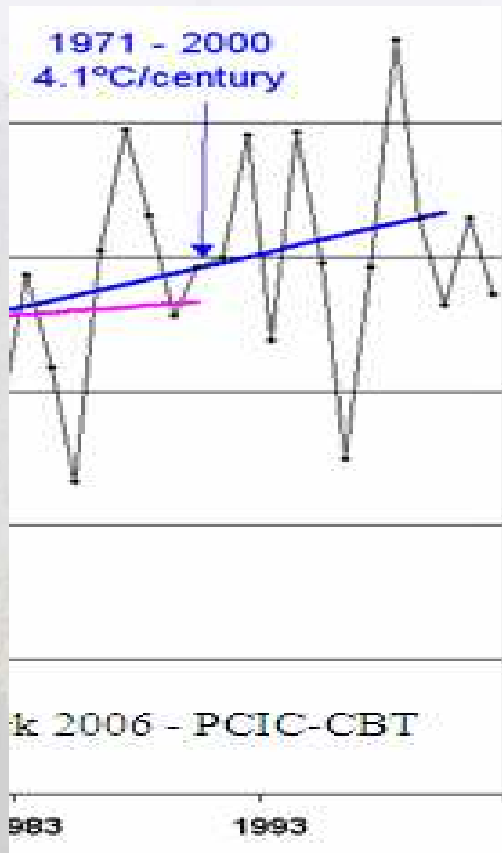
- Quick learners
- Flexible
- Prepared for surprises
- Bravery to embrace change
- Wide information networks (research, data, thinkers and observers)
- Decision systems that lead to robust, no regrets strategies
- Rapid response capacity **≡ BC CFs!**

Workshop Tomorrow

- ?? for Mel, Greg, Ken and Ella
- 3 regional discussions
 - Impact charting
 - Risk scan
 - Possible adaptations
- What info/support do you need to adapt??



Should You Prefer to Rely on the Past...



**2050s Summer
Highest CC for
WK**

+ 4-5 degrees

- 15 to ~30%
less precip

Think adaptively!
Good luck!!!

Cindy Pearce, RPF
Mountain Labyrinths Inc.
250 837-3966
cindypearce@telus.net





WORKSHOP

A QUICK Scan of Impacts & Adaptations for your CF

- Questions?
- Regional impact charting
- Risk/opportunity/challenge scan
- What support you need to adapt?

SMALL DIFFERENCES IN CLIMATE MATTER

Comparison of Climate normal baselines 1961-1990

Community	Mean Annual Temperature (°C)	Mean Annual Precipitation (mm)
Dawson Creek	1.4	487
Prince George	3.7	614
Williams Lake	4.1	426
<u>Cranbrook</u>	5.6	385
Terrace	6.1	1295
<u>Castlegar</u>	8.3	730
Kamloops	8.6	270
<u>Osoyoos</u>	10.0	340
Chilliwack	10.4	1726

Source: National Climate Data and Information Archive –
Canadian Climate Normals
[http://climate.weatheroffice.gc.ca/climate_normals/
index_1961_1990_e.html](http://climate.weatheroffice.gc.ca/climate_normals/index_1961_1990_e.html)

SMALL DIFFERENCES IN MEAN ANNUAL TEMPERATURE MATTER

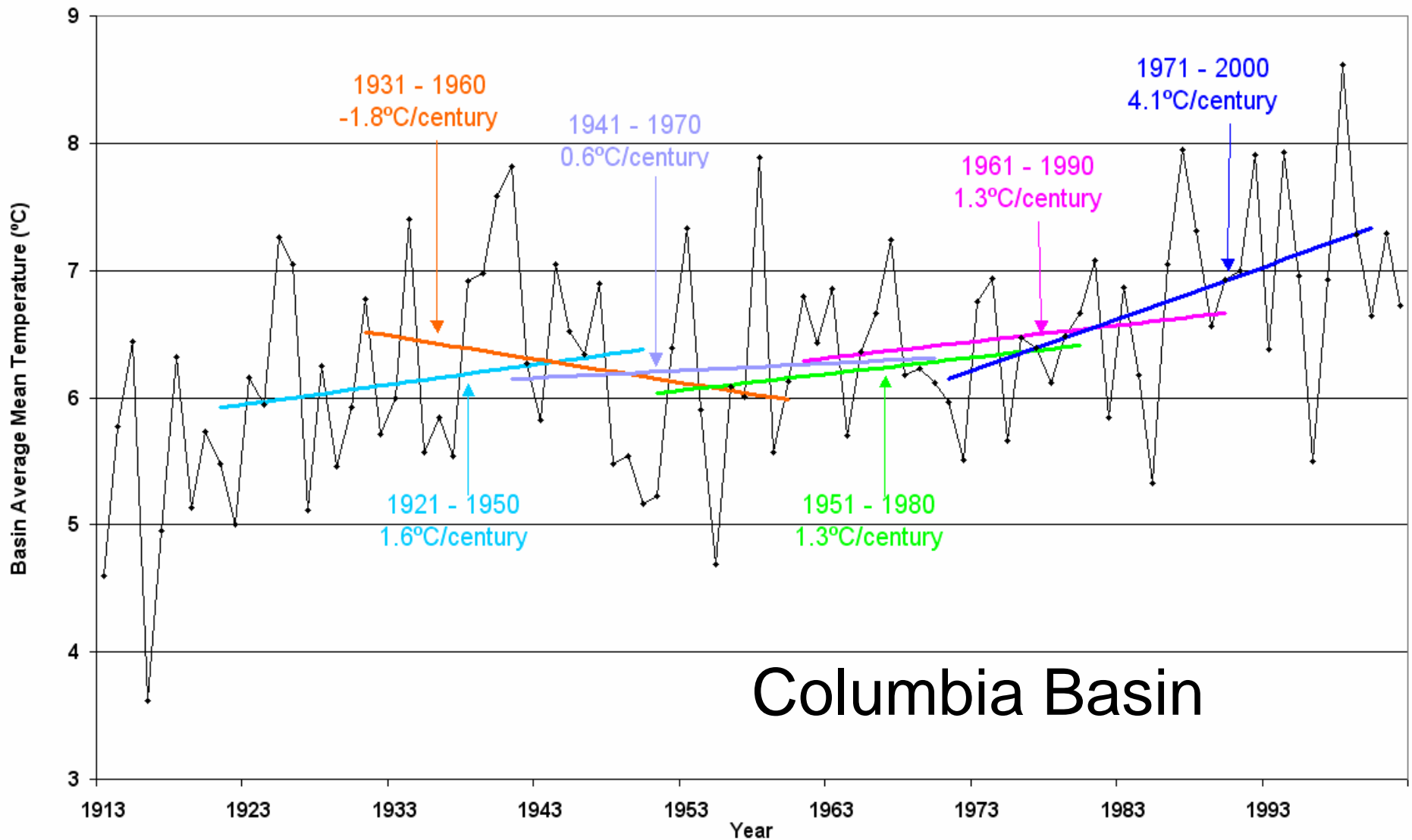
BEC Zone	Mean Annual Temperature (°C)*
AT	-1.8
BWBX	-1.4
SBPS	0.4
ESSF	1.1
MS	2.7
SBS	3.3
IDF	4.2
MH	5
ICH	6.9
PP/BG	8.6
CWH	9.2
CDF	9.5

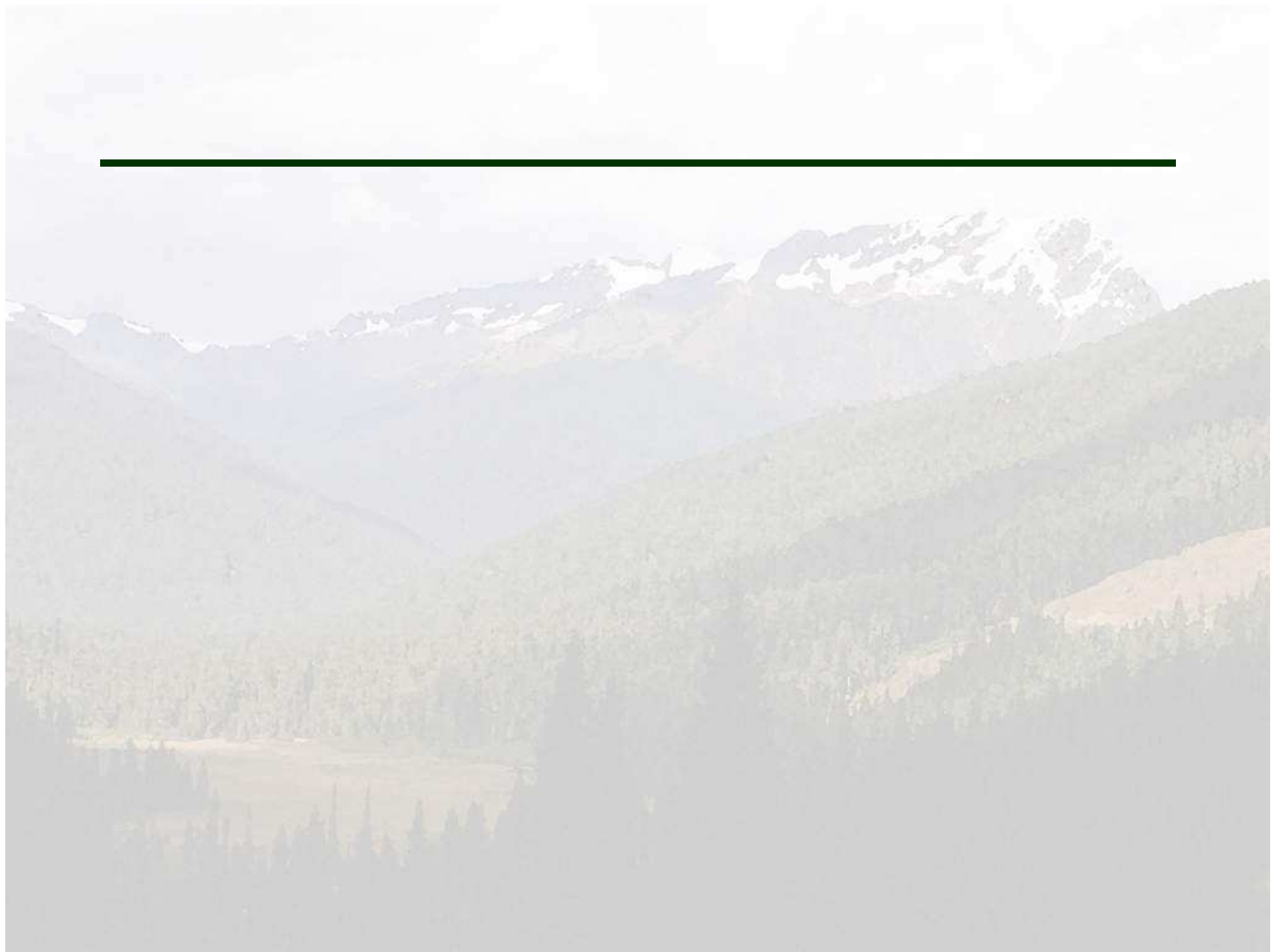
*At representative weather stations

Source: D.V. Meidinger and J. Pojar. 1991. Ecosystems of British Columbia.

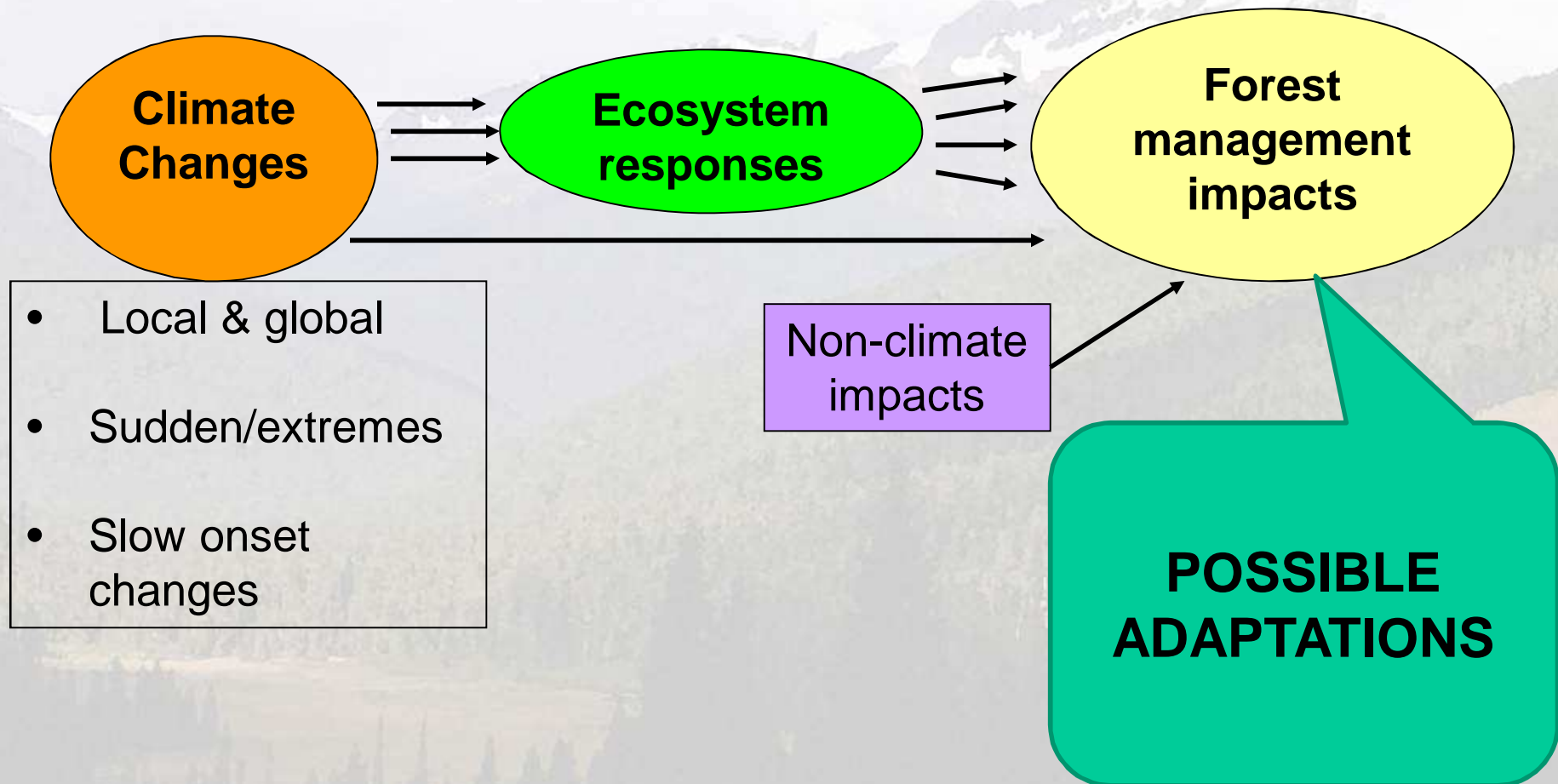
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Srs/Srs06.htm>

Provincial Trends are Happening Regionally

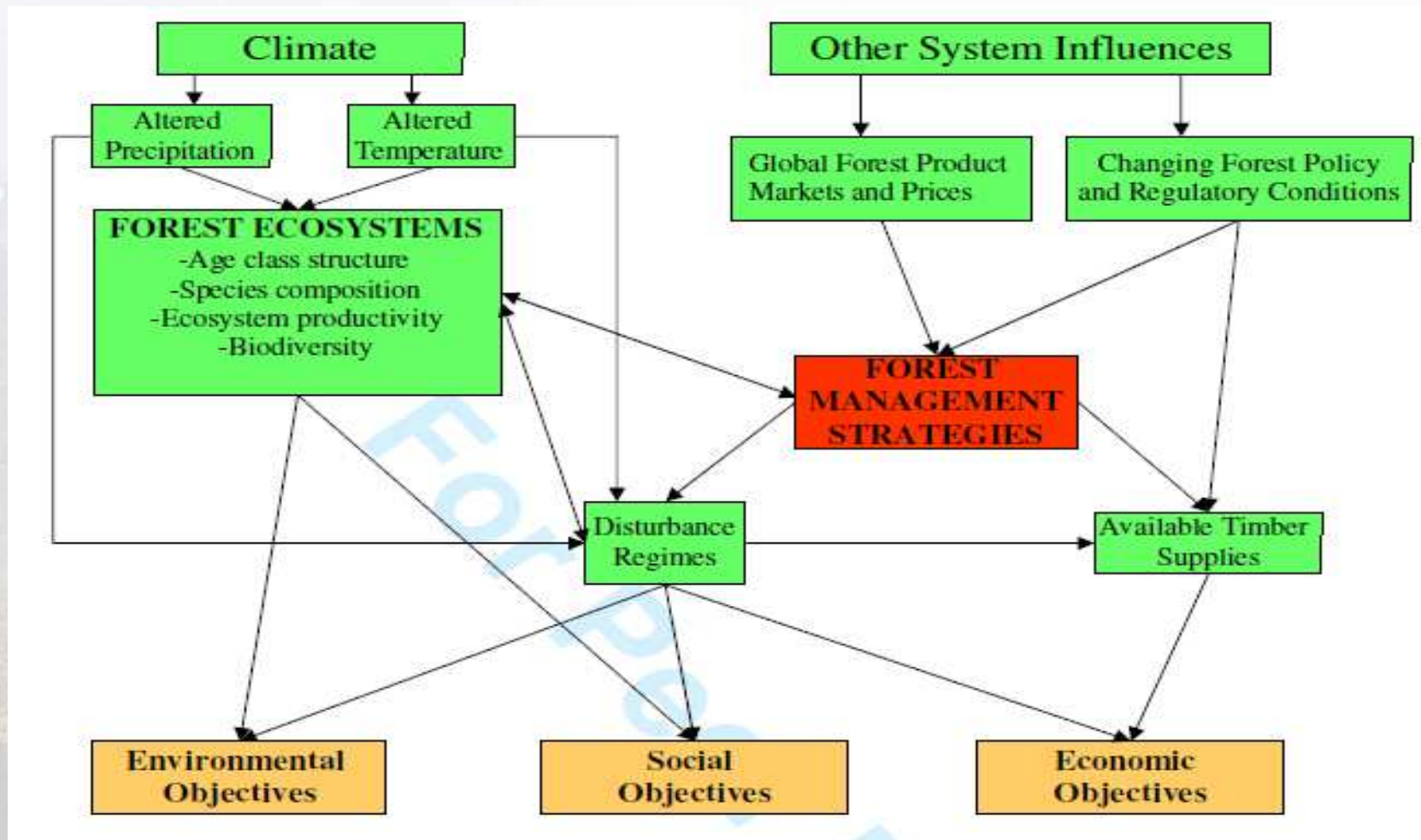




Impact Charting



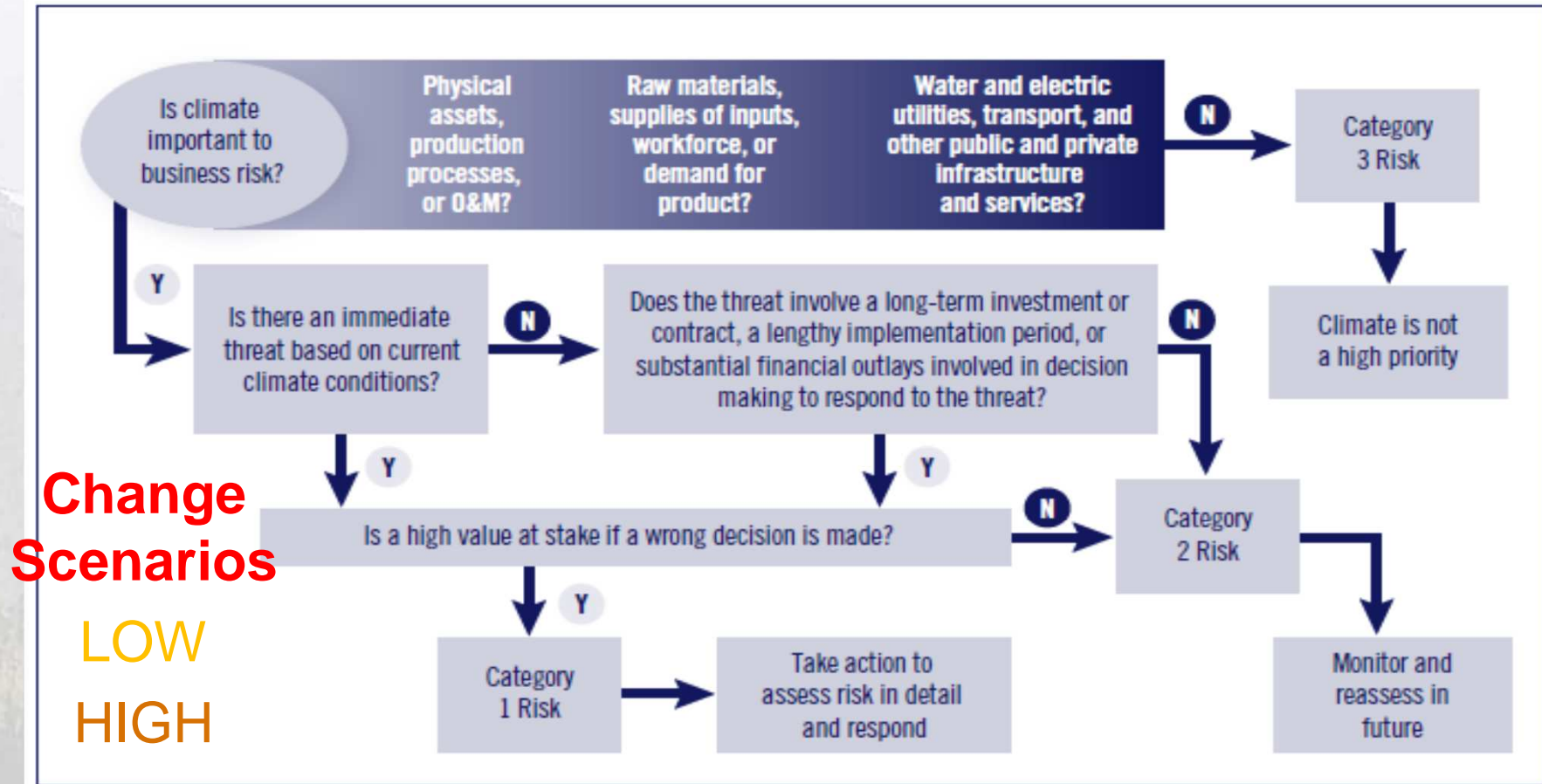
Forest Management Context



Adapted from: Ohlsen, D. W., McKinnon G. A. and Hirsch, K.G. 2005, A structured decision-making approach to climate change adaptation in the forest sector. The Forestry Chronicle. VOL. 81, No. 1.

Business Risk Scan

Figure 3. Screening for Climate Risks



Source: *Adapting to climate change: A business approach.* 2008. Frances G. Sussman and J. Randall Freed. Centre for Climate and Energy Solutions.

<http://www.c2es.org/docUploads/Business-Adaptation.pdf>

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Brinkman and Associates

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Adapt creatively!
Good luck!!!

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