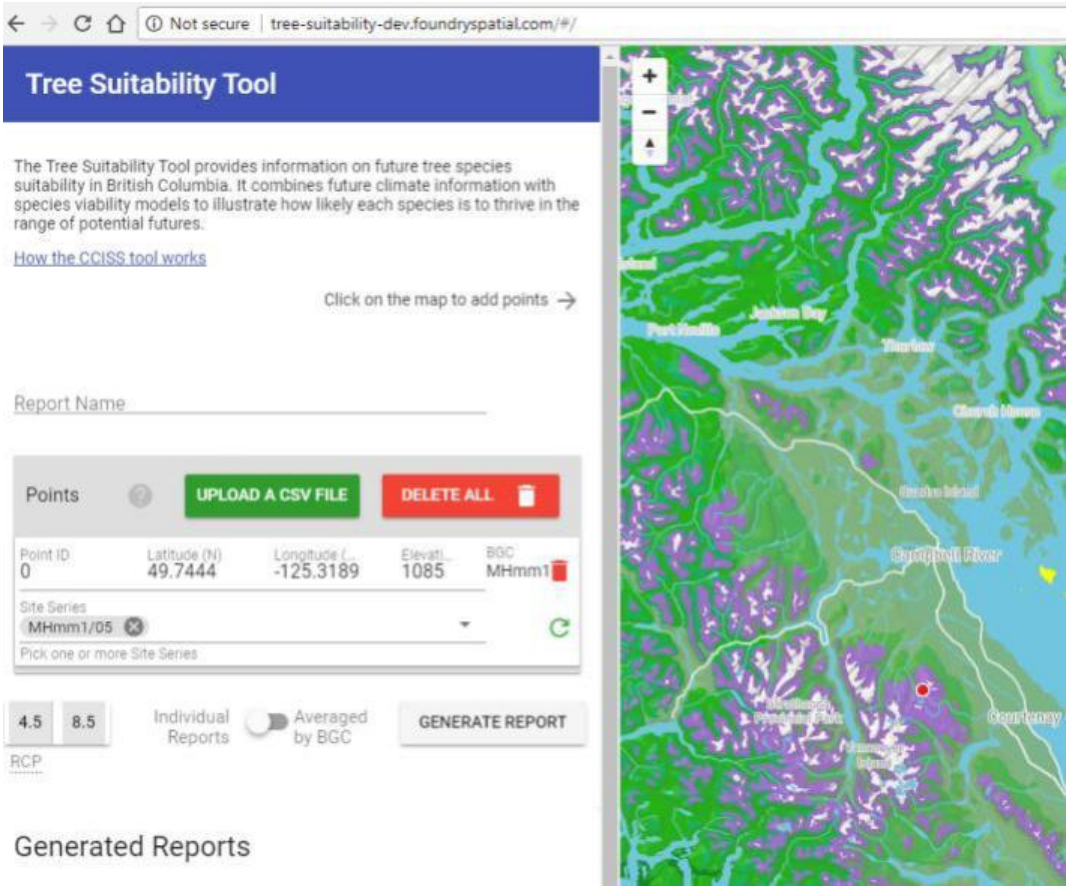
# CSC Field Tour – June 6, 2018

Species selection for High Elevation with the lens of Climate Change – Bryce Bancroft contracting to FLNROD Resource Practices Branch

## The three key elements on species selection remain valid:

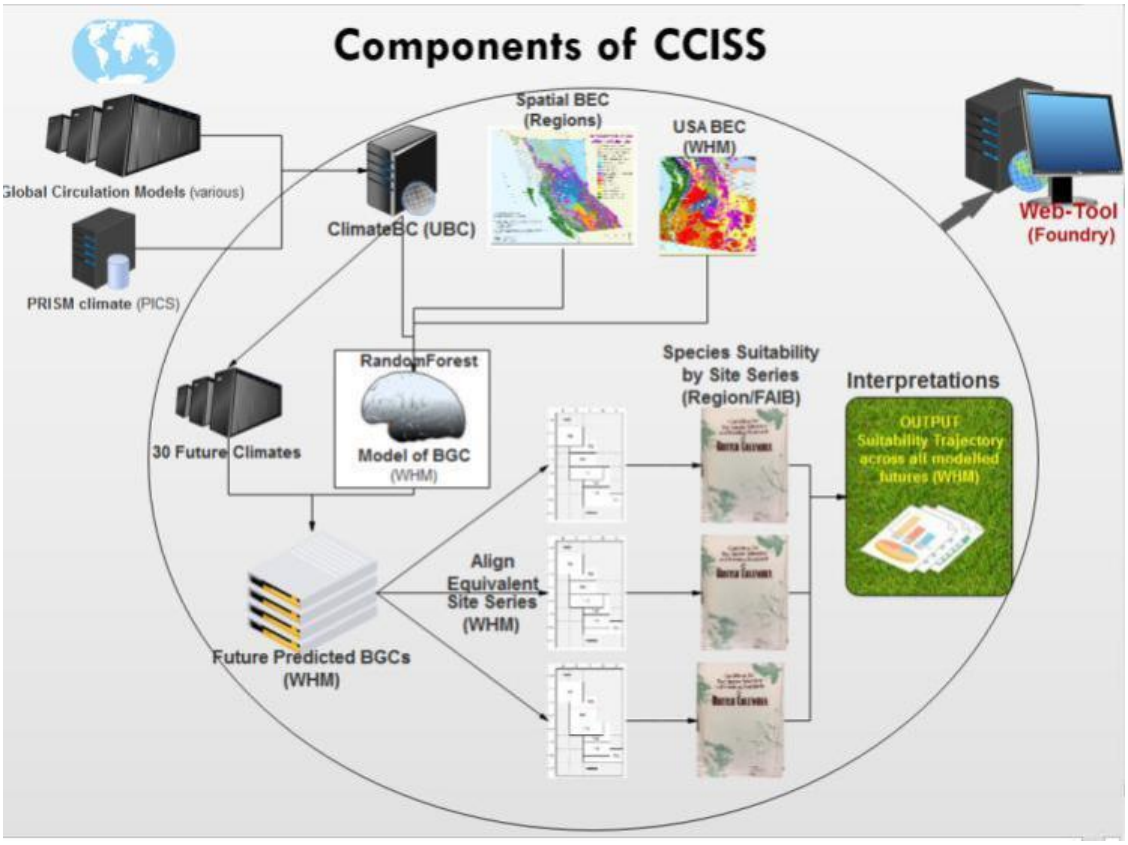
- Feasibility
- Reliability and
- Productivity

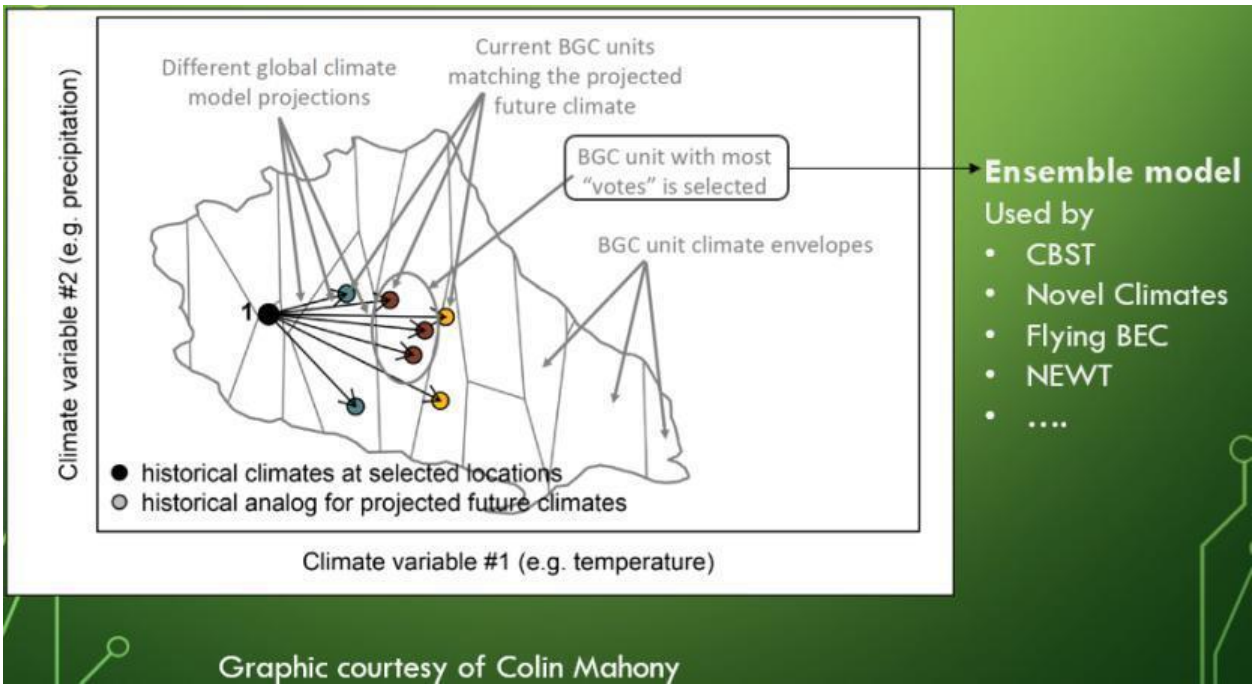
## Introducing the Climate Change Informed Species Selection Tool CCISS




Captures your location and projects it forward using 15 Global Circulation Models and 2 Representation Concentration Pathways.

Output will be discussed for three site series in this area.


Components of CCISS
Global Circulation Models (various)
PRISM climate (PICS)
ClimateBC (UBC)
Spatial BEC (Regions)
USA BEC (WHM)
Web-Tool (Foundry)
30 Future Climates
RandomForest
Model of BGC (WHM)
Species Suitability by Site Series (Region/FAIB)
Interpretations
OUTPUT
Suitability Trajectory across all modelled futures (WHM)
Align Equivalent Site Series (WHM)
Future Predicted BGCs (WHM)


Different global climate model projections
Current BGC units matching the projected future climate
BGC unit with most "votes" is selected
BGC unit climate envelopes
Climate variable #2 (e.g. precipitation)
Climate variable #1 (e.g. temperature)
historical climates at selected locations
historical analog for projected future climates
Ensemble model
Used by
• CBST
• Novel Climates
• Flying BEC
• NEWT
• ....
Graphic courtesy of Colin Mahony

Tolerance comparisons

| Life form | Tree code | Tree species | low light | frost | heat | water deficit | water surplus | nitrogen deficiency |
|---|---|---|---|---|---|---|---|---|
| C | Ba | *amabilis fir* | H | M | L | L | H | H |
| C | Bg | *grand fir* | L-M | L-M | M | M | H | M |
| C | Bl | *subalpine fir* | H | H | M | M | H | H |
| C | Cw | *western redcedar* | H | L-M | M | M | H | H |
| C | Fd | *Douglas-fir* | L-H | L-M | M-H | M | L | M |
| C | Hm | *mountain hemlock* | M | M | L | L | M | H |
| C | Hw | *western hemlock* | H | L | L | L | M | H |
| C | Jr | *Rocky Mountain juniper* | L | H | H | H | L | H |
| C | La | *alpine larch* | L | H | L | M | H | M |
| C | Lt | *tamarack* | L | H | M | M | H | M |
| C | Lw | *western larch* | L | M | M | M | L | M |
| C | Pa | *whitebark pine* | L | H | M | H | L | M |
| C | Pj | *jack pine* | L | H | H | H | L | H |
| C | Pl | *lodgepole pine* | L | H | M | H | H | H |
| C | Pw | *western white pine* | M | M-H | M | L | H | L |
| C | Py | *ponderosa pine* | L | M | H | H | H | M |
| C | Sb | *black spruce* | H | H | M | M | H | H |
| C | Se | *Engelmann spruce* | M | H | M | M | H | M |
| C | Ss | *Sitka spruce* | M | L | L | L | H | L |
| C | Sw | *white spruce* | M | H | M | M | H | M |
| C | Sx | *interior spruce* | M | H | M | M | H | M |
| C | Tw | *western yew* | H | M | M | M | H | H |
| C | Yc | *yellow-cedar* | H | L | L | M | H | H |
| B | Acb | *balsam poplar* | L | H | M | L | H | L |
| B | Act | *black cottonwood* | L | M | M | L | H | L |
| B | At | *trembling aspen* | L | H | M | L | H | M |
| B | Dr | *red alder* | L | L | L | L | H | H |
| B | Ep | *common paper birch* | M | H | M | M | H | M |
| B | Gp | *Pacific dogwood* | M | L | M | M | M | M |
| B | Kc | *cascara sagrada* | M | L | L | L | H | L |
| B | Mb | *bigleaf maple* | L | L | M | L | H | M |
| B | Qg | *Garry oak* | M | L | H | H | H | M |
| B | Ra | *arbutus* | L | L | H | H | L | H |
| B | Vb | *bitter cherry* | M | M | M | L | H | H |

*From Klinka et al. 2000. Ecological and Silvical Characteristics of Tree Species*

**Feasibility** is the first test and the above summary of tolerances helps define why we find certain species in certain climates.

- As well it is recommended that species use be managed not only at the stand but landscape levels.

WFP produced a Silviculture Strategy for Climate Change Impacts: Adaptation and Mitigation, a Framework and Recommendations (2014) by Bill Beese, Annette van Niejenhuis and Paul Bavis.

They provide a climate lens background along with direct guidance for species use by moisture regimes and critical factors. It provides additional guidance to ensure sufficient amounts of species are used to provide an economic harvest. Density is also discussed as are costs for establishment.

Montane Alternative Silviculture Systems trail – what we have learned so far. http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/35447.pdf

# Example output by Site Series

## CSC – High Elevation Species Selection – with a climate change lens – MHmm1 01 example output

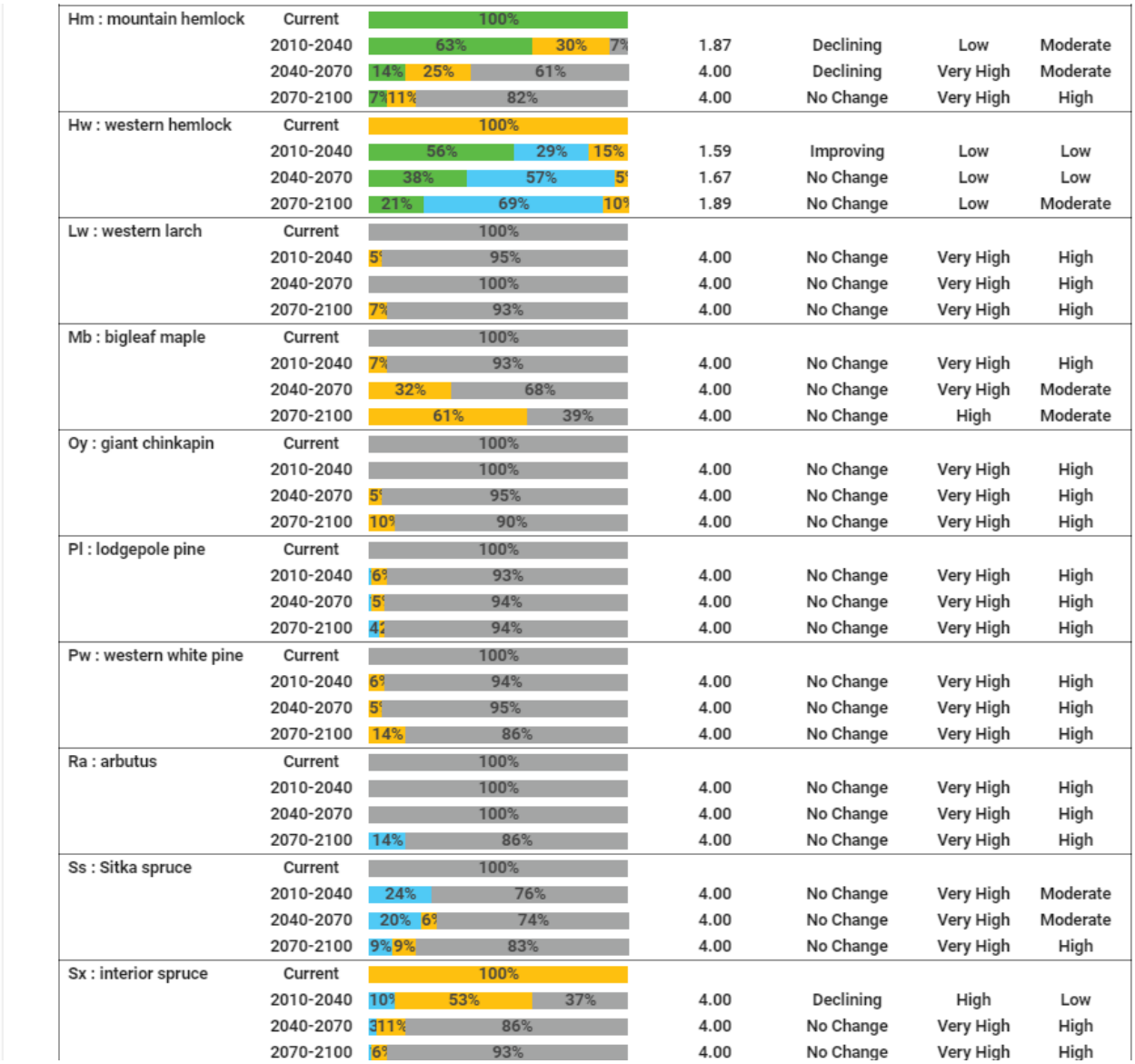
DETAILED SPECIES SUITABILITY | BGC FUTURES | MODEL CONFIGURATION

### Detailed Species Suitability

Site Series
MHmm1/01 : HmBa - Blueberry

Primary | Secondary | Tertiary | Not Suitable

| Species | Period | | Calculated Suitability | Inter-period Trajectory | Mortality Risk | Model Agreement |
|---|---|---|---|---|---|---|
| Act : black cottonwood | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 32% 68% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 55% 45% | 4.00 | No Change | High | Low |
| Ba : amabilis fir | Current | 100% | | | | |
| | 2010-2040 | 43% 40% 17% | 2.09 | Declining | Low | Low |
| | 2040-2070 | 32% 26% 41% | 2.92 | Declining | High | Low |
| | 2070-2100 | 19% 11% 70% | 4.00 | Declining | Very High | Moderate |
| Bp : noble fir | Current | 100% | | | | |
| | 2010-2040 | 13% 87% | 4.00 | Declining | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 100% | 4.00 | No Change | Very High | High |
| Cw : western redcedar | Current | 100% | | | | |
| | 2010-2040 | 6% 69% 11% 13% | 2.45 | Strongly Improving | Low | Moderate |
| | 2040-2070 | 14% 63% 23% | 2.09 | No Change | Low | Moderate |
| | 2070-2100 | 17% 55% 28% | 2.11 | No Change | Low | Low |
| Dr : red alder | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 20% 12% 68% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 40% 21% 39% | 3.39 | Improving | High | Low |
| Ep : common paper birch | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 11% 3 86% | 4.00 | No Change | Very High | High |
| Fd : Douglas-fir | Current | 100% | | | | |
| | 2010-2040 | 41% 46% 13% | 1.99 | Strongly Improving | Low | Low |
| | 2040-2070 | 56% 24% 20% | 1.64 | No Change | Low | Low |
| | 2070-2100 | 66% 19% 15% | 1.49 | No Change | Low | Moderate |



| | | | | | | |
|---|---|---|---|---|---|---|
| Hm : mountain hemlock | Current | 100% | | | | |
| | 2010-2040 | 63% | 30% | 7% | 1.87 | Declining | Low | Moderate |
| | 2040-2070 | 14% | 25% | 61% | 4.00 | Declining | Very High | Moderate |
| | 2070-2100 | 7% | 11% | 82% | 4.00 | No Change | Very High | High |
| Hw : western hemlock | Current | 100% | | | | |
| | 2010-2040 | 56% | 29% | 15% | 1.59 | Improving | Low | Low |
| | 2040-2070 | 38% | 57% | 5% | 1.67 | No Change | Low | Low |
| | 2070-2100 | 21% | 69% | 10% | 1.89 | No Change | Low | Moderate |
| Lw : western larch | Current | 100% | | | | |
| | 2010-2040 | 5% | 95% | | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | | | 4.00 | No Change | Very High | High |
| | 2070-2100 | 7% | 93% | | 4.00 | No Change | Very High | High |
| Mb : bigleaf maple | Current | 100% | | | | |
| | 2010-2040 | 7% | 93% | | 4.00 | No Change | Very High | High |
| | 2040-2070 | 32% | 68% | | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 61% | 39% | | 4.00 | No Change | High | Moderate |
| Oy : giant chinkapin | Current | 100% | | | | |
| | 2010-2040 | 100% | | | 4.00 | No Change | Very High | High |
| | 2040-2070 | 5% | 95% | | 4.00 | No Change | Very High | High |
| | 2070-2100 | 10% | 90% | | 4.00 | No Change | Very High | High |
| Pl : lodgepole pine | Current | 100% | | | | |
| | 2010-2040 | 6% | 93% | | 4.00 | No Change | Very High | High |
| | 2040-2070 | 5% | 94% | | 4.00 | No Change | Very High | High |
| | 2070-2100 | 4% | 94% | | 4.00 | No Change | Very High | High |
| Pw : western white pine | Current | 100% | | | | |
| | 2010-2040 | 6% | 94% | | 4.00 | No Change | Very High | High |
| | 2040-2070 | 5% | 95% | | 4.00 | No Change | Very High | High |
| | 2070-2100 | 14% | 86% | | 4.00 | No Change | Very High | High |
| Ra : arbutus | Current | 100% | | | | |
| | 2010-2040 | 100% | | | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | | | 4.00 | No Change | Very High | High |
| | 2070-2100 | 14% | 86% | | 4.00 | No Change | Very High | High |
| Ss : Sitka spruce | Current | 100% | | | | |
| | 2010-2040 | 24% | 76% | | 4.00 | No Change | Very High | Moderate |
| | 2040-2070 | 20% | 6% | 74% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 9% | 9% | 83% | 4.00 | No Change | Very High | High |
| Sx : interior spruce | Current | 100% | | | | |
| | 2010-2040 | 10% | 53% | 37% | 4.00 | Declining | High | Low |
| | 2040-2070 | 11% | 86% | | 4.00 | No Change | Very High | High |
| | 2070-2100 | 6% | 93% | | 4.00 | No Change | Very High | High |

MHmm1 01 example output

FUTURE SUITABILITY | DETAILED SPECIES SUITABILITY | BGC FUTURES | MODEL CONFIGURATION

## Model Configuration

| | |
|---|---|
| Representative Concentration Pathways | 4.5 and 8.5 |
| Number of Points Considered | 1 |
| Averaged? | No |
| Date | |
| Time | |
| BGC Map | v10 |
| ClimateBC | v5.50 |
| rF BGC Model | v5.0 |
| Suitability Rules | v1.2 |
| Suitability Tables | v2.0 |

## Points

| ID | Latitude | Longitude | Elevation | BGC | Chosen Site Series |
|---|---|---|---|---|---|
| 0 | 49.7444 | -125.3189 | 1085 | MHmm1 | *none* |

Rows per page: 5 1-1 of 1

## Processing Time

| Time | Process |
|---|---|
| 0.00s | Initial Setup |
| 0.00s | Create Points Object1 |
| 23.13s | ClimateBCAPI Request Time |
| 0.01s | Conversion to a more useful JSON object to send over zeromq |
| 8.5472s | CCISS.R calculation for this result only |

# CSC – High Elevation Species Selection – with a climate change lens – MHmm1 02 example output

## Detailed Species Suitability

Site Series
MHmm1/02 : HmBa - Mountain-heather

Primary | Secondary | Tertiary | Not Suitable

| Species | Period | | Calculated Suitability | Inter-period Trajectory | Mortality Risk | Model Agreement |
|---|---|---|---|---|---|---|
| Act : black cottonwood | Current | 100% | | | | |
| | 2010-2040 | 98% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 11% 89% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 20% 80% | 4.00 | No Change | Very High | Moderate |
| Ba : amabilis fir | Current | 100% | | | | |
| | 2010-2040 | 14% 86% | 4.00 | Declining | Very High | High |
| | 2040-2070 | 21% 79% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 7% 93% | 4.00 | No Change | Very High | High |
| Cw : western redcedar | Current | 100% | | | | |
| | 2010-2040 | 9% 18% 54% 18% | 3.00 | Improving | Low | Low |
| | 2040-2070 | 18% 43% 39% | 2.21 | Improving | Low | Low |
| | 2070-2100 | 21% 21% 48% | 2.55 | No Change | Low | Low |
| Dr : red alder | Current | 100% | | | | |
| | 2010-2040 | 98% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 11% 89% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 20% 80% | 4.00 | No Change | Very High | Moderate |
| Ep : common paper birch | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 5% 95% | 4.00 | No Change | Very High | High |
| Fd : Douglas-fir | Current | 100% | | | | |
| | 2010-2040 | 20% 67% 14% | 2.22 | Strongly Improving | Low | Moderate |
| | 2040-2070 | 42% 58% | 1.58 | Improving | Low | Low |
| | 2070-2100 | 40% 60% | 1.60 | No Change | Low | Low |
| Hm : mountain hemlock | Current | 100% | | | | |
| | 2010-2040 | 31% 28% 41% | 3.21 | Declining | High | Low |
| | 2040-2070 | 5% 25% 70% | 4.00 | Declining | Very High | Moderate |
| | 2070-2100 | 11% 87% | 4.00 | No Change | Very High | High |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hw : western hemlock | Current | 100% | | | | |
| | 2010-2040 | 26% 18% 53% | 3.34 | Improving | Very High | Low |
| | 2040-2070 | 23% 43% 8% 26% | 2.64 | Improving | Moderate | Low |
| | 2070-2100 | 24% 21% 17% 38% | 3.07 | No Change | High | Low |
| Lw : western larch | Current | 100% | | | | |
| | 2010-2040 | 100% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 98% | 4.00 | No Change | Very High | High |
| Mb : bigleaf maple | Current | 100% | | | | |
| | 2010-2040 | 98% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 27% 73% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 49% 51% | 4.00 | No Change | Very High | Low |
| Pl : lodgepole pine | Current | 100% | | | | |
| | 2010-2040 | 57% 9% 31% | 2.45 | Strongly Improving | Moderate | Low |
| | 2040-2070 | 48% 8% 42% | 2.86 | No Change | High | Low |
| | 2070-2100 | 52% 6% 4 38% | 2.65 | No Change | High | Low |
| Pw : western white pine | Current | 100% | | | | |
| | 2010-2040 | 9% 91% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 8% 92% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 4 96% | 4.00 | No Change | Very High | High |
| Qg : Garry oak | Current | 100% | | | | |
| | 2010-2040 | 100% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 10% 90% | 4.00 | No Change | Very High | High |
| Ra : arbutus | Current | 100% | | | | |
| | 2010-2040 | 100% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 14% 86% | 4.00 | No Change | Very High | High |
| Sx : interior spruce | Current | 100% | | | | |
| | 2010-2040 | 31% 69% | 4.00 | Declining | Very High | Moderate |
| | 2040-2070 | 5% 95% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 98% | 4.00 | No Change | Very High | High |
| Yc : yellow-cedar | Current | 100% | | | | |
| | 2010-2040 | 14% 28% 17% 41% | 3.28 | Declining | High | Low |
| | 2040-2070 | 25% 5% 70% | 4.00 | Declining | Very High | Moderate |
| | 2070-2100 | 11% 87% | 4.00 | No Change | Very High | High |

## MHmm1 02 Example output

# CSC – High Elevation Species Selection – with a climate change lens – MHmm1 05 example output

DETAILED SPECIES SUITABILITY | BGC FUTURES | MODEL CONFIGURATION

## Detailed Species Suitability

Site Series
MHmm1/05 : BaHm - Twistedstalk

Primary | Secondary | Tertiary | Not Suitable

| Species | Period | | Calculated Suitability | Inter-period Trajectory | Mortality Risk | Model Agreement |
|---|---|---|---|---|---|---|
| Act : black cottonwood | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 32% 68% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 61% 39% | 3.18 | Improving | High | Moderate |
| Ba : amabilis fir | Current | 100% | | | | |
| | 2010-2040 | 100% | 1.00 | No Change | Low | High |
| | 2040-2070 | 46% 46% 7% | 2.21 | Declining | Low | Low |
| | 2070-2100 | 29% 43% 29% | 3.00 | Declining | Moderate | Low |
| Bg : grand fir | Current | 100% | | | | |
| | 2010-2040 | 100% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 14% 86% | 4.00 | No Change | Very High | High |
| Cw : western redcedar | Current | 100% | | | | |
| | 2010-2040 | 86% 14% | 1.55 | Strongly Improving | Low | High |
| | 2040-2070 | 100% | 1.00 | Improving | Low | High |
| | 2070-2100 | 100% | 1.00 | No Change | Low | High |
| Dr : red alder | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 21% 29% 4 46% | 3.21 | Improving | High | Low |
| | 2070-2100 | 7% 55% 5 32% | 2.95 | No Change | Moderate | Low |
| Ep : common paper birch | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 14% 86% | 4.00 | No Change | Very High | High |
| Fd : Douglas-fir | Current | 100% | | | | |
| | 2010-2040 | 21% 52% 28% | 3.14 | Improving | Moderate | Low |
| | 2040-2070 | 62% 21% 16% | 2.07 | Improving | Low | Moderate |
| | 2070-2100 | 68% 21% 11% | 1.86 | No Change | Low | Moderate |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hm : mountain hemlock | Current | 100% | | | | |
| | 2010-2040 | 14% 28% 59% | 4.00 | Declining | Very High | Low |
| | 2040-2070 | 25% 75% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 11% 89% | 4.00 | No Change | Very High | High |
| Hw : western hemlock | Current | 100% | | | | |
| | 2010-2040 | 79% 21% | 2.21 | Improving | Low | Moderate |
| | 2040-2070 | 54% 46% | 2.46 | No Change | Low | Low |
| | 2070-2100 | 43% 57% | 2.57 | No Change | Low | Low |
| Mb : bigleaf maple | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 7% 29% 64% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 14% 55% 30% | 2.77 | Improving | Moderate | Low |
| Ss : Sitka spruce | Current | 100% | | | | |
| | 2010-2040 | 28% 7% 66% | 4.00 | No Change | Very High | Moderate |
| | 2040-2070 | 32% 68% | 4.00 | No Change | Very High | Moderate |
| | 2070-2100 | 21% 79% | 4.00 | No Change | Very High | Moderate |
| Sx : interior spruce | Current | 100% | | | | |
| | 2010-2040 | 7% 93% | 4.00 | No Change | Very High | High |
| | 2040-2070 | 100% | 4.00 | No Change | Very High | High |
| | 2070-2100 | 100% | 4.00 | No Change | Very High | High |
| Yc : yellow-cedar | Current | 100% | | | | |
| | 2010-2040 | 14% 79% 7% | 2.07 | Declining | Low | Moderate |
| | 2040-2070 | 39% 61% | 4.00 | Declining | Very High | Moderate |
| | 2070-2100 | 18% 82% | 4.00 | No Change | Very High | High |

MHmm1 05 Example output

# Discussion:

- What species ratings are increasing over time?
- What species ratings are decreasing over time?
- What do we need to do to act upon the direction provided?
- Seed sources are available – see page 12

Local trials – what information on alternative species is available?

## What is next?

- A workshop with technical specialists for in depth review
- Demonstration and feedback from Silviculture Committees and practitioners
- Policy Development – for Climate Change species recommendations
- Integration with Climate Based Seed Transfer
- Continuous refinements as new information becomes available

Link to an interesting article regarding climate changes and our mountains.

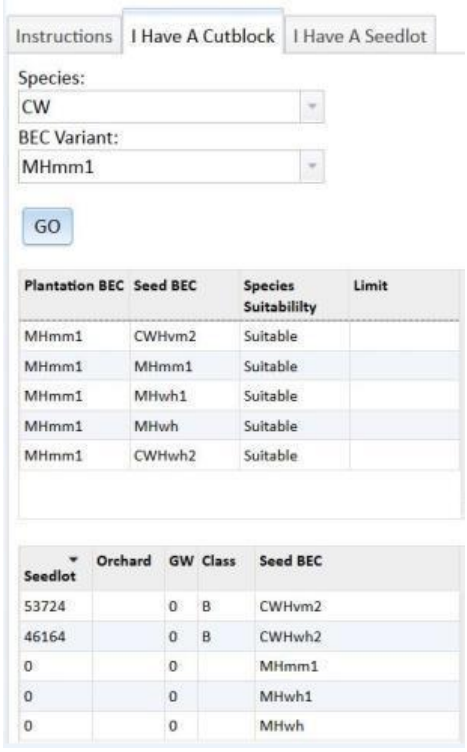
https://www.canadiangeographic.ca/article/climate-change-transforming-canadas-mountains

## Seed sources for Cw are available but limited

Ministry of Forests, Lands, and Natural Resource Operations
Seed Planning and Registry System
Suitable Seed/Vegetative Lot Listing For CBST

SPRR070
DBP01
2018-06-01 09:17:57 AM
Page 2 of 2

| LOT FLAG | NO. | GENETIC CLASS / WORTH | GERM / ROOT FACTOR | AGENCY | | BEC | ORCHARD / LOCATION | LAT. | LONG. | QUANTITY RESERVE | POTENTIAL TREES SURPLUS | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 53724 | B | 90 | BCTS | 00 | CWHvm2 | BISH CREEK | 53 55 00 | 128 48 00 | 2212 | 691.3 | 0.0 | 691.3 |
| | 53724 | B | 90 | MOF | 28 | CWHvm2 | BISH CREEK | 53 55 00 | 128 48 00 | 3516 | 1,098.9 | 0.0 | 1098.9 |
| | 46164 | B | 80 | TAAN | 00 | CWHwh2 | CARMICHAEL PASSAGE LOUISE IS | 52 57 00 | 131 59 00 | 159 | 36.5 | 0.0 | 36.5 |




| Plantation BEC | Seed BEC | Species Suitability | Limit |
|---|---|---|---|
| MHmm1 | CWHvm2 | Suitable | |
| MHmm1 | MHmm1 | Suitable | |
| MHmm1 | MHwh1 | Suitable | |
| MHmm1 | MHwh | Suitable | |
| MHmm1 | CWHwh2 | Suitable | |

| Seedlot | Orchard | GW | Class | Seed BEC |
|---|---|---|---|---|
| 53724 | | 0 | B | CWHvm2 |
| 46164 | | 0 | B | CWHwh2 |
| 0 | | 0 | | MHmm1 |
| 0 | | 0 | | MHwh1 |
| 0 | | 0 | | MHwh |

Numerous seedlots available for Fdc Note that orchard 120 is the old Fdc Submaritime orchard at Saanich Seed Orchard.

Ministry of Forests, Lands, and Natural Resource Operations
Seed Planning and Registry System
Suitable Seed/Vegetative Lot Listing For CBST

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| LOT FLAG | NO. | GENETIC CLASS / WORTH | GERM / ROOT FACTOR | AGENCY | | BEC | ORCHARD / LOCATION | LAT. | LONG. | QUANTITY RESERVE | POTENTIAL TREES SURPLUS | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 06134 | A GVO+02 | 87 | LAKEPAC | 00 | CWHvm2 | 120 - SAANICH | 49 35 00 | 121 41 00 | 688 | 18.0 | 0.0 | 18.0 |
| | 62109 | A GVO+02 | 86 | TERMFP | 00 | CWHvm2 | 120 - SAANICH | 49 35 00 | 121 41 00 | 213 | 0.0 | 5.9 | 5.9 |
| | 06422 | A GVO+02 | 85 | MOF | 20 | CWHvm2 | 120 - SAANICH | 49 35 00 | 121 41 00 | 13597 | 0.0 | 354.3 | 354.3 |
| | 48826 | B | 92 | ISTIM | 00 | MHmm1 | LABOUR DAY LAKE | 49 07 00 | 124 27 00 | 2919 | 119.7 | 0.0 | 119.7 |
| | 48829 | B | 92 | BCTS | 00 | CWHvm2 | WINDSOR LAKE | 50 00 00 | 124 15 00 | 13497 | 537.7 | 0.0 | 537.7 |
| | 48829 | B | 92 | ISTIM | 00 | CWHvm2 | WINDSOR LAKE | 50 00 00 | 124 15 00 | 7488 | 298.3 | 0.0 | 298.3 |
| | 48829 | B | 92 | TWFC | 04 | CWHvm2 | WINDSOR LAKE | 50 00 00 | 124 15 00 | 9703 | 0.0 | 386.6 | 386.6 |
| | 48832 | B | 86 | ISTIM | 00 | MHmm1 | RHEINHART LAKE | 49 00 00 | 124 07 00 | 1467 | 51.5 | 0.0 | 51.5 |
| | 32939 | B | 85 | GVANWD | 00 | CWHvm2 | EASTCAP VALLEY | 49 27 00 | 123 04 00 | 1519 | 42.3 | 0.0 | 42.3 |