

# Urban Forestry Education at UBC: A Holistic Program for Future Greenspace Practitioners and Leaders

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## **Outline**

I. Pressures on Urban Foresters II. Vision for a Holistic Education in Urban Forestry at UBC III. Proposed Program Structure IV. Request for Input 



## **Pressures and Demands on Urban Foresters**

- Climate change challenges to forests just when we need them to offset heat, flooding, air pollution, energy costs, etc.
- Rapid urban development and urban population growth
- Fragmentation and loss of biodiversity
- Rising health/psychological demands
- Rise of community engagement



## **Projected BC warming**





Source: PCIC

#### Source: PCIC



## New impacts – need for cooling

## **UBC's Vision for Urban Forestry:**

- Holistic/interdisciplinary: broader than forestry alone bridging gaps between forestry, arboriculture, and landscape architecture
- Forest systems level, more than just street trees
- Integration of green infrastructure & urban ecology into planning of new/ retrofitted cities & peri-urban areas
- **Climate proofing our cities**: toward low-carbon resilient communities
- **People-friendly**: health & well-being
- Interaction with practitioners & real world projects



# Job Outlook in the Urban Forestry Sector



## **UBC Research and Teaching Support**

- Sustainable resource management and conservation
- Community forestry
- Social science/community engagement/environmental psychology
- Recreation planning and well-being
- Climate change planning/modelling (adaptation and mitigation), including urban heat islands (Geography)
- Remote sensing/LiDAR/GIS/modelling/visualization/crowdsourcing (MAGIC)
- Wood Science/green buildings/LCA

Credit: John Danahy & Natural Resources Canada



## Northshore snowpack & water supply

**Average April 1st Snowline** 



Data: Environment Canada; Visualization: D. Flanders, CALP

Year

## **Kimberley Adaptation Plan Visioning** Vulnerability modelling & community engagement



#### **Mountain Pine Beetle and**

fire in the watershed could increase debris flows and accelerate run-off

#### **Climate Change**

projected increase of winter precipitation, leading to likely flooding

# 3D LiDAR, carbon modelling, and solar access analysis



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W<sup>-1</sup>m

Demands

Vision

Structure

Conclusion

When suburbs are dense enough to support public transit & walkability, traffic congestion and associated carbon emissions are reduced





Vision

Structure

Conclusion

## But can we also increase tree canopy to sequester carbon, reduce building energy use, and improve quality of life? LOW-CARBON, RESILIENT, ATTRACTIVE COMMUNITIES (Lo-CAR)

Visualization: Sara Barron

## **B.U.F. Degree Themes and Transferable Skills**



### **Transferable Skills**

- Community Engagement, Public Education and Communications
- Smart Data and Modelling
- Planning and Design
- Policy, Economics, Legal and Professional Practice & Management



## Four Year Program with 2 Minors



## **New Courses Developed for the Program**

- Greening the City
- Urban Forests & Well-Being
- Arboriculture Principles & Practice
- Urban Forestry Administration, Policy & Law
- Ecological Restoration
- Green Network Planning (SALA)
- Recreation and Tourism Planning
- Integrated Capstone Studio
- Urban Forestry Field School



## Thank you for your attention



http://www.forestry.ubc.ca/students/undergraduate/prospe ctive/degree-programs/urban-forestry-degree/

Source: adapted from Baumeister 2014

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## **Discussion with the audience**

- 1. Feedback on proposed educational programs
- 2. Priorities for innovative Urban Forestry education and future leaders?
- 3. Challenges educators will face
- 4. Do practitioners need continuing education on a regular basis?
- 5. Do Urban Forestry practitioners need accreditation?

