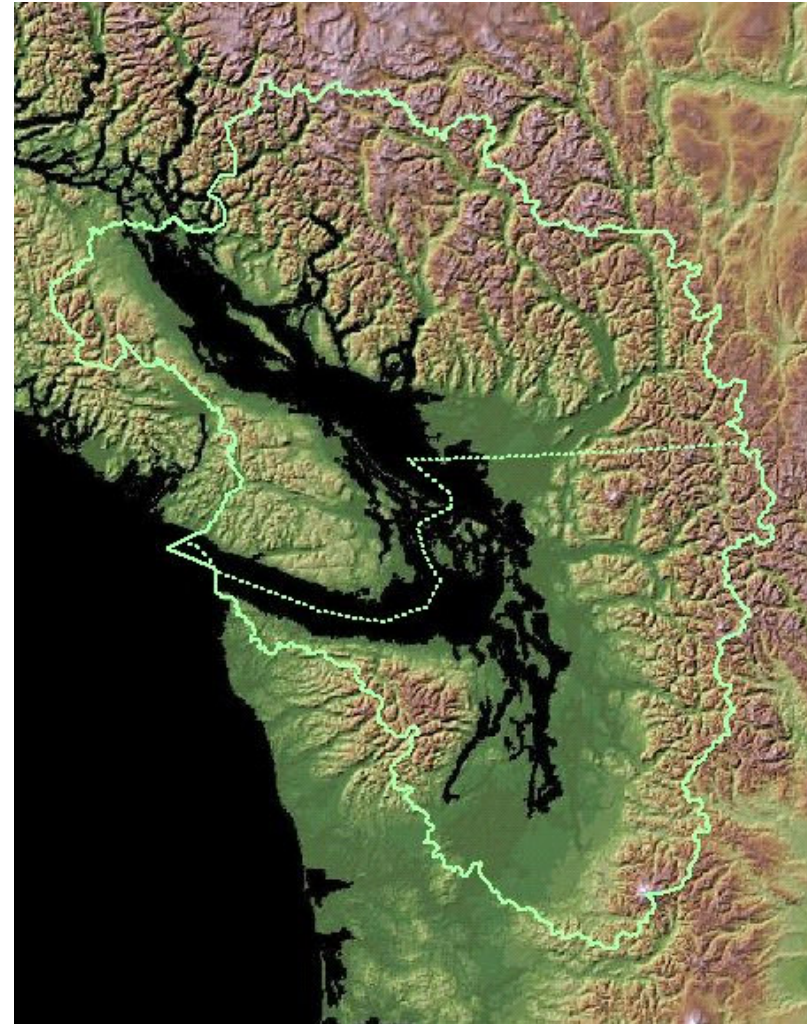




## Border Air Quality Study

# Border Air Quality Study

## Georgia Basin - Puget Sound International Airshed



[www.cher.ubc.ca/baqs.html](http://www.cher.ubc.ca/baqs.html)



Health  
Canada

Santé  
Canada



BC Centre for Disease Control  
AN AGENCY OF THE PROVINCIAL HEALTH SERVICES AUTHORITY



## Border Air Quality Study

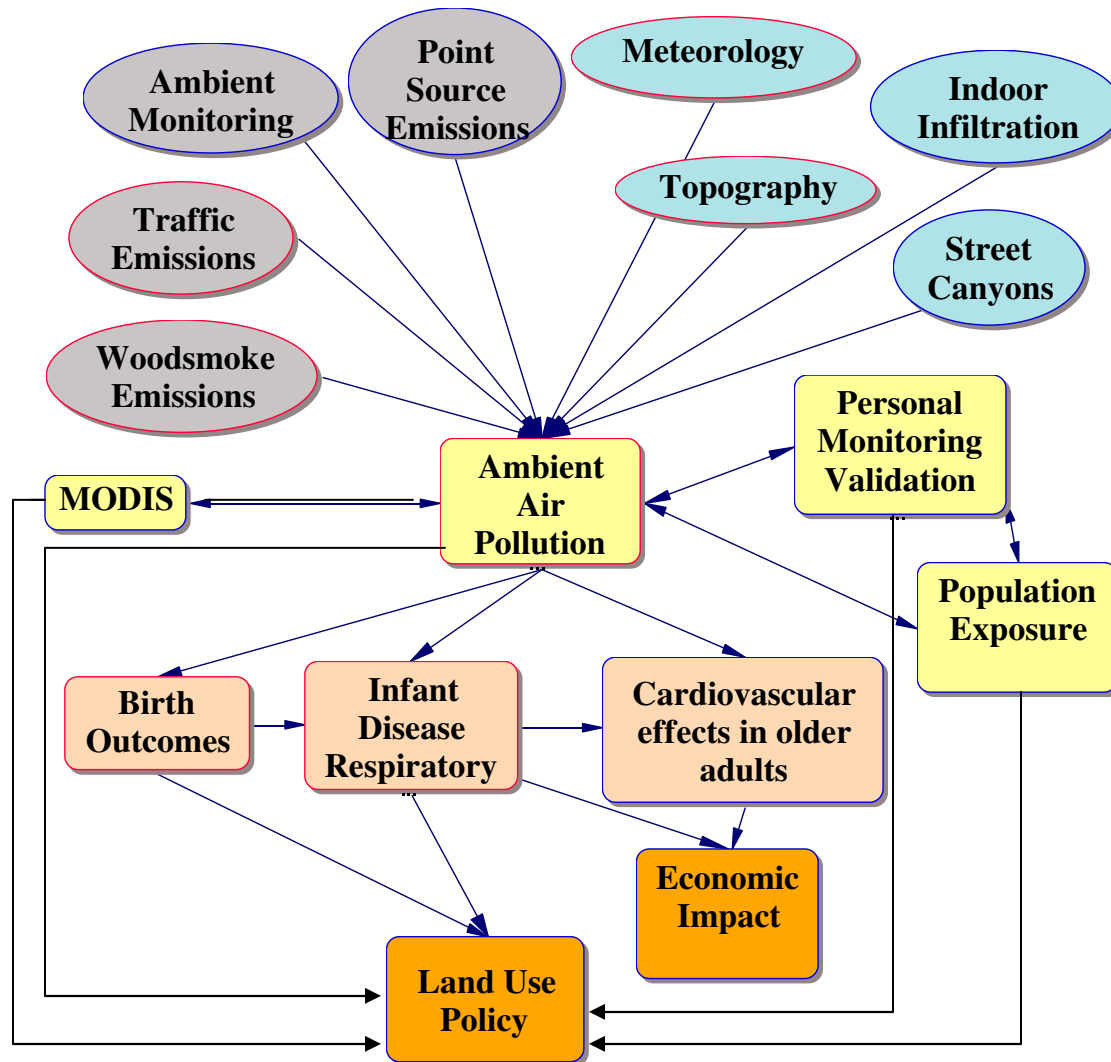
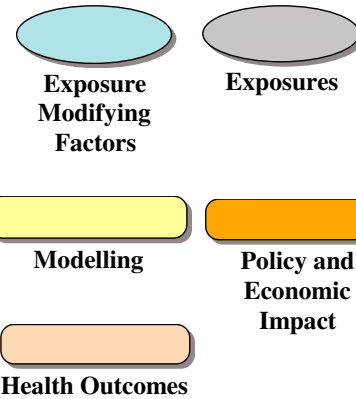
- **Joint UBC, UW, U Victoria project**
  - **3+ epidemiological studies**
    - Birth cohort (UBC)
      - Birth outcomes
      - Infant respiratory disease, ear infections
    - Birth cohort (UW)
      - Birth outcomes
      - Infant bronchiolitis
    - Adult cardiovascular disease cohort (UBC)
-



# Border Air Quality Study

Figure 1. Summary of On-going and Proposed Research

## LEGEND





## Border Air Quality Study

### The Team

- **UBC:** Bruce Ainslie
- Tenny Bache
- Ann-Marie Baribeau
- Michael Buzzelli\*
- Michael Brauer\*
- Paul Demers\*
- Larry Frank
- Sarah Henderson
- Brian Klinkenberg
- Mieke Koehoorn
- Sara Leckie
- Cornel Lencar
- Julian Marshall
- Elaina McIntyre
- Elizabeth Nethery
  
- Lilian Tamburic
- Magdalena Rucker
- Carlos Silva
- Douw Steyn
- Jason Su
- Katherine Wolbert
  
- **UW:** Tim Gould
- Karen Jansen
- Catherine Karr
- Jane Koenig\*
- Tim Larson
- Kristin Miller
  
- **UVic:** Perry Hystad
- Peter Keller\*
- Eleanor Setton

---

# How the project study was initiated

- Initial consultation with Health Canada
  - Workshop - as inclusive as possible
    - Would a network have helped? Yes!
    - Did we miss people? Probably!
    - Some stayed, some dropped out
  - PI developed Strawman proposal
    - Requested sub-proposals from others
  - PI took lead to merge into common proposal
  - Rough division of tasks established
-

---

# What we do - I

- Division of responsibilities/funding but clear vision of common overall goal
  - Separate PIs at each centre but lots of "crossover" investigators (those from one institution work on a project based at another)
  - Encourage others to join in – take advantage of groundwork
    - e.g. students, PDFs, new investigators – some funded, some seeking external funding
-

---

## What we do - II

- Regular meetings of entire group (2x/year)
    - UVic, Semiahmoo
    - Progress updates
    - Plan next steps - lots of time for interaction
  - Group presentations/presence at conferences
    - especially encourage student participation
-

PUBLICATIONS PLANS FOR 2005/2006

TITLE	PRINCIPLE AUTHORS	TARGET JOURNAL	COMPLETION DATE
Land use regression traffic in Vancouver	Mike Brauer, <b>Sarah Henderson</b>	ES&T or JEAEE	Sept 1, 2005
How to set up a monitoring network/ network design using woodsmoke as an example (what do people do now/state of the art, use geographic predictor information to optimize design)	<b>Jason Su, Mike Buzzelli,</b> Tim Larson, Anne-Marie Baribeau, Mike Buzzelli	EHP or Exposure	
Woodsmoke data – initial surface, mobile monitoring, levoglucosan measurements, refining, final woodsmoke surface. To include: emission dispersion, root tracing, wood smoke monitoring, and validation of PM2.5.	Tim Larson, <b>Jason Su,</b> Mike Buzzelli		Dec 1, 2005
A) 15 years ago in Seattle plus GIS line of sight refinement B) Discussion of the application of the traffic and woodsmoke GIS methodology to the Puget sound data (GVRD, Victoria and Seattle)	A) <b>Tim Larson,</b> Tenny Bache B) <b>Tim Larson,</b> Tim Gould, Eleanor Setton		Spring '06
Receptor modeling. A comparison between Vancouver and Seattle	<b>Tim Larson</b>		
Bronchiolitis (monitoring data): Seattle	<b>Catherine Karr,</b> Paul Demers, Mieke Koehoorn		Version 1 Jan '06
Bronchiolitis (monitoring data): Vancouver	<b>Paul Demers,</b> Mieke Koehoorn, Catherine Karr		Version 1 Jan '06
Birth outcomes Version 1 monitoring data and version 2 traffic for exposure	Mike Brauer, <b>Catherine Karr</b>		Version 1 Jan '06
Asthma (Vancouver)	<b>Paul Demers,</b> Mieke Koehoorn		Review in Summer '06
Spatial traffic model for Seattle. Protocol used by Mike and Sarah. Include pollutant dataset (Tim) and traffic/roadwork info (Eleanor and Perry)	<b>Carlos Sylva</b> , Mike Buzzelli, Sarah Henderson, Tim Larson, Eleanor Setton, Perry Hystad, Larry Frank, Carol Butler	Not a paper	
Use of property assessment data in exposure assessment (epi and exposure assessment audience)	<b>Eleanor Setton,</b> Jason Su	EHP, JEAEE, Health & Place	Completed
Road classification and land use model	<b>Eleanor Setton</b>		
MODIS: 10 km resolution data	<b>Eleanor Setton</b>		
A Source-area based air pollutant dispersion scheme applied to population exposure estimation at the neighborhood scale: SA scheme development and evaluation, incorporation into GIS, estimates and exposure in GVRD and comparison of personal monitoring	Bruce Ainslie, Mike Buzzelli, Mike Brauer, <b>Douw Steyn,</b> Jason Su	Envir Sci & Tech or Exposure	

---

# What works - I

- No strong power structure
    - Check your egos at the door!!
  - Strong collaborative environment
    - Attempting to be inclusive
    - Supportive – cover for each other
    - Relatively small group
    - Think about personalities/group dynamic!
  - Individual projects stand on their own scientifically – but are inherently linked
    - linkage is VERY important!
-

---

## What works - II

- At least one junior, energetic investigator at each institution!!
  - Crossover” researchers moving between projects
  - Conferences / Regular Meetings to stimulate progress
    - Physical gatherings critical!!
    - Smaller working group meetings
  - Good environment for trainees – Eleanor?
    - Multidisciplinary
    - Different perspectives amongst team members
-

---

# What could be better?

- PI wants to be involved with everything!
  - Meetings could be longer – little success with “working meetings”
  - Not enough emphasis on **ongoing** KT
    - A lot in early stages, little lately
    - Scientific presentations but not yet to “public”
-

---

# Challenges

- Funding restrictions – one year at a time
    - Difficult to establish long term research effort
    - Annual proposal, peer review, revision, progress report, etc. all detract from conducting the research
  - How to retain keep what we have built
    - Success with studentships, external awards
    - Need ongoing core support
-