

## Activity 4 Climate Change Adaptations on an Annotated Map

After researching the possible consequences of a changing climate for their selected city/town students complete their individual annotated maps. These maps will show ways in which the town and its residents can make changes that will reduce greenhouse gas emissions to slow climate change. Have students share their completed maps with classmates. Suggest that students might also choose to send a copy of their map to the council of the town or city that they researched.

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1. Book time in the computer lab so that students are able to do research on their town/city.
2. Prepare an overhead of Appendix 4.1a *Towns and Cities: Internet Addresses* and Appendix 4.1b *Sample Bibliographic Conventions*. Photocopy one for each student.
3. Photocopy Appendix 4.2 *Research Checklist* and Appendix 4.3 *Concept Map* - one for each student.
4. Remind the students to bring Appendix 1.2 *Student Task: Town Planning to Address Climate Change*.

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1. Review the task and rubric (see Activity 1) to remind students of their responsibilities.
2. Students begin researching the town or city that they have selected or been assigned in Activity 1. Remind them that their main focus is to critically evaluate the systems (e.g., transportation, water resources, energy sources) that affect or are affected by climate change, and then recommend ways to alter these components to reduce the rate of climate change.
3. Using an overhead of Appendix 4.1b, *Sample Bibliographic Conventions*, review basic bibliographic conventions with students. Remind students that all maps, Internet addresses and other resources used must be referenced.
4. Distribute Appendix 4.2 *Research Checklist*. Explain to students that this form must be completed prior to a conference with the teacher. Set a time frame for the conferences.
5. Hand out Appendix 4.3 *Concept Map*. Students should use this sheet to help them organize their research and establish which sectors/areas they will be focusing on.
6. Students use class time to research and work on their individual maps. When the maps are completed have students share their results with classmates, and consider sending their results to the council of their selected city or town.

4.1a *Towns and Cities Internet Addresses*

4.1b *Sample Bibliographic Conventions*

4.2 *Research Checklist*

4.3 *Concept Map*

x .1 *Towns and Cities: Internet Addresses*

Collingwood	<a href="http://www.town.collingwood.on.ca">www.town.collingwood.on.ca</a>
Thunder Bay	<a href="http://www.city.thunder-bay.on.ca">www.city.thunder-bay.on.ca</a>
Sault Ste. Marie	<a href="http://www.city.sault-ste-marie.on.ca">www.city.sault-ste-marie.on.ca</a>
Stratford	<a href="http://www.stratford.on.ca">www.stratford.on.ca</a>
Windsor	<a href="http://www.windsor.on.ca">www.windsor.on.ca</a>
<hr/>	
Nanaimo, British Columbia	<a href="http://www.city.nanaimo.bc.ca">www.city.nanaimo.bc.ca</a>
Banff, Alberta	<a href="http://www.townofbanff.com">www.townofbanff.com</a>
Swift Current, Saskatchewan	<a href="http://www.city.swift-current.sk.ca">www.city.swift-current.sk.ca</a>
Steinbach, Manitoba	<a href="http://www.steinbach.ca">www.steinbach.ca</a>
Temiscaming, Quebec	<a href="http://www.temiscaming.net">www.temiscaming.net</a>
Happy Valley/Goose Bay, Newfoundland	<a href="http://www.happyvalley-goosebay.com">www.happyvalley-goosebay.com</a>
Fredericton, New Brunswick	<a href="http://www.city.fredericton.nb.ca">www.city.fredericton.nb.ca</a>
Halifax, Nova Scotia	<a href="http://www.region.halifax.ns.ca">www.region.halifax.ns.ca</a> and <a href="http://www.halifaxinfo.com">www.halifaxinfo.com</a>
Charlottetown, PEI	<a href="http://www.city.charlottetown.pe.ca">www.city.charlottetown.pe.ca</a>
Whitehorse, Yukon Territory	<a href="http://www.city.whitehorse.yk.ca">www.city.whitehorse.yk.ca</a>
Yellowknife, Northwest Territories	<a href="http://www.city.yellowknife.nt.ca">www.city.yellowknife.nt.ca</a>
Iqaluit, Nunavut	<a href="http://www.city.iqaluit.nu.ca">www.city.iqaluit.nu.ca</a>

x .1 *Sample Bibliographic Conventions*

*Sample newspaper entry:*

Israelson, David. "Saving the Future." *Sunday Star* 22 April 1999: A1.

*Sample magazine entry:*

Shulgan, Christopher. "Windsor's Border Blues." *Canadian Geographic* October 2003: 48-52.

*Sample Internet World Wide Web Entry:*

City of Fredericton, New Brunswick. Retrieved March 2003. [www.city.fredericton.nb.ca](http://www.city.fredericton.nb.ca)

*Sample map entry:*

Lake Erie: Intensely urbanized and farmed, Lake Erie's watershed is home to 10 million Americans and nearly 2 million Canadians. *Canadian Geographic*. September/October 2003: Pull-out section.

## x . *Research Checklist*

Name: \_\_\_\_\_

- \_\_\_\_\_ ( , ) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_ ( x . )
  - Several *components for change* identified - select a \_\_\_\_\_ of the following possible areas:
    - ▶ Garbage/recycling facilities
    - ▶ Water and sewage treatment
    - ▶ Green space
    - ▶ Recreation
    - ▶ Streets and transportation
    - ▶ Housing
    - ▶ Alternative energy sources
    - ▶ Businesses
    - ▶ Industry
    - ▶ Tourism
    - ▶ Your choice \_\_\_\_\_
  - Reason component needs to be changed – this should include both (1) how it initially contributes to or offsets, climate change, and (2) how it can be altered
  - Impact of change identified (some examples - if it reduces emissions, increases carbon dioxide uptake, or possibly even reduces heat output) and the effect that the change will have
- \_\_\_\_\_
- \_\_\_\_\_
  - Facts and data used to support changes
- \_\_\_\_\_
- \_\_\_\_\_
  - Preliminary sketch maps available
  - Size of map determined
  - Effective symbols designed
  - Annotation labels
  - Map conventions used
  - Design suited to purpose

x . - *Concept Map*

