



## Climate Exercise #3: Factors Affecting Climate

### Factor #3: Ocean Currents

- [1] Canada is affected by three major ocean currents. Using *Figure 13-3*, complete the following chart.

| Name of Current       | Type (warm/cold) | Source |
|-----------------------|------------------|--------|
| North-Pacific Current |                  |        |
| Labrador Current      |                  |        |
| Gulf Stream           |                  |        |

- [2] How would the North-Pacific Current affect the temperature of the west coast of Canada?

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- [3] How would the Labrador Current affect the climate of Newfoundland & Labrador's north and east coasts?

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- [4] How would the Gulf Stream affect the climate of the American east coast and Nova Scotia?

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- [5] "Bodies of water have a moderating effect on climate." Explain what this means.

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- [6] The Labrador Current brings icebergs southward from arctic regions to the waters near Newfoundland & Labrador. This area of the Atlantic Ocean is called "iceberg alley."

- (a) What famous marine disaster occurred in 1912 as a result of these icebergs?

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- (b) What effect might this current have on oil exploration and development that is occurring off the East Coast of Canada?

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**Factor #4: Nearness to Water**

- [1] Imagine a wind passing over a large body of water. How might this affect the level of precipitation of the land next to the water?

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- [2] How does a large body of water affect the temperature of the land next to it?

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- [3] Define air mass.

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- [4] Using the information found in *Figure 13-3*, complete the following chart

| Label | Interpretation | Where Formed | Characteristics |
|-------|----------------|--------------|-----------------|
| cA    |                |              |                 |
| mT    |                |              |                 |
| mP    |                |              |                 |
| cT    |                |              |                 |

**Factor #5: Winds and Pressure Systems**

[1] How do prevailing winds affect the movement of air masses?

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[2] Define air pressure.

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[3] Define polar front.

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[4] Define polar-front jet stream.

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[5] How does the polar-front jet stream affect the movement of air masses?

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