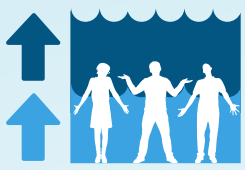
SEA LEVEL RISE

ATLANTIC CANADA

Global Sea Level Rise = the average amount water levels are rising in all of the oceans on the planet

By **2100** global sea levels are expected to rise approximately **1 m** above current levels.



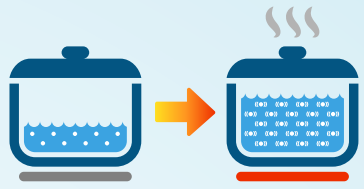
Sea-level rise predictions are presented by the Intergovernmental Panel on Climate Change (IPCC). The **IPCC ASSESSMENT REPORT 5**, published in 2013/2014, is a result of the collaborative efforts of **830 scientists** from over **80 countries** along with **1,000 contributing authors** and **2,000 expert reviewers**, assessing more than **30,000 scientific papers**. The AR5 is over **4,800 pages long** and is the **MOST COMPREHENSIVE** assessment of climate change ever undertaken.

2 Main reasons

sea levels are rising globally:

These are **both** caused by a **warming Earth**.

1 Thermal Expansion = The oceans increase in volume and take up more space as they heat up.



As a pot of water is heated, the water molecules move faster. The faster they move, the more space they take up, causing volume to expand.

The ocean is absorbing **90%** of the heat from global warming.

2 Melting Land Ice

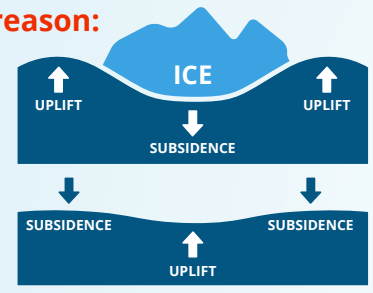
(glaciers, ice caps, ice sheets)

As temperatures rise, land ice meltwater enters the ocean and causes sea levels to rise.

In **Atlantic Canada**, sea levels can be different than global averages.

Main reason:

VERTICAL LAND MOVEMENT



During the last ice age, **Canada** was covered in a **massive glacier**, which was so heavy that it gradually caused the center of the country to sink and the edges to rise. Once the glacier melted, the center began rebounding and the **edges began sinking**. **THIS IS STILL HAPPENING TODAY!**

= **Greater** SEA-LEVEL RISE AMOUNTS for **Atlantic Canada**

For southern parts of **Atlantic Canada** this means that not only are sea levels rising but **land** is also **subsiding**.

70% of the **population** of **Nova Scotia** lives in coastal communities.

Nova Scotia will experience the **greatest** local **sea-level rise** amounts in Atlantic Canada.

No place in **Prince Edward Island** is farther than **16 km** from the coast

60% of the population of **New Brunswick** lives within **50 km** of the coast.

90% of the population of **Newfoundland & Labrador** lives in coastal communities.

Inundation

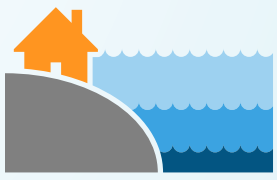
A permanent submergence of the coast and a new normal water level.

Coastal Flooding + Storm Surge

Storm surge can cause higher than normal water levels that temporarily flood homes and properties.

Coastal Erosion

The degree of coastal erosion depends on factors such as exposure to wind and waves, the strength of those waves and the type of coastal landform (beaches erode more easily than rocky cliffs!). This is likely to increase in areas where sea ice is reduced in the future.



Salt Water Intrusion

Occurs when salt water seeps into fresh groundwater. It can impact drinking water and freshwater species and cause coastal vegetation to die.

Extreme Water Levels

(sea-level rise + storm surge + tide level + seasonal oceanographic variability) are one of the most damaging impacts of sea-level rise.

Atlantic Canadian Coast IN NUMBERS

Atlantic Canada has over **50,000 km** of coastline.

km of Coastline:

- NEWFOUNDLAND & LABRADOR **29,000**
- NOVA SCOTIA **13,300**
- **5,500** NEW BRUNSWICK
- **3,200** PRINCE EDWARD ISLAND

As of 2001, over **60%** of the **population** in **Atlantic Canada** lived within **50 km** of the shoreline.

What Can You Do?

Team up with other community members to push for change in your area.

Think before you build or buy.

Visit **www.sealevelrise.ca** to find local sea-level rise adaptation tools that can help you start planning for sea-level rise in your community.

The ECoAS PROJECT

Educating Coastal Communities About Sea-level Rise

www.sealevelrise.ca
#SLRandYou

PROJECT PARTNERS: Ecology Action Centre | Fisheries and Oceans Canada / Pêches et Océans Canada