

## GLOBAL CLIMATE VOCABULARY

### Introduction

1. Mitigation: the action of reducing severity
2. Xeriscaping: landscape requiring little or no irrigation or other maintenance
3. Pathogens: are disease causing organisms and include various types of bacteria, viruses, and protozoan parasites
4. E. coli: is short for Escherichia coli and is a type of fecal coliform bacteria commonly found in animal and human intestines
5. Fecal coliforms: are bacteria associated with human or animal waste, usually found in animal and human waste
6. Fish ladder: a structure that allows migrating fish passage over or around an obstacle on a river
7. Climate change: a change in global or regional climate patterns, eg., BC's 2016 winter and 2017 summer weather

### Weeks 2-4

1. Solar and Thermal radiation: the sun's heat absorbed by earth and the earth's heat sent into the atmosphere
2. Irradiance: the SI unit measuring the watt per square meter (W/m<sup>2</sup>)
3. Global warming: is the increase in average temperature near the Earth's surface. This happens over decades and centuries
4. Greenhouse effect: the exchange of energy between the sun and the earth that heats up the earth and makes it a livable planet; the gases act like a blanket absorbing infrared radiation and preventing it from escaping into outer space
5. Greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfahexafluoride
6. Climate change: the broader set of changes that go along with global warming: weather patterns, oceans, ice and snow, and ecosystems.
7. Green technology and jobs: technology whose use is intended to mitigate or reverse the effects of human activity on the environment. A continuously evolving group of methods/materials from techniques for generating energy to non-toxic cleaning products
8. Al Gore: Albert Arnold Gore Jr. is an American politician and environmentalist who served as the 45th vice president of the US from 1993-2001
9. CO<sub>2</sub>: Carbon dioxide is a greenhouse gas; carbon dioxide is a colourless gas composed of one carbon atom that is covalently double bonded to two oxygen atoms
10. Permafrost: a thick subsurface of soil that remains frozen throughout the year, occurring chiefly in polar regions
11. Kyoto Accord/Treaty: an international treaty among industrialized nations that sets limits on greenhouse gas emissions
12. Anthropogenic causes: caused or influenced by humans
13. Carbon sinks: a natural or artificial reservoir that absorbs more carbon than it releases as carbon dioxide

14. Antarctic Larsen B (ice shelf): The Antarctic Larsen B ice shelf collapse occurred in the northwest part of the Weddell Sea. In 2002, a large part of the ice front broke off the glacier

15. Coral Bleaching: when a change in temperature nutrients or sunlight causes coral to release algae living within them causing stress to the coral and eventually killing the coral

16. Carbon tax: a tax on fossil fuels intended to reduce the emission of carbon dioxide

Tar sands: a deposit of sand impregnated by bitumen; the sand can be processed and yield oil

17. Methane: a greenhouse gas; a colourless odorless flammable gas that is the main constituent of natural gas

18. N<sub>2</sub>O: Nitrous oxide is a greenhouse gas; a colourless non-flammable gas, with a slightly metallic scent and taste, known as laughing gas.

19. UNIPCC (International Panel on Climate Change): a scientific and intergovernmental body under the auspices of the UN, set up at the request of member governments, dedicated to providing the world with an objective, scientific view of climate change and its political and economic impacts

### Weeks 5-7

1. Albedo effect: the fraction of solar energy (shortwave radiation) reflected from the earth back into space. It is a measure of the reflectivity of the earth's surface. Ice, especially with snow on top of it, has a high albedo: most of the sunlight hitting the surface bounces back towards space

2. Feedback loops: In climate change, a feedback loop is the equivalent of a vicious or virtuous circle – something that accelerates or decelerates a warming trend.

3. A positive feedback accelerates a temperature rise.

4. A negative feedback decelerates a warming trend.

5. Forcings: Climate forcing is the difference between insolation (or sunlight) absorbed by the Earth and energy radiated back to space.

6. Positive radiative forcing means that Earth gains more energy from space than it receives from the sun, which produces warming.

7. Negative radiative forcing means that Earth loses more energy to space than it receives from the sun, which produces cooling.

8. Tipping points: In climate change, a tipping point is defined as a threshold for abrupt and irreversible change. The International Panel on Climate Change (IPCC) stated that levels of climate change may trigger a tipping point.

9. Aerosols: a substance enclosed under pressure and able to be released as a fine spray, typically by means of a propellant gas.