

The Oceans

Basics

3. Gases from phytoplankton

Solution Worksheet 2

2.

1. Phytoplankton produce DMSP
2. phytoplankton die or are eaten
3. DMSP is released into seawater
4. DMSP breaks down into DMS
5. some DMS escapes from the sea into the air
6. DMS is converted into sulphate aerosols in the air
7. Sulphate aerosols cool the Earth by reflecting sunlight back into space or by forming clouds

3.

Two ways in which halocarbons from the oceans may affect human health:

1)

Iodine-containing halocarbons such as methyl iodide are important for human health: Transfer of iodine from the oceans to the land is an extremely important part of the global iodine cycle. This source of iodine is critical to human health. If iodine wasn't transferred from sea to land, humans would suffer much more widely from brain damage and from goitre which causes the thyroid gland to swell up.

2)

Halocarbons released into the atmosphere may contribute to the breakdown of ozone. Lowering ozone amounts in turn reduces the concentration of hydroxyl (OH) radicals in the troposphere. Because these hydroxyl radicals clean the air of harmful chemicals, lower levels of them may reduce air quality and affect human health negatively.