EnglishWaves.fr
The French radio station that speaks English !

10 Minutes For The Planet

Ice and glacier slice©

by Sarah Heath and Catherine Balter-Kendall

Stressed syllables are underlined and in **bold**.*

Hello! I'm Sarah Heath and you're listening to 10 Minutes for the Planet on English Waves.

Glaciers exist on all seven continents and it is **es**timated that there are just under 200,000 of them across the globe. Covering 10% of the total land area worldwide, a **huge** percentage is located in, or near, the poles but glaciers are also found in many mountainous regions. In total, ice covers 706,000 square ki**lo**metres across the planet. They **build up** from fallen snow which is gradually compressed into huge masses of ice – some of which grow to hundreds of kilometres long and, in parts of the Antarctic, to nearly five kilometres thick.

They are living, moving natural phe**no**mena, changing to the rhythm of the seasons. Their **behaviour** is **not unlike** a very, very slow-moving river: the Jakobshavn Glacier in Greenland **holds the world record** for moving at a speed of 45 metres per day! In the summer, the sun's heat causes them **to melt** and **shrink** in size but then the cold in winter **reverses the process** and the glacier regains the mass lost in the warmer months. But since the 1980s, glaciers have not managed to fully **grow back** to their original size. By just how much has not been fully understood until now.

Worrying new research by a team of glaciologists from the University of Zurich has new evidence which now shows that glaciers are shrinking at an alarming rate, one which is much faster than a 2013 study suggested. A huge 18% faster. This **rise equates to** 335 billion tons of ice each year, which is just disappearing.

huge (adj.) very large, enormous

to build up (phrasal vb.) to form gradually

behavior (n.) way of acting

not unlike (exp.) rather similar to

to hold the world record (exp.) to be the best in the world at a particular skill

to melt (vb.) to become liquid

to shrink (vb.) to contract

to reverse the process (exp.) to do the same in the opposite order

to grow back (phrasal vb.) to revert to

rise (n.) increase

to equate to (phrasal vb.) to be equal to

The vast project studied 19,000 of the world's glaciers through both **field research** and with the help of satellite imagery and **reached the conclusion** that it has been in the past 55 years that glaciers across the globe have **noticeably** diminished in size. This corresponds with changes to the world's climate proving that the two are **inextricably linked**.

Scientists **drill** into the ice and extract ice cores from **deep within** the glaciers. These **samples** are then studied which reveals information, mostly from **trapped** air bubbles, about the atmospheric composition and temperature changes throughout the years. In recent times, ice core samples are showing that there are progressively higher levels of carbon dioxide and methane in the atmosphere, key components in global warming.

Glaciers hold roughly 70% of the world's freshwater within their mass – **hence** their vital importance. Other freshwater sources, such as lakes and rivers make up a **mere** 0.5%. And the world's ice masses are melting: 80% of the glacier on Mount Kilimanjaro has disappeared in the last century; the glaciers in India and the Himalayas are melting so quickly that scientists believe that they will have gone entirely by the year 2035. At this rate, many mountain ranges, including the Alps, could see their glaciers disappearing completely by the end of this century: scientists in Switzerland have estimated that half of the Alps' 4,000 glaciers will have melted by 2050 and all will have lost at least half their mass in the same **time frame** – **regardless** of any cuts in carbon emissions between now and then.

When this is **put together** with the gradual **demise** of the ice sheets in Greenland and Alaska, the concerns for rising sea levels become all too apparent. The Intergovernmental Panel on Climate Change has reported that sea levels in the past 100 years have risen between 10-20 cms. The current rise rate is about 3.5mms each year, which is already having **dire consequences** on the world's coastlines. With so many people living in close proximity to the sea, the future could be devastating in both rich and poor countries alike. If glaciers melted **in their entirety**, the levels of the seas and oceans would rise by 70 metres. That would **wipe out** major cities such as Osaka, Mumbai and New Orleans.

With such a massive reduction in the availability of freshwater sources if the world's glaciers melt, the effects on agriculture,

field research (exp.) observation and collecting of data on site rather than researching in a laboratory or work place

to reach a conclusion (exp.) to make a judgment after a period of research

noticeably (adv.) visibly

inextricably (adv.) unable to be separated

linked (adj.) connected

to drill (vb.) to make a hole

deep within (exp.) way down inside

sample (n.) small section intended to give a bigger picture of the whole

to trap (vb.) to catch

hence (adv.) as a consequence

mere (adj.) small but important

time frame (exp.) time period

regardless (adv.) without taking into account

to put together (phrasal vb.) to add

demise (n.) the end, the destruction

dire consequences (exp.) serious or tragic results

in their entirety (exp.) completely

to wipe out (phrasal vb.) to eradicate, to destroy

fallout (n.) adverse side effect

and hence the food chain, will be one of many catastrophic **fallouts**. This has a double-negative effect attached to it – the overall loss of access to freshwater through the glaciers melting, causing the subsequent rise in sea levels due to the melted ice masses. Seawater will **encroach into** freshwater aquifers such as the Nile Delta, the main water source for Egypt's **arable farmers**, **rendering** the country's already limited agricultural land, almost useless.

Another **lesser-known** concern is the re-release of radioactive materials from accidents such the Chernobyl nuclear power plant in 1986. Scientists have studied how such material is stored in the top layers of glaciers to often much higher concentrations than in non-glacial areas. Once the glacier melts, these radionuclides may be released back into the environment, including into the food chain.

Action has to be taken now. Research shows that much of the increase in greenhouse gases contributing to global warming, **took place as far back as** the Industrial Revolution in the 1760s. Since then, human activity has increased the levels of carbon dioxide and other gases by 40%. If the planet is **to stand a remote chance** at **preventing** the loss of its **chief** source of freshwater, governments must make immediate changes to their environmental policies. As Jacques Yves Cousteau said, "We forget that the water cycle and the life cycle are one".

Tune in next week for more stories on the environment, here on English Waves.

to encroach into (phrasal vb.) to advance gradually beyond its normal limits

arable farmers (exp.) farmers who grow crops

to render (vb.) to make

lesser-known (adj.) not so famous

to take place (exp.) to happen

as far back as (exp.) long ago

to stand a remote chance (exp.) to be likely to achieve sth. very difficult

to prevent (vb.) to stop

chief (adj.) main, principal

***Tip!**

In 4 syllable words the main stress sometimes falls on the first syllable:
estimated, imagery, noticeably, consequences, devastating, agriculture
sometimes on the second syllable:
kilometres, phenomena, proximity, environment, immediate
and sometimes on the third:
information, atmospheric, composition, Himalayas, disappearing, catastrophic, revolution
and more rarely on the fourth (no examples in the article)