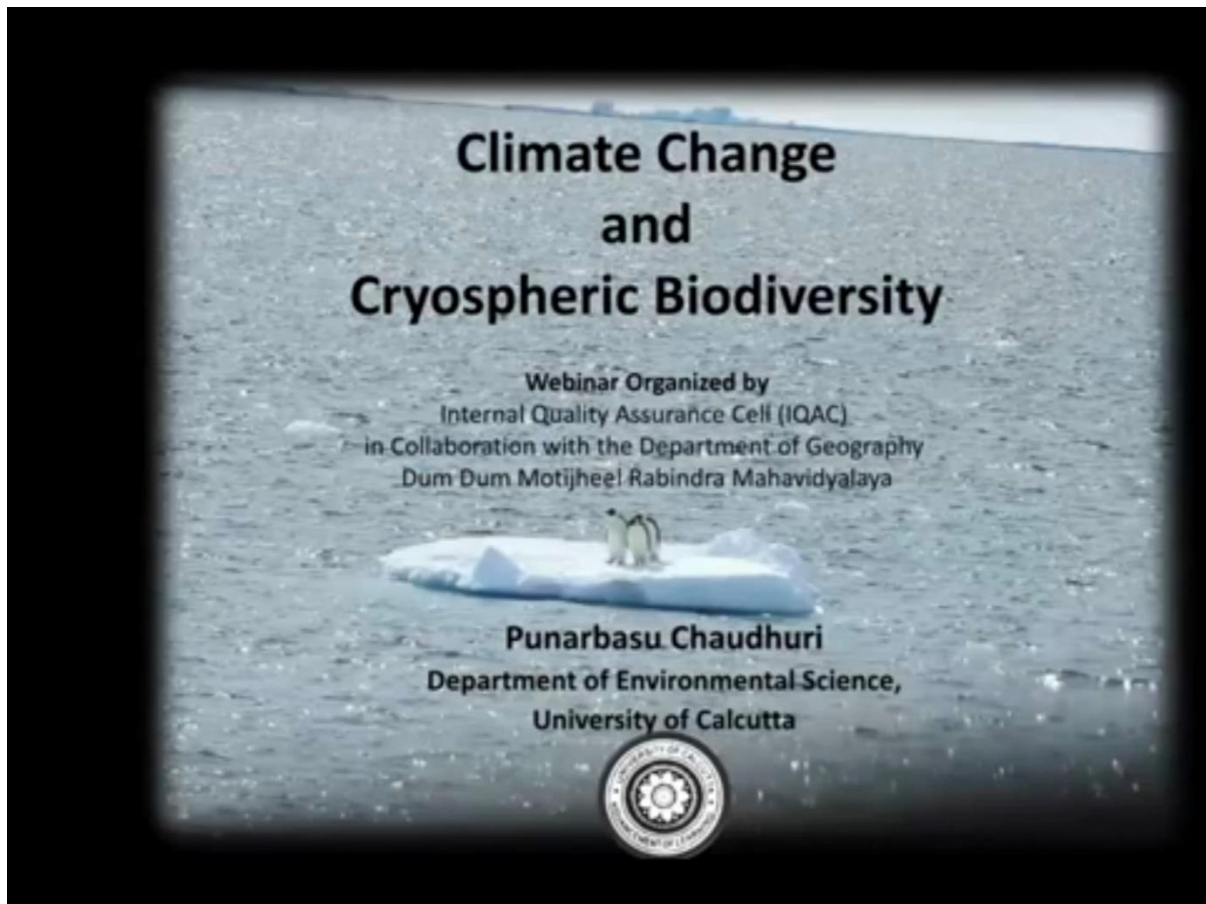


**Report on the program on  
Climate Change and Cryospheric Biodiversity  
organized by  
Dept. of Geography in collaboration with IQAC  
Dumdum Motijheel Rabindra Mahavidyalaya  
18<sup>th</sup> June, 2020 (online platform zoom)**

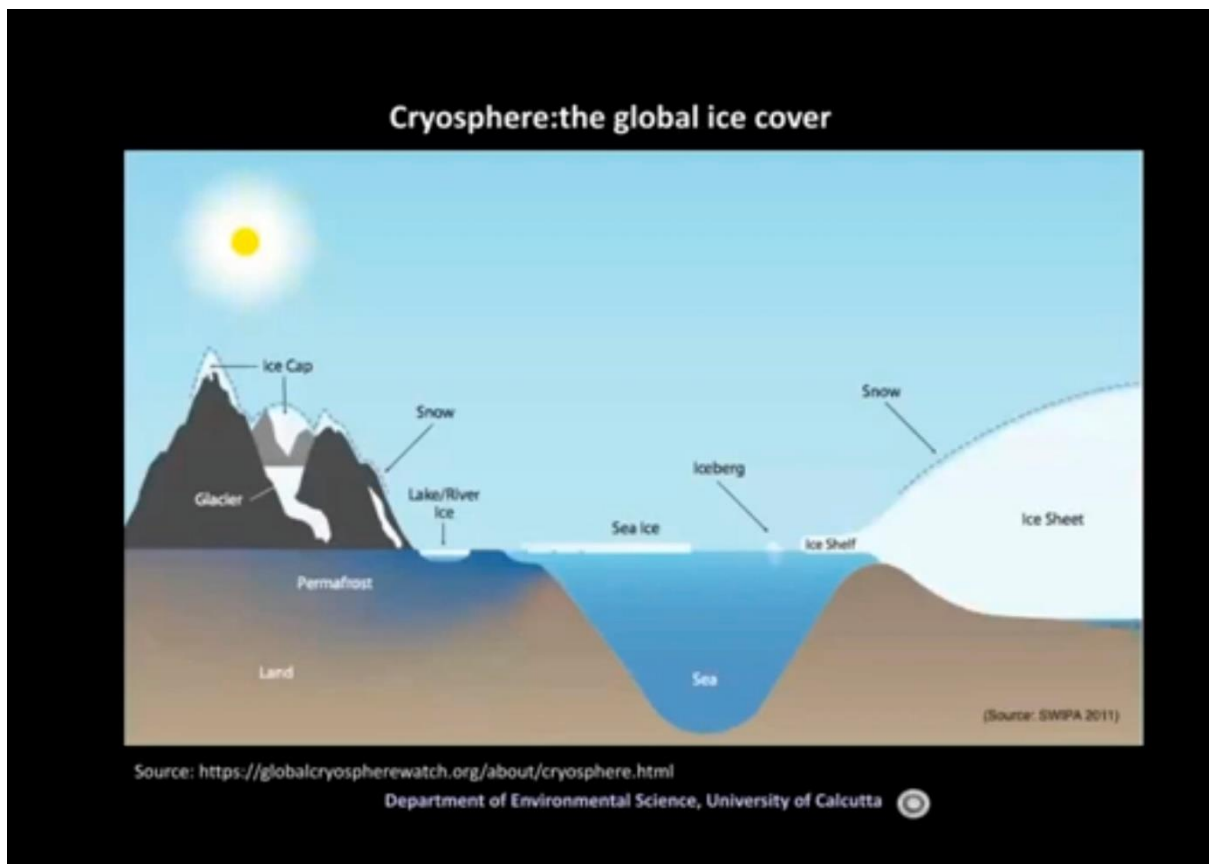
The term “**Cryosphere**” collectively describes the portion of the earth’s surface where water is in a solid form and describes the elements of the earth system containing water in its frozen state which includes sea ice, lake and river ice, snow cover, solid precipitation, glaciers, ice sheets, icebergs, permafrost and seasonally frozen ground. Dum Dum Motijheel Rabindra Mahavidyalaya organized a special lecture followed by an interactive session on 18<sup>th</sup> June 2020 during 6.30-8.30 pm. Due to the prevalent pandemic situation during that period, the program was organized virtually via Zoom platform. Around fifty students and all faculty members from different departments joined this online event platform and actively participated in the academic discussion.

The program started with a welcome address delivered by Dr. Sabitri Dutta IQAC Co-ordinator, who gave a brief introduction about the climate change and cryospheric biodiversity. The dignitaries present in the virtual program were Dr. Sandip

Dasgupta Principal DDMRM, and eminent environmentalist Dr. Punarbasu Chaudhuri faculty of Department of Environmental Science University of Calcutta and the invited resource person for this event among the others.



Prof. Chaudhuri gave a very informative and engaging lecture on Cryospheric variables like sea ice concentration, sea ice thickness, snow cover, glacier extent and their role in climate change. He highlighted on the different cryospheric processes and their direct impact on the major stores of water, how they lock up water as ice from the hydrosphere lowering sea levels, or release water during melting periods resulting in rising sea levels. He stressed on the fact that the Cryosphere changes cause global sea-level change and also global water cycle processes. He also discussed how the Cryosphere affect the biosphere and air pollution affect the Cryosphere.



Professor Chowdhury told that the cryosphere affect the climate changing with it and through feedback processes, these changes have an influence on climate. He explained how the increased melting of snow and ice caused by a warming planet enables more solar energy to be absorbed by land or water, which in turn leads to further warming. He also highlighted that the components of the cryosphere play an important role in the earth's climate, for instance the snow and ice reflect heat from the Sun, helping to regulate our planet's temperature.

## Cryosphere: world map of ice, snow, glaciers, permafrost and ice sheets



Source: [https://nordpil.com/static/images/cryosphere\\_full.jpg](https://nordpil.com/static/images/cryosphere_full.jpg)

Department of Environmental Science, University of Calcutta

His speech was followed by a lively interaction session, where Prof. Chowdhury interacted with the students and entertained their questions by providing them solutions to be a partner in the conservation of nature. Through his illuminating lecture he advocated the idea that a healthy planet is not an option, rather it is our duty to preserve it, use it in a sustainable manner, keeping in mind to the balance of the ecosystem. He also discussed about the benefits of the cryosphere and how does it affect the global climate.

## 5 main drivers of species loss



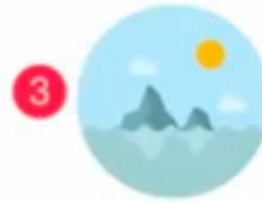
### 1 Changes in land and sea use

Humans have altered **75%** of land and **66%** of marine environments since pre-industrial times.



### 2 Direct exploitation of organisms

In 2015, a **third** of marine stocks were being fished at unsustainable levels.



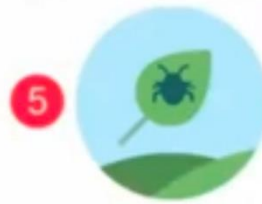
### 3 Climate change

Global warming has already impacted almost **half** of threatened mammals and **one quarter** of birds.



### 4 Pollution

Marine plastic pollution has increased tenfold since 1980, with an average **300-400M** tons of waste dumped annually into the world's waters.



### 5 Invasive alien species

The numbers of invasive alien species per country have risen by about **70%** since 1970.

Source: IPBES Report  
Graphic: Wañaa Ayish, CNN

Source: Global assessment report on biodiversity and ecosystem services (2019)

The program ended with the vote of thanks delivered by Dr. Sabitri Dutta IQAC-co-ordinator, DDMRM.