



ΚΠΕ

# ENVIRONMENTAL EDUCATION CENTERS



## Change the Change

Climate Change as a  
Challenge of Adult  
Education



kpe.inedivim.gr



Επιχειρησιακό Πρόγραμμα  
Ανάπτυξη Ανθρώπινου Δυναμικού,  
Εκπαίδευση και Διά Βίου Μάθηση

Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης





# WHO WE ARE?

## ABOUT US

**Environmental Education Centers** are decentralized sustainable public structures of the Ministry of Education in Greece, related to environmental education at local, national and international level.

**53 Environmental Education Centers** are located across several regions of Greece and classified under specific subprojects.

**Youth and Lifelong Learning Foundation** is the responsible body for the implementation of this project, under the Human Resources Development – Education and Life Long Learning Operational Programme.

The project has now been running since 2008.







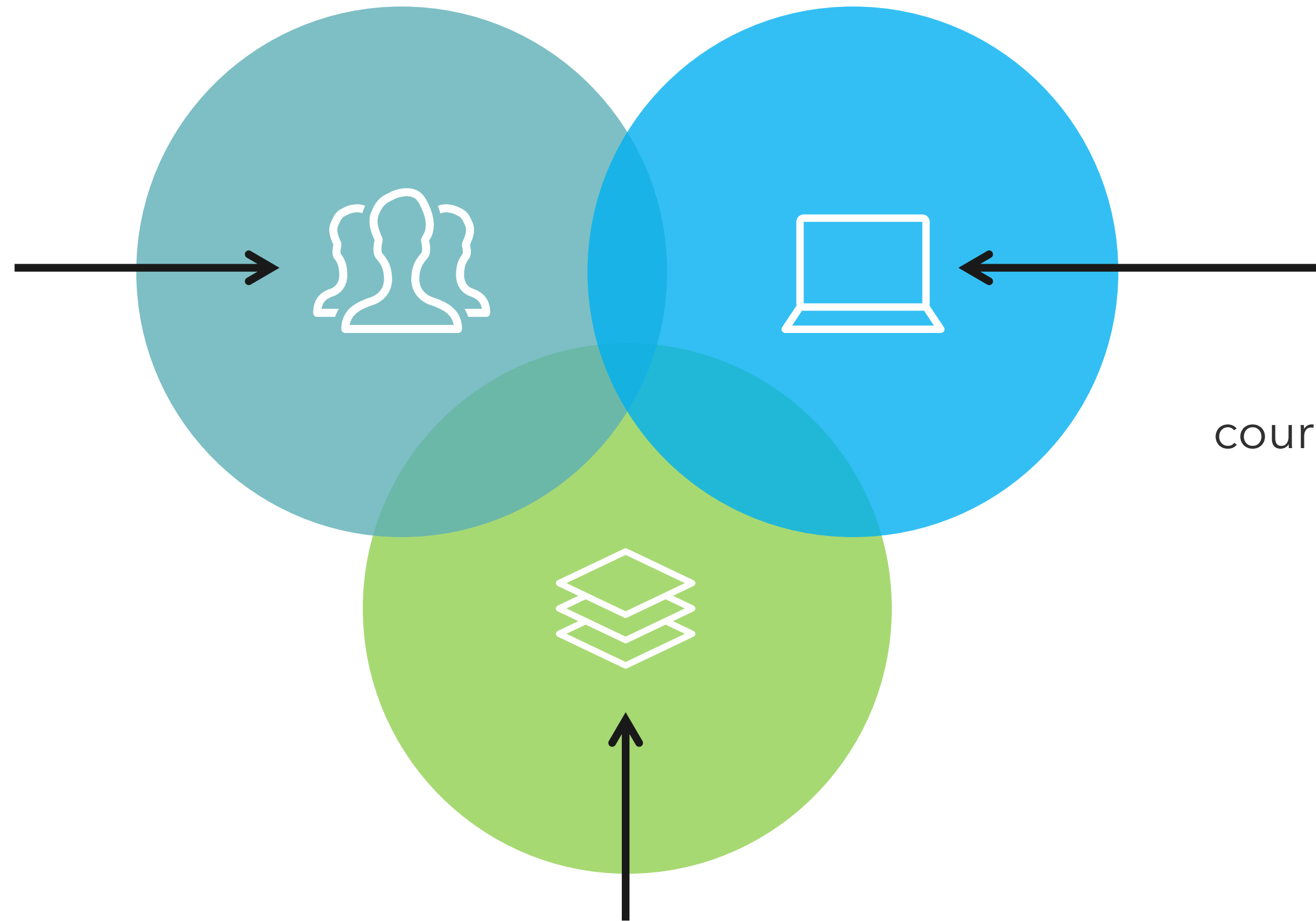
# MAP OF ENVIRONMENTAL EDUCATION CENTRES

# TYPE OF **ACTIVITIES**

4

## One day / multi day Training Programs

Educational programs for students of primary and secondary education level, throughout the school year.



## Webinars

Major shift to online courses and workshops, in response to Covid-19 restrictions.

## Adult training seminars

Further education and continuous training of teachers  
Teaching models optimization, initiation into innovative methods of teaching and learning.



## Environmental projects

Implementation of educational environmental projects, in cooperation with school units.

## Educational material

Production of educational – supportive material

## Research

Promotion of research in the field of environmental education

## Communication strategy

Dissemination and outreach of the centers' environmental action outcomes



**RANGE OF  
ACTIVITIES**



# GENERAL **SCOPES**



Environmental  
Awareness



Active participation  
of the students  
towards the  
improvement  
of the quality of life



Further  
improvement  
of education and  
continuous  
training  
of teachers



Build on training  
material




**Lifelong Learning Centers** are structures created for free education and learning, concerning all age groups.

These centers offer a wide range of thematic areas, grouping environmental issues as well:

- Green Business
- Environment & Everyday Life
- Team Environmental Actions
- Household Ecological Solutions
- Agriculture and Natural Resources
- Urban Gardens

# LIFELONG LEARNING CENTERS for adults



A photograph of a polar bear and her cub standing on a piece of sea ice. The adult bear is on the left, looking towards the left. The cub is on the right, looking towards the adult bear. The background shows a body of water and a cloudy sky.

A polar bear and her cub on sea ice in the Arctic north of Svalbard  
(Image © Larissa Beumer / Greenpeace)

## “Climate change”

refers to the increasing changes in the measures of climate over a long period of time – including precipitation, temperature, and wind patterns.

Adaptation to climate change has become imperative and the environmental education centers have adjusted their educational programs and actions, according to the identified crucial components of climate change. This is a chance and a promising way for encouraging students and adults to take action.

Digital or hands-on games are developed as educational tools for students to learn about climate change, through amusing activities. This way, learning gets more attractive and efficient for young people. Having fun while learning helps students remember information better because it is a memorable learning experience.



# SERIOUS GAMES FOR CLIMATE CHANGE

APRIL 2019



This work contains a series of games that seek to educate 12- 15 year old greek students about climate change. Different topics that explore relationships between society and climate change are discussed. The hope is to empower future generations to mitigate climate change, adapt to its effects and be resilient for the years to come. The games can be adapted and adjusted to be played by other age groups, as well.

The environmental education center of Eleutherio-Kordelio introduced climate change on its educational programs, since 2017. As a result of the cooperation of the referred environmental center and **Worcester Polytechnic Institute (WPI) of USA**, a separate program concerning climate change was launched in 2018-2019 school year, while on spring 2019 this program was restated including **educational games**. More precisely, the output is a collection of "serious games" about climate change, which constitute the work **"Serious game for climate change"** (60 pages long).

# CLIMATE CHANGE PROGRAMS

9

**"Serious game for climate change"**

THE CENTER FOR ENVIRONMENTAL EDUCATION

## THE ENVIRONMENTAL EDUCATION CENTRE

The Environmental Education Centre of Eleftherio-Kordelio, referred to as "KPE" throughout the booklet, is located in Thessaloniki and was established by the Ministry of Education in cooperation with the Municipality of Eleftherio-Kordelio. The Centre focuses on educating schools and local communities about the environment and sustainable development.



## VISION

- Aim to educate students / future citizens to be active and think critically
- Support teachers to approach Education for Sustainability in their everyday practice
- Assist citizens to actively care for the environment of their town





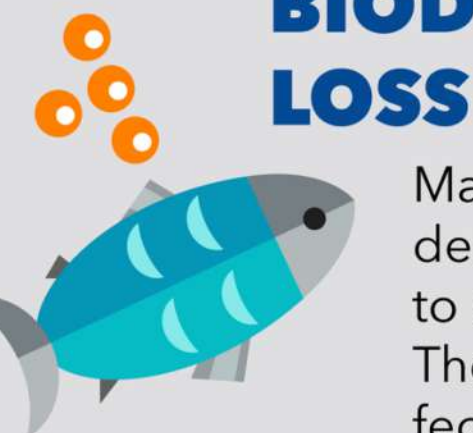
# CLIMATE CHANGE

Climate change's effects range from sea level rise and more frequent extreme weather events to the loss of biodiversity and increased risk of diseases. Climate change impacts every form of life—humans, plants, and animals.



## SEA LEVEL RISE

Thermal expansion is the main cause of sea level rise. Oceans get warmer, less dense and take up more space. Thermal expansion is thought to have raised sea levels by an average of 1.1 millimetres a year, between 1993-2010.



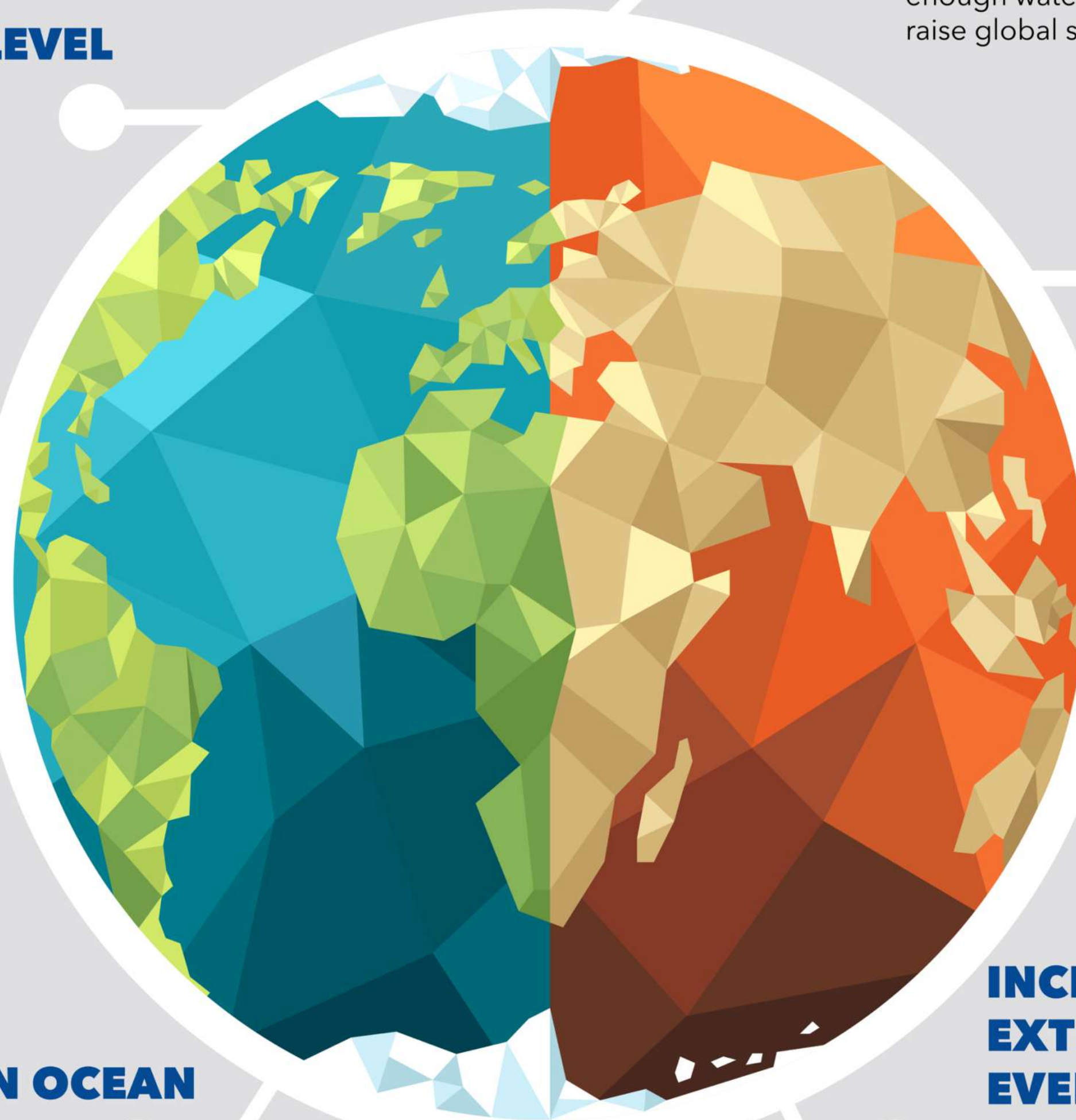
## BIODIVERSITY LOSS

Marine species are moving deeper and towards the poles to escape rising temperatures. These shifts have knock-on effects on all species.



The seawater gets less salty, and therefore lighter and slower to sink. As a result, melting polar ice is weakening ocean currents.

## CHANGES IN OCEAN CURRENTS



## MELTING ICE

Massive ice sheets in Greenland and Antarctica will collapse and melt entirely, eventually pouring enough water into the oceans to raise global sea levels by several metres.



## LAND DEGRADATION

The expansion and unsustainable management of agriculture, fuelled by unprecedented levels of consumption in an increasingly globalized economy. This causes significant loss of biodiversity and ecosystem services, such as food security, water purification and the provision of energy.



## RISING TEMPERATURES

Burning fossil fuels release additional carbon dioxide into the air. This gas traps extra heat near Earth's surface causing the planet's surface-level temperatures to rise consistently over the last decades. This is known as global warming.



## INCREASE IN EXTREME WEATHER EVENTS

Increased sea surface temperatures are associated with making hurricanes and tropical cyclones more powerful, potentially increasing the number of the most severe storms that strike islands and coastal areas. Warmer water can also dissolve less carbon dioxide, which means more will stay in the atmosphere to accelerate global warming.







**Thank you for your attention**

Aikaterini Mavrogianni – Coordinator of the Centers of Environmental Education in Greece

Meropi Adamopoulou – Communication & Outreach Officer of the Centers of Environmental Education in Greece

