



folego

ARTS TO APPROACH AND BREATHE IN BETTER TIMES
IN MAÇÃO, OLEIROS, PROENÇA-A-NOVA, SERTÃ AND VILA DE REI

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fôlego

The **Fôlego** handbook has the ambition to be a solid foundation of didactic experiences and good practices for teachers from primary, middle and secondary education by gathering an extensive description of all the activities and knowledge exchange during the project.

The experiences of **Fôlego** may represent starting points for new work projects in school environments or can be simply developed by non-formal educators. They are interdisciplinary proposals with a high degree of adaptability.

This handbook serves as a presentation of the **Fôlego** project and how the Arts are positioned at the service of Global Education and Critical Thinking in favour of Climate Change and is a result of the **Fôlego** Project (EEA Grants 2014-2024 / EU) and is available online (PDF download) at [\[folego.pt\]](https://folego.pt).

THE PROJECT

preface

FÔLEGO was an artistic intervention project with an impact on the development of performing arts' audiences in five Portuguese municipalities: Mação, Oleiros, Proença-a-Nova, Sertã and Vila de Rei. Bringing closer together and strengthening the relations between their populations, it privileged artistic intervention methodologies that come from working with the communities.

Its intent was the sharing of experiences between the populations in this region and artists (local, national and international) through the thematic lens of Climate Change. The arts become the inspiring catalyst to motivate communities in valuing their territory and its inhabitants.



introduction

Fôlego works with very resilient populations, who mostly earn a living in the primary sector, living and working under extreme climatic conditions – these are municipalities that experience huge summer fires and heat waves. We believe these communities have greatly benefited from coming together to share their experience of coexisting in this central region of Portugal (*Pinhal Maior*), giving way to enduring exchanges of ideas with artists, educators and researchers.

The project was developed in an area of remarkable natural heritage, including forested areas and river beaches inside the Naturtejo UNESCO Global Geopark [naturtejo.com].

The geopark endorsed the project as a privileged opportunity to bring together several cultural initiatives built upon its local identity, natural and cultural wealth.

MAÇÃO





OLEIROS



PROENÇA-A-NOVA



SERTÃO



VILA DE REI

During its activity period, **Fôlego** was able to establish a wide network of local agents from several areas. These connections were the starting points of the project's artistic initiatives, enhancing resources and drawing on diverse traditions, especially at regional and national level. By stimulating social, cultural, and economic development in the region, **Fôlego** sought to provide an effective force to counter the desertification of these territories around a common narrative.



More informations about the activities in the project's archive can be found here:
[\[folego.pt\]](http://folego.pt)

The **Fôlego** project sought to raise awareness about the effects of Climate Change by drawing on the humanities, science and education, as well as other approaches to the environment within artistic and cultural fields, by directly involving local populations, and in this way working to inspire, motivate and promote environmentally aware and socially responsible behavior. The project brought together different artistic practices, ranging from visual arts such as photography and new media to literary arts such as poetry and narrative forms, as well as performing arts such as dance, music, new-circus and theatre. The project's main axis of action was its close relationship with the local communities of five neighboring municipalities in central Portugal, promoting the mobility of artists and audiences among them. To develop this programme, **Fôlego** counted on the collaboration of artists with a proven experience in community work and participatory art processes.



fôlego

the name

The name **Fôlego** (*Breath*) comes from the association of this territory with fire, but also from the air necessary both for combustion and for life. The philosophy of the project was to encourage people in the participating communities to address the climate crisis and other entangled social and environmental challenges. In doing so they take greater control – and responsibility for – the fate of the region. The project aspires to help refocus our gaze on natural heritage through a different perception of time and space. It seeks to open up new opportunities for breathing and reflection through

the personal and collective growth that artistic tools and engagements can bring us.

From the motivation of the creative participants invited to join in the project, the entire programme was linked in an organic way to the theme of Climate Change, environmental awareness, and sustainability, which in turn became the link between the reality of the five Portuguese municipalities and their Norwegian and Icelandic partners.

Between June and September 2021, a diagnostic phase involving mapping of the territory took place, including: surveying and organization of statistical data; meetings with entities from various sectors/ areas of activity in the municipalities in order to develop focus groups; interviews, and several working sessions.

A five-day *study visit to the territory*, mobilising all the projects' partners, served as a vital supporting action in this diagnostic phase, enabling an initial process through which potential places for artistic experimentation were scouted.



the team

ACADEMIA DE PRODUTORES CULTURAIS (Cultural Producers' Academy)

[\[academiadeprodutoresculturais.com\]](http://academiadeprodutoresculturais.com)

As an association of cultural producers, Academia de Produtores Culturais has been thinking about cultural production since 1999. In response to the needs of cultural producers, it organizes training actions and informational campaigns that

better enable projects to be envisioned, planned and implemented at national and international levels, with a commitment to the development of territories and communities at the sub-regional level.

Development-oriented projects are diverse, ranging from the creation or promotion of cultural organizations (theatres, museums, festivals, etc.) to the organization and incubation of artistic structures (theatre companies, orchestras, bands, etc.), and also involving the creation, programming and executive production of shows, exhibitions, concerts, works, etc. in artistic and cultural venues and structures, both public and private.

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MAPA DAS IDEIAS

[\[mapadasideias.pt\]](http://mapadasideias.pt)

Mapa das Ideias is a Portuguese private equity company dedicated to the relationship between museums, audiences, and communities, operating since 1999. Initially focused on museum communication, the company broadened its services to other cultural niches, providing consulting services (from audience management and communication planning to providing educational services) as well as a variety of solutions from learning kits to exhibition design for various clients. One such solution has been vocational training for museum and other heritage professionals, for which the company has con-

quered national recognition. Amongst the several awards, the following stand out: APOM Prize (Portuguese Association of Museology) “Education and Cultural Mediation Project” in partnership with the Education and Mediation Service of the Museu Nacional do Traje (2011) and Natércia Campos Award for the Best Cultural Producer in Portugal (2022).

The company’s international cooperation has branched out to include concerns such as the digital transformation of the cultural sector (eCultSkills, Mu.SA, Memex, Dream), new audience development models for cultural organizations (Adeste+, Memex, Dream), and rethinking the role of culture in Climate Change education (**Fôlego**, Dexpo). In each of these interventions, new skills and methods are explored, using transnational cooperation as a strategy for internal renewal.

Mapa was the ideal partner for monitoring implementation of the **Fôlego** project and for creating a Good Practices Guide on sustainability.

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INTERNATIONAL PROJECT PARTNERS

Heidi Rustgaard

Heidi Rustgaard has worked between Norway, Sweden and the UK since 1999. Her work sits in between performance and dance and can be characterised as interdisciplinary, often taking a humorous approach to serious subject matters.

Heidi has an ongoing fascination with meetings of differences, exploring ways in which we negotiate hierarchy, conformity, power and manipulation. Interested in deconstruction, breaking down the hierarchy between performers, light, set, sound and costume, her work is presented in and outside the black box, sometimes with Hanna as a performer, and other times in collaboration with professional dancers and amateurs.

Heidi Rustgaard
heidi@h2dance.com



University of Iceland – Iceland

[\[english.hi.is/university_of_iceland\]](http://english.hi.is/university_of_iceland)

The University of Iceland, established in 1911, is the oldest, largest and most diverse Higher Education Institute of the country. It offers opportunities for graduate studies in most of the 400 study programmes it provides. Currently, the University has around 14.000 students, thereof over 700 PhD students, and about 2.000 permanent staff members, of which roughly half are tenured teachers or researchers.

The University is divided into five Schools, one of which focuses on Humanities, and is comprised of four faculties which together cover most fields of humanistic inquiry. Research and teaching on cultural and societal issues is also conducted within the School of Social Sciences and School of Education. Over the last two decades the University has established a network of Research Centres, which are all situated in rural communities all around Iceland. The Hornafjordur Research Centre, established in 2001, is the oldest of the 12 centres which together form the University's Institute of Research Centres. The Hornafjordur Research Centre's main strengths are its interdisciplinary approach to all projects, both academic and applied, and its strong roots in the local community, with connections e.g. to the municipal council, other academic or administrative institutions, non-governmental organizations, and local businesses. Currently, the Centre's main fields of inquiry concern climate change communication, sustainable rural development, inclusive environmental conservation, local literature and culture, and community archaeology. The Hornafjordur Centre has in recent years placed increasing emphasis on approaches linking Science and Art and is in the forefront of such endeavors in Iceland.

Steven Hartman

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**UNIVERSITY
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TERRITORIAL PROJECT PARTNERS

Municipalities of *Pinhal Maior*:



Mação [cm-macao.pt]



Oleiros [cm-oleiros.pt]



Proença-a-Nova [cm-proencanova.pt]



Sertã [cm-serta.pt]



Vila de Rei [cm-viladerei.pt]



PINHALMAIOR
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the program

The **Fôlego** programme was announced in October 2021 and until July 2023 it involved traveling exchange activities throughout the five municipalities, in which the different communities were involved in various ways in the artistic or creative processes foregrounded in the project. Activities of shorter duration also took place in locations and on dates or occasions especially identified by each municipality, such as festive opening and closing concerts that celebrated the presence of new artists in this territory.

In programming activities with the project's partners from abroad, a work-shadowing logic was followed, promoting the exchange of knowledge with local artists, academics as well as cultural and natural heritage specialists and practitioners, involving the scientific and educational communities. A training paradigm was reinforced, in which entrepreneurs, artists, teachers, researchers and students were engaged and empowered, laying the groundwork for continuing and perpetuating the impact of this work in the future.

Fôlego thus included many opportunities for the sharing of resources, spaces and artistic experiences among peers, with robust links to local communities, ensuring that their distinctive identities, traditions and heritage would be respected. Through residencies, circulation of the project elements, and training initiatives, the populations of the municipalities in the region were invited to be meaningfully involved in the processes supporting their own growth and development, in ways that can cultivate future desire for access to regular cultural practices and resources, creative processes or artistic fruition.

The Climate Change theme unifying the project was chosen due to the great relevance of this challenge in the daily life of all these communities. The ambition to reduce the gap between specialized knowledge and local knowledge on this topic and related social and environmental challenges served as a unifying force for creative dia-

logues among artists, regional authorities, scientists, local citizens, educators, youth and those interested in tourism, agriculture and other activities that depend, economically and culturally, on the territory's essential resources.



The project contributed to developing a sense of belonging and social cohesion among the various stakeholders, based on the idea of territorial regeneration and valorisation, with an additional ambition to enable greater retention of artists in the region. With a view to developing audiences and consolidating an effective artistic experience in the future, **Fôlego** has

been positioned to enhance training and audience empowerment through promotion of the arts around a difficult though urgent global dialogue on the problematic of Climate Change and the need to adopt behaviors reflecting awareness of and commitment to social, economic, environmental and cultural sustainability.



Portugal, Iceland and Noruega

It was a particular intention of this project to establish a connection between Portugal, Iceland and Noruega concerning the theme of climate change, based on underlying links and drivers of this global phenomenon that stimulated constructive dialogue between scientific, academic, and artistic agents. A joint dialogue was promoted as well with both Norwegian and Iceland partners, lifting forward a commonly acknowledged European identity and a collaborative framework of exchange, reflection and a quest for answers deepened by the project but also capable of continuing beyond it.



Fôlego highlighted a careful choice of artistic proposals that have environmental and sustainable development issues as the basis of their work. We believe that following this project, the territory is in a stronger position to support artistic mobility and the creation of an articulated cultural network between artistic agents and other local agents, public and private.



CHAPTER 2

CLIMATE CHANGE



[youtube.com]

(‘After Ice’ – Kieran Baxter, Þorvarður Árnason and M Jackson)

climate change in Fôlego

The **Fôlego** project brought together Portuguese, Icelandic and Norwegian artists and other specialists from academia and society under the theme “Ice N’Fire.” These participants in the project worked from a common understanding of how human actions in the earth system have driven and accelerated climate

change over the past century. The combined effects of human impacts all over our planet have become increasingly clear over the past few decades by the authoritative findings of climate science. Some of these are touched on in this chapter.



The activities that unfolded under the “Ice N’Fire” theme of **Fôlego** served to remind us that, no matter where in the world we may live, even in countries with vastly different landscapes, ecologies and climate norms, such as Iceland and Portugal, we are all now experiencing effects of global warming that are unprecedented in recorded human history. The impacts of a warming planet, including a whole week of global average temperatures in July 2023 that were shown to be the hottest on Earth in the past 100,000 years, have made the focus of our changing climate, globally and regionally, an urgent framework and a vital important lens through which to organize an artistic program seeking to narrow the gap between scientific expertise and local knowledge. The role of climate change as a territorial challenge thus came into focus as a unifying question around which creative dialogues could unfold, engaging a wide range of stakeholders that included artists, regional authorities, academics, local citizens, educators, youth and those interested in tourism, agriculture and other societal activities that depend, economically and culturally, on the territory’s essential resources.





The participants in **Fôlego** discussed diverse knowledge, values, meanings and understanding – as well as a corresponding range of experiences and perspectives – that served to generate new creative interventions, identifying novel or innovative links among different actors and fields of engagement from the arts to cultural heritage, from university academics to school teachers and students, from agricultural and ecological practitioners to landowners and ordinary citizens. This process emphasized involvement of local populations, artists and community stakeholders in joint creation processes based on participatory, transdisciplinary methodologies meaningfully connected to the territory.



This complex process dealt with what was called “environmental memory” – i.e., the inherited views and experiences of previous generations that build up in a particular place, such as the experience of fires in the five municipalities of *Pinhal Maior* over time (many decades or several generations) in contexts very different from the dominant experience of today. This environmental history encompasses natural and cultural heritage that cannot be disentangled, and as it evolves over time in tangible and intangible forms – in artifacts and stories, in landscapes, land management practices, regional lore and local wisdom – it becomes central to the region’s inherited cultural memory. The dynamic interplay between past and present in such an *environmental-memory* approach also extends to possible visions of a territorial future. It builds upon a constructive tension between local, practice-based knowledge and academic knowledge, engaging the natural sciences, the environmental humanities, and natural and cultural heritage in a generative process of co-production. Another prominent ambition was also to promote the development of audiences both within the region and extending outside of it, in an effort to anticipate the attention on the future and the territorial climate realities they may be facing, even more challenging than those of today.

how is climate change changing territories?



It is understandable when people often think of the climate as something natural that is beyond human control, like the weather. However, long-established, culturally inherited ideas (in Western societies especially) of nature as something “out there” or separate from the human species are more than misleading. Such notions are dangerous, because it gives people a false sense of powerlessness to change the situation, and at the same time it feeds into notions that our actions don’t really have consequences beyond our more limited human circle. Nothing could be further from the truth, and both kinds of false impressions, magnified all over the planet, can have devastating consequences. In fact, it has been having such

consequences for some time, and they are intensifying over time at an alarming rate.

The global climate system is made up of five interlinking sub-systems – the atmosphere, the lithosphere, the hydrosphere, the cryosphere and the biosphere – and these dynamically affect one another, just as they as they affect human societies all over the planet, and just as they are impacted by the choices, habits and actions of the more than 8 billions people who now live on the Earth. Just 25 years ago, in 1998, the world population was only 6 billion, and in less than 15 years, in 2037, it is projected to reach 9 billion people.

Know more:

[\[worldometers.info\]](https://worldometers.info)

(Worldometer – real time world statistics)

We can no longer ignore the wider implications of the number of people worldwide on the consumption of finite natural resources of the Earth system – for example, through the food we eat, and what it takes to produce this food at that kind of scale. The diets and eating habits of many societies are leading to widespread destruction of rain forests to create grazing land for cattle, or to create palm plantations for the extraction and processing of palm oil – one of the most common ingredients used in mass produced foodstuffs. Food consumption at a global scale through commercial food chains is also leading to depletion of ocean species through overfishing and destruction of terrestrial and marine ecosystems through unsustainable waste flows that create dead zones. Human meat consumption demands at a global level are driving the expansion of grazing landscapes and monocultural agricultural landscapes (at the expense of more diverse ecosystems) for crop production to feed and raise cattle. This food production system is having devastating impacts on fresh water availability in many regions around the world while

emissions of heat-trapping greenhouse gases involved in meat production globally (e.g. methane) are driving continued warming of the earth, which itself is driving escalating climate change impacts that come back to us in the form of intensified wildfires, flooding, more frequent hurricanes, drought, famines, power grid failures, human conflicts over increased resource scarcity, forced migrations and health crises of many kinds.

Climate changes as they are triggered and experienced dynamically throughout the climate system's interlinked sub-systems – the atmosphere, the lithosphere, the hydrosphere, the cryosphere and the biosphere – have any number of impacts on life as we know it all over “the Earth system.”

Know more:

[\[edition.cnn.com\]](https://edition.cnn.com)

(Feature story by Ivana Kottasová and Temujin Doran, CNN)

The Earth system is how the scientific community refers to the larger planetary system sustaining all of us, and all our kindred species that unite us in living nature, though there are other ways of describing it. Two early champions of the concept we would come to understand as sustainable development – economist Barbara Ward and systems theorist R Buckminster Fuller – famously described our planetary system as “Spaceship Earth. Pope Francis calls it more simply “Our Common Home” in his encyclical letter on climate change (“Laudato Si”), written in 2015 in the lead up to the landmark Paris Agreement on Climate Change and the UN’s intergovernmental treaty Agenda 2030, which introduced the UN Sustainable Development Goals.

[\[vatican.va\]](http://vatican.va)

(*Laudato Si* by Pope Francis)

[\[unfccc.int\]](http://unfccc.int)

(Paris Agreement, United Nations framework Convention on Climate Change, 2015)

[\[sdgs.un.org\]](http://sdgs.un.org)

(Transforming our world: the 2030 Agenda for Sustainable Development, United Nations Department of Economic and Social Affairs, 2015)

[\[sdgs.un.org\]](http://sdgs.un.org)

(United Nations Sustainable Development Goals)

António Guterres, UN Secretary-General has described Climate Change as “a ‘crisis multiplier’ with profound implications for international peace and stability.” Although we have likely heard of some of these landmark agreements and publications, it is understandable that our concerns tend to be focused on issues closer to where we spend most of our lives (family, local community, or our home country, for instance) and also on the present moment (our daily concerns, such as our home, jobs, food, family and friends), even if we may feel empathy for those who suffer from hunger, wildfires or hurricanes, tragedies that we may or may not directly experience on a day-to-day basis where we live.



(Sky News - Wildfires and drought in Portugal - video)

Although we may be understandably less concerned with what we do not see or experience more routinely – that is, what happens in territories or distant communities – the consequences of global warming and accelerating climate changes reach far and wide, and the evidence of these effects in Portugal are inescapable. Every summer *Pinhal*

Maior and other territories suffer from wildfires and the affected areas have been expanding year after year.



[\[youtube.com\]](#)

(VÍdeo Presentation, COP27, UNFCCC, Sharm el-Sheikh, António Louro and Steven Hartman)

**BURNED AREA OF RURAL FIRES
BY CAUSE GROUP - CASTELO BRANCO**

[\[fogos.icnf.pt\]](#)

**BURNED AREA OF RURAL FIRES
BY CAUSE GROUP - SANTARÉM**

[\[fogos.icnf.pt\]](#)

**NUMBER OF RURAL FIRES
BY CAUSE GROUP - CASTELO BRANCO**

[\[fogos.icnf.pt\]](#)

**NUMBER OF RURAL FIRES
BY CAUSE GROUP - SANTARÉM**

[\[fogos.icnf.pt\]](#)

While wildfires have become a major concern in the Portuguese context, in Iceland – and in many other places all over the planet, in circumpolar contexts and at high altitudes– the increasing melting of glaciers is a more striking daily reminder of the crisis of climate change, which not only activists but more and more scientists are now describing as an emergency.

fôlego [Interview]

(Apheleia - Gunnlaugur Þór Pálsson)

We must better prepare for the consequences of climate change, spend more effort planning ahead and engaging in local, regional, and national societal contexts. We need to draw together as many individuals, groups, and sectors as possible in heightening awareness of the risks and vulnerabilities we face, with a view toward preventing the most dangerous outcomes, adapting to changing conditions in our social and ecological landscapes, and mitigating drivers in our cities and municipalities. With these broad aims and understandings in mind, **Fôlego** invested in working together with young people, their teachers and mentors, to co-develop creative, critical thinking approaches to climate change awareness, understanding and agency.

We need to come together now to discover how we can all actively contribute through our life, learning, work, and leisure activities to the address the global emergency of climate change in ways that capable of slowing down and halting the present trajectory.

human impacts driving climate change

fôlego [\[Interview\]](#)

(Apheleia Joana Rodrigues - Geological Heritage and Climate Change)

The nature and scope of human activities in our world have changed continuously, even radically, over the past 100 years, and so too have their consequences. Extraction and flows of resources driven by human wants and needs are pushing many of the Earth's diverse environments and societies to the brink of systemic failure.

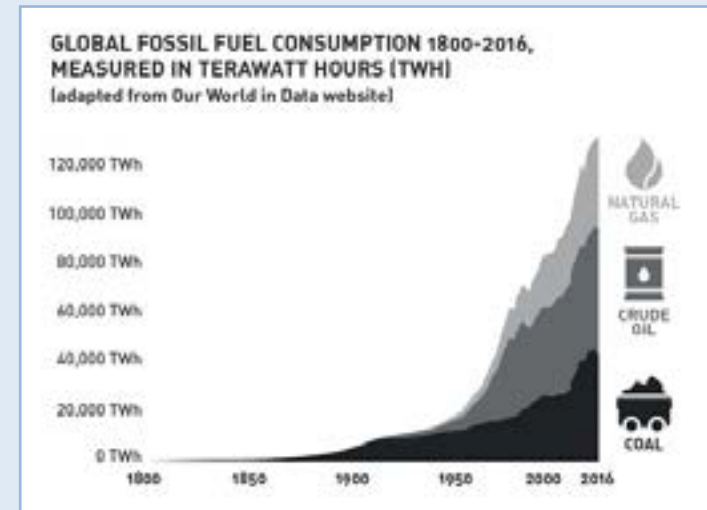
Though we may acknowledge in the abstract the harms that unsustainable lifestyles are causing throughout the Earth system, large segments of our overconsuming populations – like the corporate interests driving our economies and up-

holding damaging models of business – still seem unready to undertake the kind of major changes in philosophy, behavior or habits that can keep our global life-support systems from breaking down. If we do not find a way to alter course now, the result will be tragic suffering for hundreds of millions of people throughout the world – not only for future generations but among many of those now living.

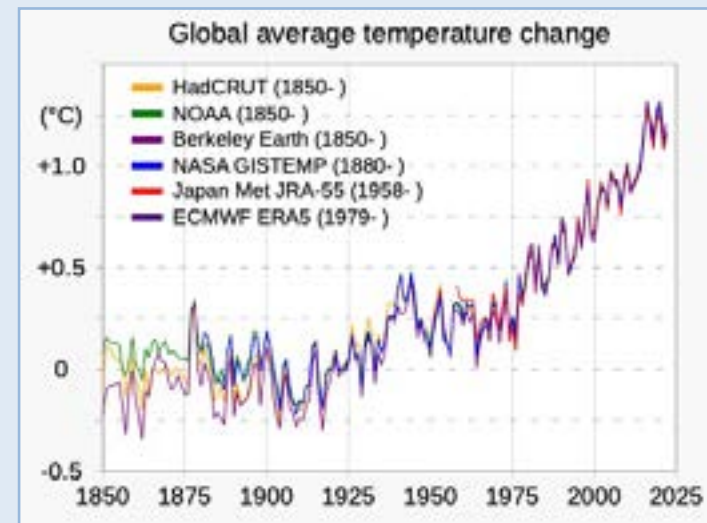
The scientific community overwhelmingly acknowledge the threat of climate change as one of the greatest that human beings will face in the 21st century. On the other hand, many people have politicized both the topic of climate change and the science behind it, refusing to accept evidence that is confirmed and reconfirmed (even by our very own senses) every year as global temperatures continue to rise, and catastrophic effects become more frequent and severe.

The extent to which climate change misinformation is largely driven by political agendas bankrolled by the fossil-fuel industry is not nearly as well known among the general populace as it deserves to be. There are some excellent websites that demonstrate a very high degree of scientific rigor that help to debunk the myths and disinformation promoted by shadowy fossil-fuel-industry-funded think tanks masquerading as centers of legitimate scientific authority. One of these is Skeptical Science [skepticalscience.com].

A look at the data and findings of authentic climate science, as it relates to the drivers and effects of global warming during the past century, can help to clarify mounting evidence suggesting that our planet is in the midst of a climate emergency, exacerbating the emergencies of species extinction, biodiversity loss and extensive degradation of ecological systems on land and in the sea. The following graphs and visualizations help to make this evidence more widely accessible and understandable.

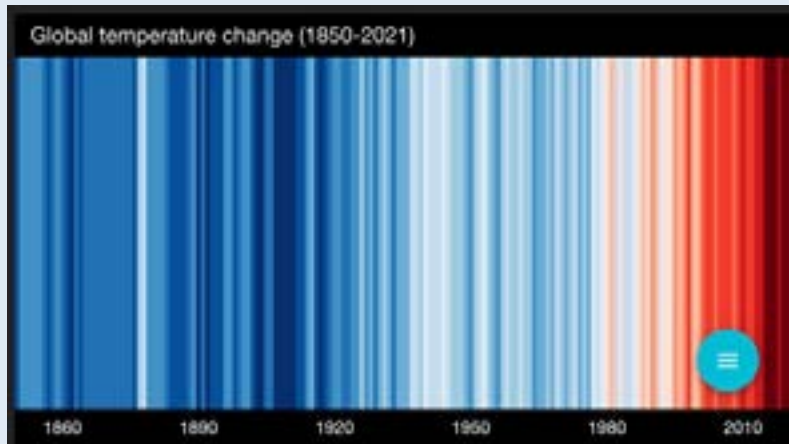


Source: [ourworldindata.org]



Temperature data from various scientific organizations worldwide show a high correlation regarding the progress and extent of global warming.

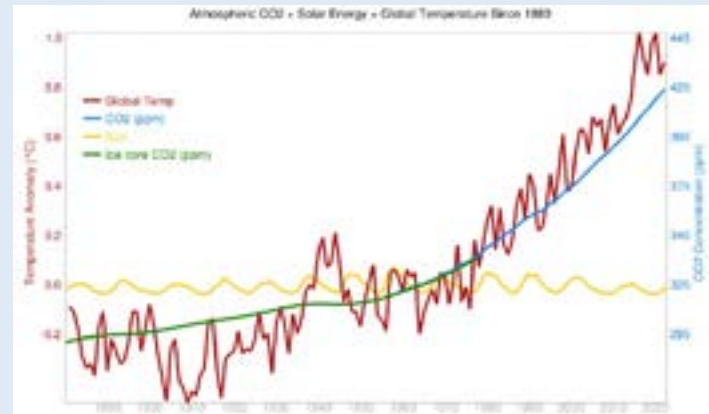
Source: [wikimedia.org]; RCraig09, CC BY-SA 4.0 (via Wikimedia Commons)



Source: [showyourstripes.info]

This color-coded map in Robinson projection displays a progression of changing global surface temperature anomalies. Normal temperatures are shown in white. Higher than normal temperatures are shown in red and lower than normal temperatures are shown in blue. Normal temperatures are calculated over the 30-year baseline period 1951-1980. The final frame represents the 5-year global temperature anomalies from 2017-2021. Scale in degrees Celsius.

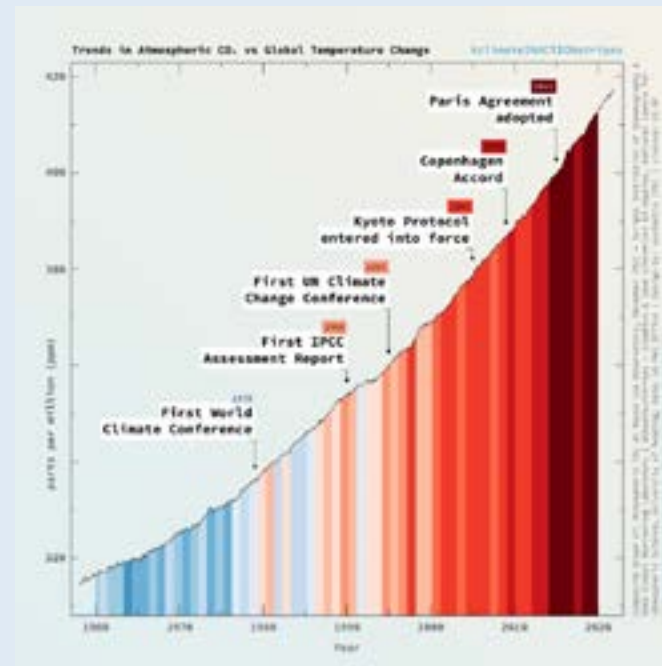
[svs.gsfc.nasa.gov]



Source: [co2.earth]

CO2 vs. Sun as Global Heating Factors

The temperature and CO2 tracker below plots data which shows a correlation of changes in atmospheric CO2 levels and global average temperature. Data for solar energy outputs show no general increase to attribute to global temperature increases. This tracker is designed and maintained by [Bernd Herd](#) and inspired by scientist Stefan Rahmstorf.



Source: [desdemonadespair.net]

Trends in atmospheric CO₂ vs. global temperature change, 1958-2020, with climate conference dates indicated. #climateINACTIONstripes Graphic: @MuellerTadzio / @wiebkemarie / @MariusHasenheit / @sustentioEU

The increase in global fossil emissions and global rise of mean surface temperatures over the past 70 years especially track each other closely, with disastrous consequences as this trajectory continues with intensifying effects as emitted greenhouse gases accumulate in the upper atmosphere and trap heat in the Earth system. Fossil fuels such as carbon dioxide are very long lived, so the more they collect the greater their effects will be in warming a planet that has now reached temperatures higher than ever since the advent of human history. Every decade over the past 70 years has been hotter than the previous one, and this trend will not end anytime soon. The worsening wildfires in Portugal and the accelerating of melting glaciers in Iceland are like “canaries in the coal mine” announcing the escalating dangers the Earth and its inhabitants are now facing in every part of the biosphere.

The length of time required before we can see a healthier trajectory in the planetary system, even if we took immediate action and embraced a global transformation of our societies, may be a big part of the reason why people choose not to think about the implications of climate change for themselves and for coming generations, or perhaps why they give in to despair and become paralyzed over a future that will certainly be very difficult for large numbers of people.

What many people don't seem to fully appreciate is that this kind of dreaded future is not so distant at all. For many people and many communities around the world that future is here already, and some have been living under such dreadful conditions for much of their lives. Young people especially have begun to raise awareness, and to raise their voices with a genuine sense of urgency, in calls to stop wasting time and address the emergency as a matter of life and death — because for many people and many kindred species on the planet that's exactly what it is already.

the impact of climate change on human communities

“ If we continue on our current path, we will face the collapse of everything that gives us our security: food production, access to fresh water, habitable ambient temperature and ocean food chains. ”

SIR DAVID ATTENBOROUGH

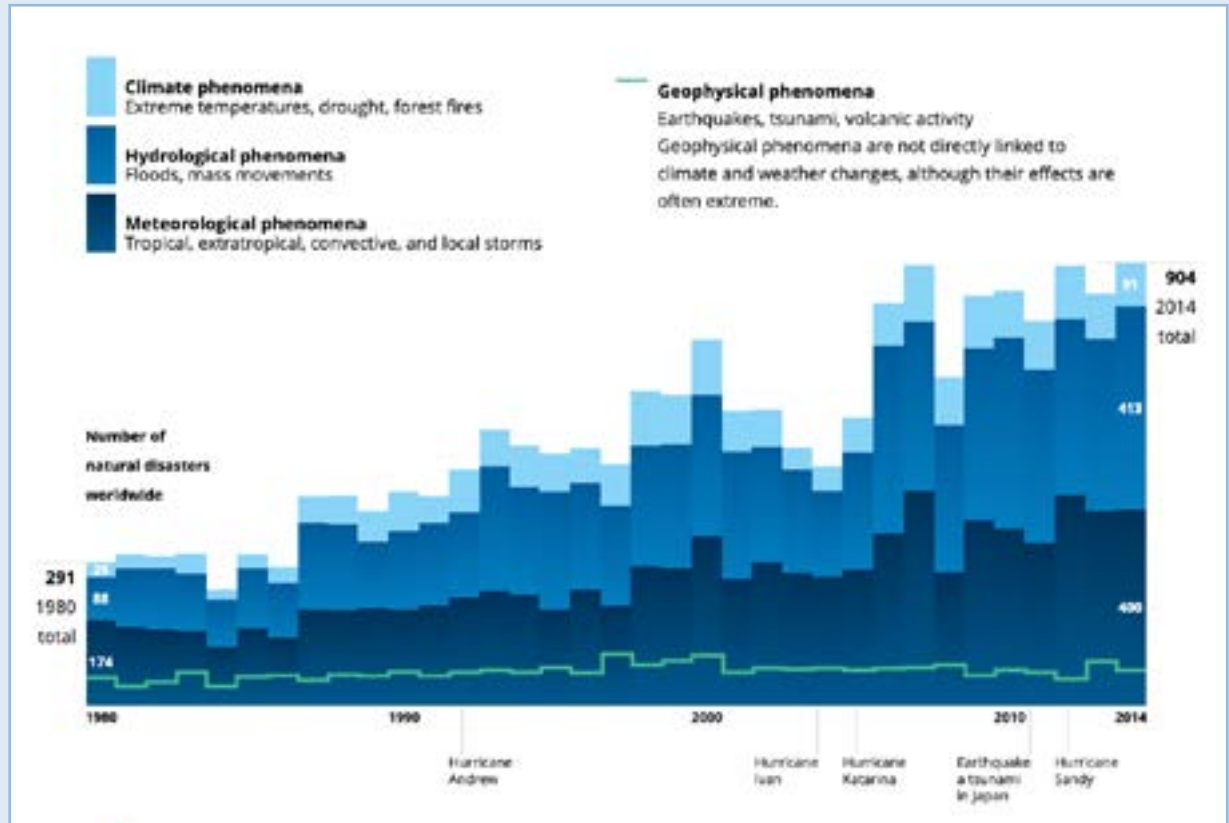
We encourage the readers of this handbook to make use of the extensive website resource Bifrost Online which includes more than 1000 curated web resources dealing with climate change, biodiversity, oceans,

activism, scientific and arts and humanities approaches to social and environmental challenges. Begin perhaps with the curated Climate Stories:

[\[bifrostonline.org\]](https://www.bifrostonline.org)



Escalating global warming and the extreme weather conditions this trend is driving as components of climate change are leading to catastrophic events that are both natural and human tragedies, such as sea levels rising, coastal erosion, the melting of glaciers and Arctic sea ice, acidity in the oceans, the dying of coral reefs, major forests fires or extreme effects involving water (or its increasing scarcity), such as drought, desertification, floods, salination of freshwater sources that communities rely on for drinking and agriculture, warming of river systems leading to fish species like salmon being unable to reproduce – climate change will exacerbate all of these.



This graphic shows the evolution of the number at natural disasters worldwide.

Fonte: [climate.peopleinneed.net]



The terrible firestorms of 2017
(and what climate change has to do with them)

It is estimated that millions and millions of people are already being displaced every year and being forced to migrate to areas less vulnerable to the environmental and social impacts of climate change. The risk of diseases (such as malnutrition, malaria, and heat stress, among others) increases due to the pressures of climate systems undergoing change and volatility and deterioration of health human and wellbeing is already a result in many places. As climate change worsen so too will these health consequences.

In 2021, the report of the Intergovernmental Panel on Climate Change drew attention to the proliferation of extreme weather events that put every human being on the planet at risk, forcing entire populations to leave their homes, with no possibility of return, focusing especially on the most vulnerable and impoverished regions of the world. Water and food shortages, the end of safe housing or the disappearance of habitable land have led to more recurrent internal and cross-border displacements.

[\[ipcc.ch\]](https://www.ipcc.ch)

An estimated 23.7 million people have already been displaced within their own countries as a result of extreme weather events such as floods, storms and droughts. According to the Ecological Threat Register of 2021 published by the Institute for Economics and Peace, this figure could rise to 1.26 billion people at heightened risk of conflict and displacement caused by environmental damage in a foreseeable future.

[\[gcsp.ch\]](https://www.gpcsp.ch)

The new EU Strategy on Adaptation to Climate Change notes that **“Water shortages in the EU (...) affect not only the economy, but also the health and well-being of Europeans, who increasingly suffer from heat waves (globally, the deadliest disaster of 2019 was the European heatwave with 2500 deaths). It also poses risks to food security, worsens existing social inequalities, and threatens cultural heritage. The EU already is, and will increasingly be, affected by climate impacts outside Europe through cascading and spillover effects on trade or migration.”**

FORGING A CLIMATE-RESILIENT EUROPE – THE NEW EU STRATEGY ON ADAPTATION TO CLIMATE CHANGE, EU COMMISSION

Source: [climate-adapt.eea.europa.eu]

How do we prepare ourselves to cope and face global changes and challenges of all these kinds? While we find ways to adapt, we need to start to set in motion actions, plans and strategies to become more resilient and understand that as a community we have the power to make a difference in our own home territories and localities through changes in habit and intentional behavior, while still respecting our long-established customs and traditions.

Education of youth and adults, even elders, in many forms – including development of skills, knowledge and critical thinking tools of present and future generations – are crucial to the promotion of climate action. Immersion in new and unfamiliar learning practices and critical engagement of information and its sources, developing a curiosity and creative willingness to explore wide-ranging human realities and examples from other

cultures and “walks of life”, can help us address the impacts of the climate crisis, empowering not only ourselves but those whom we are able to touch and inspire with the knowledge, skills, values and attitudes needed to act as agents of change.

One very interesting case of learning, self-expression, and sharing explored during the **Fôlego**/Apheleia seminar in May 2022 was the “My Climate Story” project [my-climate-story.org], which stimulates and gathers important testimonials from numerous regions around the world on how climate change is impacting individual human lives, places and communities.



[youtube.com]

(My Climate Story Documentary)

fôlego [[Interview](#)]

(Entrevista a Bethany Wiggin)

CLIMATE ACTION LEARNING PROCESS



In the next chapters we will approach Global Education and Critical Thinking, exploring how they can help to stimulate and develop transformative learning paths for today's world and tomorrow, by equipping us with tools through which we can analyze different cultural practices and significations, and by drawing us into experiences that facilitate meaningful intercultural relations.

Source: [climate.gov]



GLOBAL EDUCATION

what is global education?

There are several terms used to describe the educational approach we would like to present to you in this handbook. There are also different definitions of global education. However, most of them emphasise not only the promotion of critical thinking to address global challenges, but also the active component of learning: active global citizenship that encourages action. When we empower young people to become informed, critical thinkers and thus agents of change, we help create a just and sustainable society locally and globally.



[[youtube.com](https://www.youtube.com)]

(What is Global Education)

THE MAASTRICHT GLOBAL EDUCATION DECLARATION

Global Education is education that opens people's eyes and minds to the realities of the world and awakens them to bring about a world of greater justice, equity and human rights for all.

Source: [[Global Education in Europe to 2015, Council of Europe, 2002](#)]

EUROPEAN DECLARATION ON GLOBAL EDUCATION TO 2050

Global Education is education that enables people to reflect critically on the world and their place in it; to open their eyes, hearts and minds to the reality of the world at local and global level. It empowers people to understand, imagine, hope and act to bring about a world of social and climate justice, peace, solidarity, equity and equality, planetary sustainability, and international understanding. It involves respect for human rights and diversity, inclusion, and a decent life for all, now and into the future. Global Education encompasses a broad range of educational provision: formal, non-formal and informal; life-long and life-wide. We consider it essential to the transformative power of, and the transformation of, education.

Source: [[unesco.at](#)]



Global education is an active learning process based on the universal values of solidarity, equality, justice, inclusion, cooperation, and non-violence. It aims to raise awareness of global issues such as poverty or inequality caused by unequal distribution of resources, environmental degradation, violent conflict, or human rights violations.

Global education helps us understand our interconnectedness with the environment and with other people. It challenges us to rethink our cultural viewpoints and attitudes by reflecting on the impact of our behaviours and lifestyles. It can help us recognize the advantages and disadvantages of globalisation and prepare us for the daily challenges we face locally and globally. It can help us understand how our choices affect others and the future of our planet. It focuses not only on sharing information but also on taking responsibility to create a world where all people can live a dignified life in accordance with their aspirations while protecting the natural environment that surrounds them. The main goal of Global Education is to promote and develop ideas for responsible and active global citizenship and to develop the competencies (skills, knowledge, and values) we need as world citizens to address global challenges.

global education and the Sustainable Development Goals (SDGs)

Source: [\[The 17 goals, United Nations\]](#)



The 2030 Agenda for Sustainable Development is an action plan for people, planet, and prosperity. It includes 17 Sustainable Development Goals (SDGs) that are indivisible and encompass economic, social, and environmental dimensions. SDG 4 focuses on education and aims *to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.*

[\[un.org\]](#)

More specifically, Goal 4.7 promotes Global education:

By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.

SDG 13 focuses on Climate Action and aims *to take urgent action to combat climate change and its impacts:*

[\[un.org\]](#)

More specifically, Goal 13.3: *Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.*

global education topics

Global education topics are like a rainbow or a palette of colours, from red to green, blue to yellow, and of course everything in between. We can talk about them individually, but we will soon see that many of the themes are intertwined, and it is much better to approach them in such a way that in this interconnectedness, we discover new perspectives and connections we may not have thought they even exist. In the image displayed, you can see just some of the topics we can address in global education.



Source: [\[Global Learning in Subject Teaching, Global Issues – Global Subjects, 2020\]](#)

why global education matters



All of us, young and adults alike, are influencing the lives of people from all over the world, and they are influencing ours. To function effectively in this interconnected world and to shape that influence positively, young people need to understand the processes behind what we now call the global village.

Global education is not just about knowledge of global issues. It is a great opportunity to develop key competencies that are considered critical to quality education. These include: critical thinking, the ability to advocate one's own point of view, and teamwork. Global education prepares learners to address

contemporary challenges arising from the global context of our local lives and develops the ability to take informed action.

Young people often learn about global issues outside of school, for example, from the media or at home. Global Education helps to spark young people's curiosity and put the discussion about current global issues into a school context. Expanding the topics covered in the classroom gives all students the opportunity to become active, even those who have not worked actively before.

Source: [humanitas.si]

global education as a transformative learning

Global education is a holistic, transformative, and lifelong learning process.

Awareness

Understanding

Feelings

Action

Change

Global education is **transformative education**. It works at the level of the **head (knowledge)**, at the level of the **heart (feelings)**, and at the level of the **hands (action)**.

To work at all these levels, Global Education uses a variety of **interactive, inclusive and experiential**

methods that encourage and support participants to “step out of their comfort zone” and “think outside the box”, such as visualisation, role-playing, the use of photographic and video material, board games, improvisation, group discussions, individual reflection, simulations, storytelling, theatre techniques and much more.

It is this transformative education and vision through experimental methods that promote and encourage intercultural practice and exchanges that we sought to implement with the **Fôlego** project. **Fôlego** acted in the five municipalities opening the way to new methods of transforma-

tive vision in a global education approach, such as Prof. Dr. Alicia Cabezudo (Consultant on Global Education at North South Centre of Council of Europe/Lisbon) describes as a transformative learning:

“ **Global Education must then be about the transformative vision required to move to a model of partnership between people, cultures, religions, within institutions at micro and macro levels.** The project of western education has to a large extent been one of separating ourselves from each other and creating an adversarial relationship between peoples particularly if they belong on different cultures or ways of thinking. (...)

Transformative learning as part of Global Education involves a deep, structural shift in the basic premises of thought, feelings, and action. This implies **a real change in perspective towards a radical interconnectedness and a real sense of the possibilities of social justice and peace.** ”

Source: [globaleducationmagazine.com]

how can we change our mindset?



We have reached a point where it is urgent for the survival of humanity and the other species with which we share the planet to become aware of all the connections, interconnections, and interdependencies of our own way of life with other parts of the world. We need to become aware

of the real causes of global inequality, environmental degradation, and entrenchment in an unjust and often ruthless system that doesn't work to the benefit of nature and people.

Einstein said "you cannot solve a problem with the same mind that created it". So, what we need is a radical change in the mindset and in the system that has brought us here. But how can we change our mindset?

Global education is certainly a tool that can help us change this mindset. It is both a "learning style and a way of thinking" (Global Education Charter, Council of Europe, 1997). It is a pedagogical approach that promotes a multi-perspective view and the deconstruction of stereotypes, building on the global dimensions of education for global citizenship and the promotion of diversity, human rights, sustainability, peace, and intercultural dialog.

Source: [rm.coe.int]

CRITICAL THINKING



what is critical thinking?

“Critical thinking is a desire to think, patience to doubt, fondness to meditate, slowness to assert, readiness to consider, carefulness to dispose and set in order, and hatred for every kind of imposture.”

FRANCIS BACON, *PHILOSOPHER*

Thinking is something natural and it's not something we need to force ourselves to do, but we can state that we all think differently.

If you are a mathematician or a scientist, you probably think differently from an artist or a philosopher. Although there can be many types of “thinkers”, as human beings we are connected everyday with all that surrounds us and we analyse information from what we see, read and watch.

Truth is, we are more eager and curious than ever to find out not “what” is happening but “how” it's

happening, because we go beyond “logic” to become “reflective”. We seek more knowledge and very often we examine our own beliefs and we are actively open to change our minds.

If we go from “what” to “how” we start the path of investigating and inquiring about the information displayed for us regardless if we take it to be true. We begin to ask questions in order to discover from where the information comes, who was the author, what else is there to know that is not shown, how was the information gathered and also what else is to know about it.





As a matter of fact, critical thinking fills our daily life as we go on from one problem-solving to another within our own personal and professional challenges. We use our knowledge, facts, data to identify, select, make our decisions and to find solutions.

Asking questions is a very challenging and encouraging way to learn and develop critical thinking Skills.

The following article offers a range of fun questions that you can use with students to stimulate critical thinking:

[\[numberdyslexia.com\]](http://numberdyslexia.com)

Soon we leave our place as spectators and become detectives of clues that validate or not the information that we receive.

We may say that when we look at it, we probably think that critical thinking is a complicated process and may only apply to big problems in life, but the truth is that we use it every-day and sometimes we don't even notice that this essential skill is part of decision making so simple as "what would make my day happier?" or "Why is this person my friend?"

We may not think about critical thinking in itself as we ask the more simple questions, but we do use it to find out who we are, how our life is and what is important to us. It's in everything we do, when deciding every step of the way. So, critical thinking takes us beyond facts and questions the answers, the data, beliefs and information obtained, seeking the truth by connecting the dots. It takes us "out of the box", promotes creativity and generates ideas and paths.

critical thinking and the arts

All creative activity leads to self-reflection and analysis on the whats and whys of artistic production, from new and varied perspectives, not only originating from the individual opinions of others, but also as a result a collective work of imagining and interacting with others. Critical thinking and the creative process go hand in hand and allow the construction of new fields of intellectual exploration. It opens new paths not only in lifestyles, but also in the field of work.





In the **Fôlego** project, we explored not only the educational component, but we tried above all to work with and within communities. To understand traditions, customs and ancient ways of knowledge and use them as a basis for work, questioning how they can be sources of useful know-how while working them for their perpetuation in modern times. Music, dance, theatre and transversal projects - which brought together various art forms - united people with a common goal, made them work on their capacities for a perpetuation through art. A perpetuation that can be bequeathed to younger generations, without, however, ceasing to question how pressing and essential they continue to be today.

Many of these communities live in communion with the land and nature, maintain many of their customs associated with tradition and as such sometimes show a resistance and a discredit to what comes from outside. This ancestral knowledge was thus worked on and elevated with the contribution of everyone in the community. Also essential was the transmission of knowledge and experiences of artists and foreign specialists who helped the students and the community reflect on themselves and how they could improve, transform and apply them in ways never explored before. With the **Fôlego** project, the arts were at the service of the population, working with them and for them on Climate Change.

Art+Activism = Artivism

Artivism arose at the beginning of the XXI century and is considered a global language which involves urban and graffiti art and situationism, all of which are creative forms from the twentieth-century (Ardenne, 2008; Andreotti & Costa, 1996; Abarca, 2017; Szmulewicz, 2012).

It can be "(...) not limited to issues of social change. (...) [Artists] are driven by a variety of issues such as climate change, plastic pollution, extinction, and others. Furthermore, these artists do not communicate their concerns with a singular form of art. Their message their work conveys may be strike like a hammer or whisper softly but it resonates with our emotions. It is a universal language that

gets under our skin and leaves an impression behind our eyeballs."

In [womenmindthewater.com]

Artivists use their creative expression to promote social changes and cultivate awareness by the use of several visual interventions, such as art, poetry, filming and theatre. They are using their inspiration and skills to captivate attention through their visible and physical actions, which lead to effective, engaging and educational information.

fólego [[Interview](#)]

(*Apheleia - Steinunn Sigurdardottir*)

Despite there being varied forms of activism, one that has become most prominent is street art. Although quite depreciated and frowned upon in the past, nowadays it takes a leading role in terms of creating a more visible and sometimes more shocking message, often due to its visual impact and size. Over the last decade, it is an art form that has gained worldwide status and recognition and artists have gone from being “outcasts” to showcasing themselves and even being awarded and appreciated for their activist role. In Portugal, street art (still considered “marginalised” in some cases) has already gotten recognition by institutions, authorities and the population.

It is, to a large extent, an art form developed by a younger generation that is aware of the major issues of today, with social, political and environmental claims. Vhils and Bordalo II are Portuguese artists currently receiving commissioned work with worldwide recognition and who have inspired many with their work. As they are young artists, they manage to communicate their themes to the younger generation, while still being transversal to all generations.





In the **Fôlego** project, despite working with communities (in the interior of the country and with ageing populations), we sought to offer young people and their schools an approach that had a greater activist “feel” and that stimulated them in terms of critical thinking about Climate Change.

These activities were quite different in terms of construction and development, but they undoubtedly brought together all ages around different ideas with a common goal: to alert to real problems in those communities and areas (such as desertification of the territory) resulting from climate change.

There is no doubt that activism is growing in importance as a global phenomenon and its significance, as a language close to changing social life and younger generations, is something completely revolutionary. Although its energy responds to new needs of expression, mainly in urban areas, it has a strong capacity to break limits and go beyond them, crossing generations and reaching more rural territories. **Fôlego** proved that activism serves Climate Change awareness in its full mission, engaging communities, as a means to serve and produce new ideas, awakening consciences in collective, original and sustainable work.

THE ACTIVITIES

Knowledge about climate change is often at odds with the ways people experience their environment, and the languages used by experts prioritise precision over understandability. The experiences shared in this chapter were developed under **Fôlego** project in the 5 municipalities presented in chapter 1 and constitute inspirational examples of how local populations and artists can work together to find new modes of conveying information about a shifting world.

The aim of these activities was to incite populations to actively participate in dialogue rather than being simple receptors of information, and artists to adapt to the shapes of moving social fabrics. Almost all of the activities were based on the sharing of traditional knowledge, techniques, skills and expertise allied with and perpetuated in modernity. In knowledge that continues to pass from generation to generation (a process facilitated by life in a more traditional and closed rural community), but which served as the basis for the reception of an outside vision from foreign specialists and artists, which converged in new paths of exploration, new ideas and new ways of thinking.



Fest En Fest Youth

Choreographer **Heidi Rustgaard** invited students from the Municipality of Sertã to explore notions and connections between local impacts and global concerns with climate change. Together with the students and local artists **Miguel Calhaz** (music), **Miguel Manso** (poetry) and **Raquel Lopes** (photography), they questioned how to act to save the planet and the role of dance in it. The activity promoted the exchange of ideas and methods between the Norwegian artist and the three local artists.

mixed arts

climate change

global education

critical thinking

local-based

participatory

- ACADEMIA DE PRODUTORES CULTURAIS
- H2DANCE
- C. M. SERTÃ



FEST EN FEST 2 festivals

- Sertã - BIG P Club
- Sertã - Secondary School



Fest En Fest Youth

had 2 Editions with a free admission programme, open to all ages.



Through a series of workshops on music, photography and writing, students prepared themselves with the support of local artists, to organize the **Fest en Fest** Festival. Climate activism was the central theme for environmental awareness through art and party, taking into account the contrast between the local and the global, raising questions about how young people act to save the planet and how art can generate real change.

All stages of the project, as well as the idea, production, realisation and communication were the responsibility of the students involved. Visual arts, music, yoga, performance, debate, flavours and dance were some of the activities developed during the hours of the festival. The teenage students also took on the

role of curators and creators, being responsible for the choice of local artists, presentation spaces and the programme of activities.

Fest en Fest Youth allowed the students to consolidate their knowledge regarding the theme of sustainability and the way in which the various artistic tools can help to build a greater environmental awareness.

The development of this activity in the school space allowed the extension and reinforcement of the relationship within the Sertã School (students and teachers) as well as the work of artistic creation between the Norwegian choreographer and local artists. The school embraced its community and the world, working from traditions to new experiences.



AO SABOR DO VENTO
MAÇÃO



AO SABOR DO VENTO
PROENÇA-A-NOVA



AO SABOR DO VENTO
OLEIROS

In the Wind

Collecting everyday sounds – from nature and daily life that generally do not receive due attention or are on the verge of extinction – the composer **Hugo Vasco Reis** created five acousmatic pieces based on the soundscapes of each of the five municipalities.

music

local-based

local-based

- ACADEMIA DE PRODUTORES CULTURAIS
- C. M. MAÇÃO
- C. M. OLEIROS
- C. M. PROENÇA-A-NOVA
- C. M. SERTÃ
- C. M. VILA DE REI

AO SABOR DO VENTO 5 concerts

- Mação - Instituto Terra e Memória
- Oleiros - Casa de Cultura
- Proença-a-Nova - Tourism Office
- Sertã - Clube da Sertã
- Vila de Rei - Municipality Museum



The soundscape is a complex and broad matter, and the simple act of listening to it often leads to an unexpected complexification of thought, perception and memory. This creative process takes space as an infinite externality, and underlines our condition as beings connected to deeper levels than the surface of the world. The resulting soundscapes prompt listeners to acoustic situations where minor details can evoke past memories as references to the experienced sounds.

Thus, memories and traditions were registered, revealing not only the singularities of each of the five places but also the elements they have in common, all combined in an immersive sound experience accompanied by a conversation with the author about the process of creation.

SERTÃO



MAÇÃO



PROENÇA-A-NOVA



OLEIROS



VILA DE REI





Green Hand

Musicians **Pedro Geraldes** and **Capicua** celebrate the care of gardeners through happy songs with important messages about the care needed to make something grow.

music

climate change

global education

local-based

- PEDRO GERALDES
- CAPICUA E RADAR DOS SONS

1 CONCERT

Proença-a-Nova: Auditório dos Paços do Concelho

REUSED HANDS

1 exhibition
Proença-a-Nova





The name of the show comes from the translation of a French expression - “to have the green hand” - which means to have a way with plants and a talent for gardening. “Green Hand” is a celebration of that care and serves to inspire children to be guardians of nature. In this concert - themed around plants, agriculture, food, the smells of herbs, the colour of flowers - the quartet made rhymes, stories, rap and word games with the colourful beats of the various instruments played live.

Complementing the concert, a preparatory workshop took place about reusing plastic packages, with teachers



and students of pre and elementary schools in Proença-a-Nova, that resulted in an exhibition: the Auditorium of the Town Hall of Proença-a-Nova was decorated with 226 “green hands” made by the children from the reuse of packaging turned into hands decorated with elements/words on environment, sustainability, and climate change.

This concert was presented as a celebration of Children’s Day and a way to raise the awareness of the children and public for the environment through the arts.



Planta Party

The Planta Parties combined public entertainment and the arts in favour of environmental protection by planting trees in the five municipalities to offset the carbon impact of the concerts and alcohol consumption.

music

climate change

global education

local-based

local-based

• SAFARI

PLANTA PARTY 5 concerts

- Proença-a-Nova: DJ Miguel Varela
- Vila de Rei e Oleiros: A Minha Vida Dava uma Banda Sonora – Susana Pereira
- Sertã: Guerrilha Sound System
- Mação: Sofia Kuster

TREE PLANTING WITH VOLUNTEERS

- Proença-a-Nova: 560 trees
- Vila de Rei: 183 trees
- Oleiros: 291 trees



For each drink bought, a tree was planted in a burnt area of the municipality by the local team and volunteers mobilised by the project, in a close collaboration with the municipality.

As such, the goal was to rejuvenate society and landscape, making sure that the enjoyment of present generations does not compromise the lives of future generations. The Planta Party events have reconfirmed the population's interest in connecting with artistic experiences that promote good environmental practices.





Climate Migrants

“Climate Migrants” results from the work of **O Bando**, a theatre company, that conveyed on stage the personal narratives of the inhabitants and the characteristics of the five municipalities of the **Fôlego** territory. Fictional characters embody these narratives, performing them *in situ* for a period, carving them in the landscape of village centres.

theater

climate change

global education

critical thinking

local-based

- ACADEMIA DE PRODUTORES CULTURAIS
- C. M. MAÇÃO
- C. M. OLEIROS
- C. M. PROENÇA-A-NOVA
- C. M. SERTÃ
- C. M. VILA DE REI



5 performances





During a series of visits to the territory, the artistic team recorded stories of migration by residents. These interviews resulted in an audio document that was edited with the actors and was set on stage in the five municipalities, relating the real story, through the voice of the person who tells it, with the fictional character.

The relationship with migrant communities implies a work of proximity that allows knowing, understanding and recording the migration stories – in a framework where more and more climate migrants and refugees besides those of the natural flows.





Mutant Villages

Choreographer **Alice Duarte** and musician **Alexandre Moniz** (drums, keyboard, bass and voice) worked with local communities to create experiences where the arts allow local residents to explore the themes of climate change. Memories, customs and knowledge are weaved in evocations through sound and movement, performed in the five municipalities, turning this intervention into a participative art methodology that combines artistic tools of dance and music.

mixed arts

critical thinking

local-based

local-based

- ACADEMIA DE PRODUTORES CULTURAIS
- C. M. MAÇÃO
- C. M. OLEIROS
- C. M. PROENÇA-A-NOVA
- C. M. SERTÃ
- C. M. VILA DE REI

VILAS MUTANTES 5 performances

- Vila de Rei: When Fire Gets Close
- Sertã: In a Liquid State
- Mação: Now and Then
- Proença-a-Nova: The Plants also Grow During the Night
- Oleiros: The Size of Thoughts





After sharing the experience of the territory with partner H2Dance and from the University of Iceland, Alice and Alexandre publish an open call for the communities in Vila de Rei, Cernache do Bonjardim (Sertã), Mação, Proença-a-Nova and Oleiros, to co-create multidisciplinary performances – unique to each group – that reflect the years of participants and the way they engage with their territory. The process of participatory creation resulted in

the creation of an artistic object that took the form of a street show/performance/installation that the inhabitants watched live. These performances were recorded and are available by QRCode (on the site where they were performed), widening the audience that will have access to the experience.

The video-experiences of the events were created by Nuno Barroca.



[\[Mutant Villages in Mação\]](#)



[\[Mutant Villages in Oleiros\]](#)



[\[Mutant Villages in Proença-A-Nova\]](#)



[\[Mutant Villages in Sertã\]](#)



[\[Mutant Villages in Vila de Rei\]](#)



Tattoos

Experienced in artistic creation in landscapes and public spaces, **Artelier? - Teatro Nacional de Rua** talked with populations about climate change and environmentalism, perspectives for the future, their connection with art and social responsibility. **Nuno Paulino** and his team travelled across the five municipalities gathering inspiration and materials, from which a visual creation was developed.

dance

climate change

local-based

participatory

- ACADEMIA DE PRODUTORES CULTURAIS
- C. M. MAÇÃO
- C. M. OLEIROS
- C. M. PROENÇA-A-NOVA
- C. M. SERTÃ
- C. M. VILA DE REI

TATTOOS - VIDEOMAPPING
5 installations



With more than one hundred interviews to local inhabitants, they produced the video object “Tatoos” that was projected, accompanied by a musical performance. Each Video Mapping, with its single story for each municipality, was displayed in several scattered corners and buildings chosen in each town.

This unusual outdoors stage led the public through the streets, surprising the audience with a travelling video mapping show in which the projected images mirrored the impressions of the inhabitants in the face of climate change. This creation with the signature of *Artelier?* was based on a work of observation, documentation and recording leaving a very positive memory with the population.





Pigments

Five heated classroom conversations with lots of arms in the air and comments like “this has to change!” inspired the creation of a collective work between the duo of street art artists **Mariana Patacas** and **Filipe Granja**.

street art

climate change

global education

local-based

participatory

- ACADEMIA DE PRODUTORES CULTURAIS
- C. M. MAÇÃO
- C. M. OLEIROS
- C. M. PROENÇA-A-NOVA
- C. M. SERTÃ
- C. M. VILA DE REI



PIGMENTS
5 murals





The artists worked with young students from schools in the five municipalities to dialogue about climate change and sustainability. These sessions, one per territory, were addressed to families and local communities, showcasing painting and mural art that will persist in the schools, acting as permanent dialogic triggers on the thematic topics that guided the artistic work.

By carrying out this activity the goal was to develop young people's critical sense of climate change and how their actions can actively contribute to the reversal of this global issue. Therefore, the artists' work started from this premise, in relation to their usual process of creation, but giving the children freedom to consciously intervene, materialising thoughts and feelings in a mural in each school. Pigments allowed to bring to the centre of the villages elements of nature that should be respected and preserved as well as the questioning of how to potentiate the well-being and balance of all (for example, wind turbines existing in the area were represented, invoking alternative energy sources). The children's aesthetic sense was also called upon and together with the artists they learned new artistic techniques, while discovering new ways of exploring teamwork.



Gamelão

Made up of hundreds of pieces of porcelain, earthenware, stoneware, glass and crystal, the Gamelão is simultaneously a unique object from the visual point of view and a real sculpture, which was installed in the outdoor patio of Vila de Rei school. It's an instrument with a unique sound because it combines various timbres and is used in close relationship with the notion of space and path.

music

global education

critical thinking

local-based

participatory

• MARIANA MIGUEL

GAMELÃO
20 workshops

• Vila de Rei



Designed by Companhia Musical Teatral under the Opus Tutti project and supported by Calouste Gulbenkian Foundation, this instrument has contributed to make the musical practice accessible to all, “tuning people, birds and flowers”.

Mariana Miguel, instrumentalist, dynamised 20 workshops of about 45 minutes with students of various levels of basic education (1st to 12th grade), as well as 3 entities that work with senior citizens and one with people with cognitive impairment.

This musical work stimulated exploratory and creative strategies as well as mechanisms for structuring musical ideas that do not depend on notation, based on the idea of collaboration and interpersonal communication and cooperation. An experience to take to the future.



[\[musicateatral.com\]](http://musicateatral.com)



Seahorse

Dance and music show Seahorse, a co-creation of **Ana Raquel** (music) and **Alice Duarte** (dance) is a performance for younger children and families that combines artistic expression with biology education.

SEAHORSE
1 performance

• Oleiros, main garden

mixed arts

climate change

global education

critical thinking

local-based

participatory

• ALICE DUARTE
AND ANA RAQUEL
MARTINS



The presentation of the show Seahorse allowed a closer relationship with pre-school and primary school students from Oleiros, inviting them to create artistic works about the animal that gives the show its name and transmitting knowledge about its habitat, thus increasing respect for biodiversity. During the performance, children learnt the recipe of the diet of seahorses, experimenting with materials such as algae and sand. The performance was also accompanied by the educational workshop “The Sea Starts Here”, allowing young people to think about global sustainability.

In this activity, presented in a public space, children learnt the recipe for the seahorse diet, experimenting with materials such as seaweed and sand. The show is also accompanied by the pedagogical workshop “The Sea Starts Here”.





Ice N'Fire

ACADEMIC/ARTISTIC RESIDENCY EXCHANGE BETWEEN ICELAND AND PORTUGAL

Ice N'Fire was a creative and artistic triangulation between committees from Iceland, Portugal and the third vector: the Portuguese local and artistic community, linked to the territorial economy, as it was the case of forest management and beekeeping.

climate change

global education

critical thinking

local-based

- ACADEMIA DE PRODUTORES CULTURAIS
- MAPA DAS IDEIAS
- ICELAND UNIVERSITY
- C. M. MAÇÃO
- C. M. OLEIROS
- C. M. PROENÇA-A-NOVA
- C. M. SERTÃ
- C. M. VILA DE REI

“APHELEIA/FÔLEGO – ICE N'FIRE”

5 day Seminar

• Mação, Instituto Terra e Memória



Visits, residencies and a summer school took place with researchers specialised in the subject of climate change, teachers at various levels of education (from primary to higher education), students and researchers interested in the subject, from sciences, humanities and arts.

In these two years of work expert academic knowledge was integrated with artistic practice and local expertise resulting in valuable experiences for the development of the economy in a territory. Working with 5 pairs of artists and experts, **Ice N'Fire** approached the collection and sharing of inherited memories regarding the experience of fires and explored them in collaboration with the Iceland University *Bifrost* [bifrostonline.org] which offered a multidisciplinary programming axis throughout the two years of the project, based on structuring events:

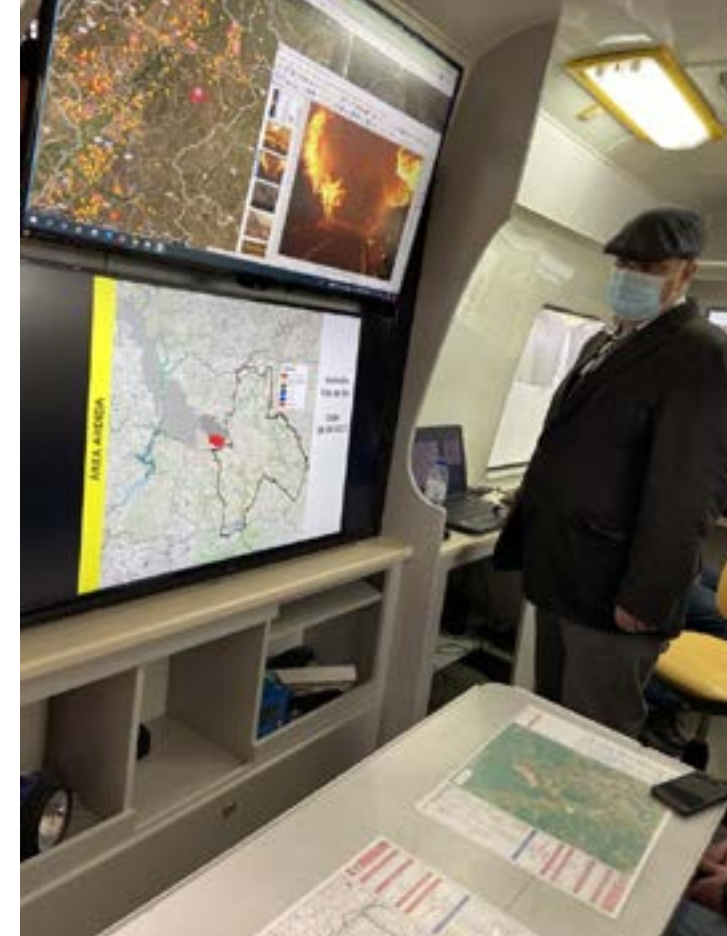


- A study visit to the territory with invited Icelandic and Portuguese artists/researchers and local community, to integrate the programming. They visited and developed an intense programme of critical dialogues about the territory covered by Pinhal Maior – Pinhal Interior Sul Development Association.

- An exchange/residency in Iceland focused on the contrasts of climate change, especially dedicated to the Portuguese **Fôlego** community, with participation in the **Fôlego** Symposium at the National Gallery of Iceland in Reykjavik

- An open residency/summer school, centred on the community work of Icelandic and Portuguese artists in the territory of Pinhal Maior, in connection with researchers specialised in Climate Change. The residency and seminar Apheleia/**Fôlego - Ice N'Fire** was curated by Steven Hartman (University of Iceland) and Luiz Oosterbeek (Instituto Terra e Memória - Mação) and was attended (in person and online) by both Icelandic and Portuguese teams as well as international guests (online).

Steven Hartman, executive director of the BRIDGES Sustainability Science Coalition [bridges.earth], and António Louro, deputy mayor of Mação, and were the result of their collaboration in the Iceland-Portugal working team. The main objective was to share case studies collected during the research stage and during the Summer School **Fôlego**/Apheleia, framing the recently constituted UNESCO Bridges coalition (to address humanities, arts and culture in the fight against climate change).



- Participation in two official sessions of the 27th United Nations Climate Conference (COP27), on 10th and 17th November 2022, in Egypt, as part of the agenda for fighting climate change, through presentations dedicated to the problem of forest fires. These presentations were given by partner

The three phases of artistic-scientific exchange between Portuguese and Icelandic teams were of extreme interest, due to the space of sharing that was created, based on several moments of reflection and work around the theme of climate change, uniting specialised knowledge with

local knowledge, discussing paths and strategies for the future, not only for the territories of Portugal and Iceland but also on a global scale.



THE PARTNERS

Fest En Fest Youth

HEIDI RUSTGAARD

fôlego [Interview]

MIGUEL MANSO

fôlego [Interview]



Miguel Manso was born in Santarém in 1979. He lived in Almeirim, Lisbon, and today lives in a place in Sertã. He studied drawing, documentary sciences and has been working as a Karate ins-

tructor. At the same time, he co-directs Casa de Gigante – Associação Cultural Mandriões no Vale Fértil. He has published books of poems since 2008 and in cinema he directed, with João Manso, the feature films BIBLIOGRAPHY (2013) and PASSAGEM DOS ELEFANTES (2023). He is part of the catalogue of Portuguese publishers such as Douda Correria, Relógio D'Água, Tinta-da-China, the Indian Poetrywala and the Brazilian Macondo. His texts are part of a significant number of Portuguese and foreign anthologies and literary magazines.

Fest En Fest Youth

MIGUEL CALHAZ

fôlego [Interview]



Musician, teacher, freelancer, singer-songwriter and double bass player, Miguel Calhaz (artistic name for Miguel Luís da Cunha Reis Calhaz) maintains various musical projects in the areas of Jazz, World Music and Portuguese Music. Miguel Calhaz graduated in Music Education from the Escola Superior de Educação do Instituto Politécnico da Guarda and in Double Bass/Jazz

from the Escola Superior de Música e das Artes do Espectáculo do Instituto Politécnico do Porto (ESMAE/IPP). He is Master in Teaching Jazz Music by ESMAE/IPP.

Miguel Calhaz is a Jazz professional course teacher and he also teaches Orquestra Geração at Escola Artística do Conservatório de Música de Coimbra. He was born in Sertã in 1973.

Fest En Fest Youth

RAQUEL LOPES

fôlego [Interview]



Raquel Caetano Lopes was born in Ser-tã in 1897. Raquel Lopes has a degree in Portuguese Sign Language by Escola Superior de Educação de Coimbra and a post-graduation in Art Therapy by Instituto Criap. She is currently studying Social Sciences (minor in Social Psychology) at Universidade Aberta and is part of Casa de Gigante - Associação Cultural Mandriões no Vale Fértil. She has been photographing since 2007 with analogue and digital cameras and her work can be seen on the instagram page @vivertodososdiascansa.

In The Wind

HUGO VASCO REIS



Hugo Vasco Reis was born in Lisbon, in 1981. Hugo is a composer, living in Zurich and Porto. His artistic practice extends to acoustic music, electroacoustic music and sound installations, collaborating with musicians and visual artists, and regularly presenting his works throughout Europe. He has published six monograph albums that have been nominated by SPA and GDA for best classical music work. His pie-

ces have been awarded or selected in various national and international competitions.

His recent compositions include an investigation of auditory phenomena within a sound space, addressing agencies of listening and transcription, using microphones to capture seemingly silent noises.

His scores are published by MIC.PT – Centro de Investigação e Informação da Música Portuguesa.

One of his most recent works is “Cinco Lugares Sobre a Fragilidade” (“In the Wind” in Fôlego Project) which results in the creation of five electronic music works from field recordings of soundscapes of five rural villages in the centre of Portugal (Vila de Rei, Oleiros, Proença-a-Nova, Mação and Sertã).

According to Hugo Reis the soundscape is a complex and very broad subject where

space represents an infinite exteriority. The apparently simple act of listening to a soundscape usually leads to an unexpected complexity. The amount of details involved, even in simple acoustic situations, is very large, and the differences that the brain can detect are very small, using, for example, the memory of past experiences as a reference. As an artistic practice “Five Places on Fragility” proposes a listening and communication based on the understanding of sonic space, perception and memory, going beyond ordinary audible sounds and giving it a musical meaning. This process combines experiences and sonorities that surround him, there being a particular focus on the elements of resonance and texture – resonance as opposition to the ephemerality of sounds and texture as a phenomenon of layering.

Climate Migrants

JOÃO NECA



fôlego [Interview]

João Neca was born in the village of Vela, in Guarda. His involvement with the Theatre starts very early, at the age of 5 in the amateur theatre group “Teatro à Vela”. He has a degree in Artistic Studies, with a specialization in Theatre at Faculdade de Letras da Universidade de Coimbra and a Master in Artistic Studies at the same university. He is founder and member of the theatre group Gambozinos e Peobar-

dos with roots in Vela, a village in the municipality of Guarda, having dedicated himself to the writing, dramaturgy and staging of several shows of the group since 2005. Since 2013 he has integrated the fixed team of Teatro O Bando as a cast member of several shows, being a Cooperant since 2017. In parallel to his work, he created the podcast ÓCIO DO POVO.

Mutant Villages

fôlego [Interview]

ALICE DUARTE



Alice Duarte was born in 1994 in Serra de Monchique. Passionate about the art of movement, she refers to it

as an essential form of expression, education and intervention. She graduated in Contemporary Dance Creation and Interpretation at Escola Superior de Dança in 2016 and became Master in Dance Education at the same institution. Performative Interpretation and Creation are both part of her life, highlighting Participatory Art as the starting point for her work/body(s)-thinking(s) in Dance.

ALEXANDRE MONIZ



Alexandre Moniz was born in Lisbon in 1994 and has been interested in the art of sound since an early age. He took his first steps with a guitar when he was still very young, and it was then

that his passion for music and sound was born. Over the years he expanded his range of musical instruments such as the drums, keyboard, bass and voice. In 2018, he enters the Luiz VillasBoas Jazz School (Hot Clube de Portugal), to study Jazz, specialising in the instrument of Drums, having also deepened the component of music theory and composition. Until nowadays, the focus of his work has been the creation and composition of music.

Tattoos

NUNO PAULINO

fôlego [\[Interview\]](#)

Pigments

MARIANA PTKS

fôlego [\[Interview\]](#)

© Ricardo Pereira



Mariana PTKS is the pseudonym of Mariana Patacas, urban and visual artist, born in Porto, in December 1992. From a very young age she explores traditional painting techniques and teachings that she later combines with mural and digital painting. Her work gravitates around the cosmos and its infinite possibilities, using vibrant colour palettes and harmonious shapes, letting us guess oneiric landscapes that have the ability to, for moments, transport us to another reality.

[\[instagram.com\]](#)

[\[facebook.com\]](#)

Gamelão

MARIANA MIGUEL

fôlego [Interview]



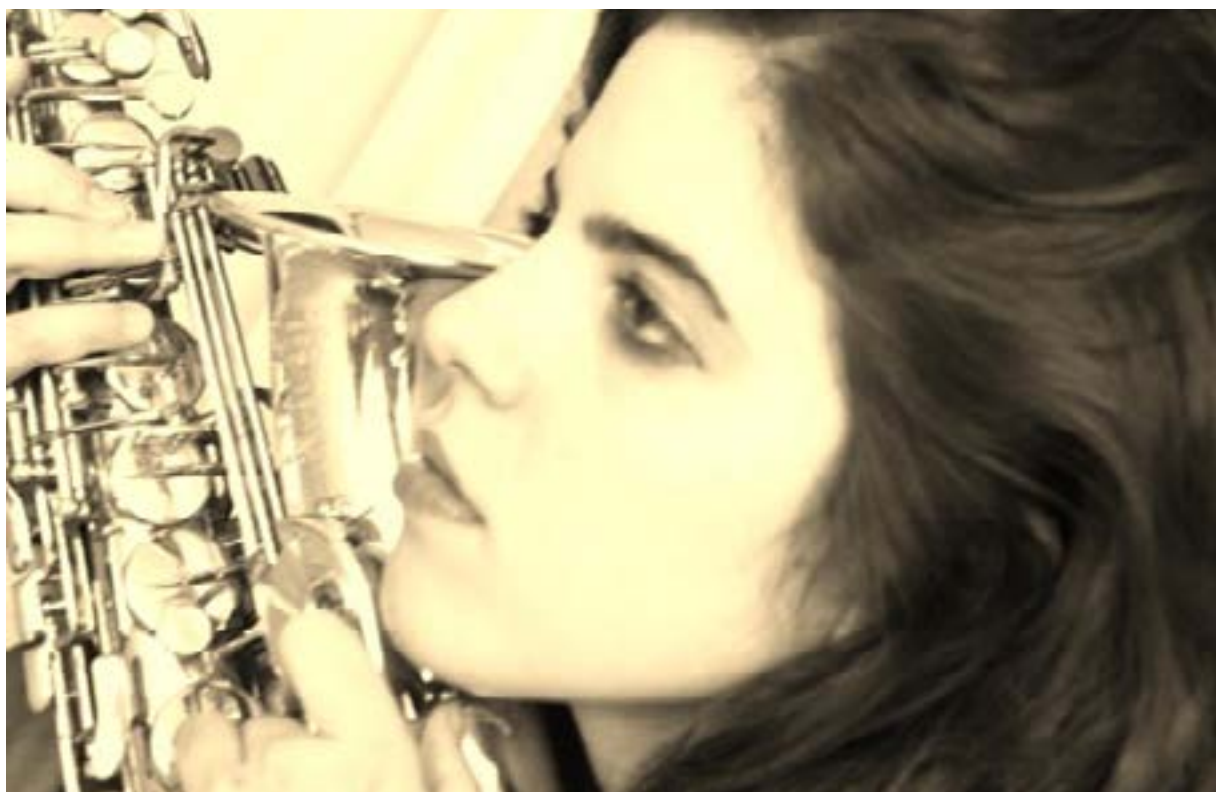
Mariana Miguel works professionally as pianist, percussionist and multidisciplinary artist. She completed her studies (Bachelor and Master) in Music (Piano and Performance), at the University of Évora, with Professor Ana Telles. She has been developing and presenting work where the piano plays a central role, in an experimental language, in dialogue with other arts. She collaborates with the Companhia de Música Teatral in projects such as Anatomia do Piano (Pianoscópio), Gamelão de Porcelana e Cristal, and several shows, assuming the role of facilitator, performer and creative.

Site: [musicateatral.com]

Seahorse

ALICE DUARTE & ANA RAQUEL

fôlego [Interview]



Ana Raquel is graduated in Saxophone and Master in Music Teaching, by Escola Superior de Música de Lisboa. Between 2010 and 2011 Ana Raquel studied at Conservatorio di Musica “Giuseppe Verdi” di Milano with Mario Marzi. Ana Raquel is a member of the band *nãosimão*, she collaborated with the European Union Youth Wind Orchestra (E.U.Y.W.O.), Lusotango, Orelha Negra, among others. In 2018 she integrated as actress and musician the cast of the community show *PÁSSAROS*, a creation of Teatro O Bando with staging by João Miguel Neca Jesus. She also co-created the shows *cavalo~marinho* and *A Grande Viagem do Pequeno Mi* – dance and music for early childhood with artistic direction by Madalena Victorino.

Ice N'Fire

STEVEN HARTMAN

fōlego *[Interview]*



Steven Hartman is an award-winning environmental humanities scholar and writer whose work spans poetry, fiction, lyrics, screenwriting, literary translation, book reviews and scientific writing. He specializes in building collaborations among artists, researchers, educators and civil society to help mobilize public action on Climate Change. He is Founding Executive Director of the BRIDGES Sustainability Science Coalition in UNESCO's Management of Social Transformations programme, ba-

sed at Arizona State University's Julie Ann Wrigley Global Futures Laboratory. He is also a visiting professor at the University of Iceland, where he leads the sustainability art, education and public engagement project Bifrost [\[bifrostline.org\]](http://bifrostline.org). Transdisciplinary approaches to convergent knowledge production unify many of his scientific, educational, media and arts-anchored collaborative projects with societal stakeholders.

Ice N'Fire

JOANA RODRIGUES

fôlego *[Interview]*



Joana Rodrigues has a degree in Geology, from the University of Porto, and a Master in Geological Heritage and Geoconservation from the University of Minho. She has published several papers in national and international publications and has participated in several research projects in the areas of Heritage, Environment, Education and Tourism. She is the representative of the Portuguese Network of World Geoparks of UNESCO in the European and Global Networks of Geoparks. She is currently developing her PhD in Geosciences, at the University of Minho, Institute of Earth Sciences, dedicating herself to the subject of Science Communication.

Ice N'Fire

JOÃO MANSO

fôlego [Interview]



João Manso was born in Almeirim in 1980. He graduated in Cinema, Video and Multimedia Communication at Universidade Lusófona. Since 2007 he has worked as a freelance director, assistant director and video editor. He directed and edited short films, documentaries and music videos. He is a director's assistant in cinema, television and advertising, having worked with several directors, among which: Margarida Cardoso, Miguel Gomes, João Canijo, Pedro Pinho, François Manceaux, Bruno de Almeida, Simão Cayatte and António Borges Correia. In 2013 he produced and directed, with Miguel Manso, his first feature film, BIBLIOGRAPHY. In 2018 he directed the short film HISTÓRIA SECRETA DA AVIAÇÃO.

Ice N'Fire

CATARINA ALVES

fôlego [Interview]



Sculptor by training, curious by default and adventurer by conviction. Develops work in creative and artistic areas in sculpture, illustration and design. She likes details and losing track of time, both of which cause her some difficulties, she nurtures more the moments that give her pleasure than the ones that bring her difficulties. She invests all the time she can with her people as she takes good advantage of the moments when they are absent, in nature and with nature is where she finds the balance and motivation for the next step.

ANTÓNIO LOURO

fôlego [Interview]



EXERCISES FOR STUDENTS



Although the **Fôlego** activities in chapter 5 serve as a basis for the construction of new activities, in parts or in whole, for future projects to be developed in a school setting or not, in this chapter we propose several exercises for the classroom setting.

The exercises in this chapter are proposed for some age ranges, but may be adapted for other age groups at the educator's discretion.

We hope you have fun!

This exercise is the result of ideas and suggestions produced in a participatory meeting with teachers from the municipalities covered by the Fôlego project and can be adapted to the various school grades.

VISUAL CAMPAIGN – MENU OF THE DAY: MICROPLASTICS, HEAVY METALS AND INSECTICIDAL DESSERT?

Eça de Queirós (Portuguese writer and diplomat) once said that our food choices define us in some way. Nowadays, there are many different options: from vegetarianism, paleo, vegan – more than a diet, they translate a way of being in life. But how do these choices affect our planet? What is the impact on the future of a more sustainable diet? And how would they change our daily lives?

This exercise proposes a reflection on the eating habits of modern society: from the amount of food produced and eaten to processed or genetically modified foods.

Materials needed:

- tracing paper
- cardboard
- acrylic paints and brushes
- pens, pencils, etc.
- computer

How to do the exercise:

- 1 - Divide the class into groups of 4 or 5 pupils.
- 2 - Each group investigates and reflects on food at different times in history, for example: today, in the time of their grandparents, in the maritime expansion, in the Middle Ages or in prehistory.
For primary school pupils the reflection could be on shorter intervals: food at home, when parents/grandparents were small, in the time of D. Afonso Henriques, for example.

3 - Each group proposes a sketch of a drawing/illustration/visual composition that conveys their conclusions.

Example: A T-Rex, with a thought balloon with a question mark, looking at a cow and a doughnut.

4 - After the initial sketch, each group should agree on a question that will give the title to their work, to lead the rest of the colleagues in a reflection on sustainable eating habits (we give the title of this exercise as an example).

5 - Each group, with the help and guidance of the teacher, gives free rein to their imagination and produces their own poster.

In case several classes develop the visual campaign, it is proposed that:

5 - Through a voting system, the class chooses the idea they appreciate the most and together and for an inter-class presentation they work on the winning idea.

Tips for closing the exercise:

The exhibition of the works of each class (several from the same school grade or one class for each grade) will serve as a wake-up call to promote sustainable eating habits and reflect on how our relationship with food has evolved over the years and what the resulting consequences are for the planet. The works can be displayed in the atrium or in the main corridor of the school, available to the entire school community, including parents, institutional guests, teachers, and students from other schools or even the local population.

This exercise is the result of ideas and suggestions produced in a participatory meeting with teachers from the municipalities covered by the Fôlego project and can be adapted to the various school grades.

CLIMATE CINEMA CYCLE

The acceleration of climate change is largely due to human action on the planet because of their lifestyle. It is therefore imperative to reflect on the importance of adopting simpler, planet-friendly lifestyles, reducing their impact on our Earth!

The film industry, whether through documentaries or fiction, has been an ally in spreading this reality. Shall we organise a film cycle?

Materials needed:

- A room/auditorium or atrium of the school
- Projector
- speakers
- Chairs or cushions/puffs on the floor.

How to do the exercise:

1 - The screening of one film for each day of the week or only one day per week (e.g. on Fridays).

2 - Through a vote, the class selects the films for the cinema cycle. (We propose below some films related to the theme of the Ice Age, prehistory, climate change and nature conservation, however the list below serves only as a point of reference, students may contribute with other suggestions).

3 - In the case of a multi-class exercise, the programme can be staggered (one film per class per week in rotation, for example) and extended over the duration of the school term.

1 - Choose, together with the school management, the best place to hold the cinema cycle, including outdoors.

From 6 to 9 years old: The Ice Age (2002), by Chris Wedge; The Land Before Time (1988), by Don Bluth; The Croods (2013), by Kirk DeMicco and Chris Sanders; The Good Dinosaur (2015), by Peter

Sohn; The Flintstones (1994), by Brian Levant; Moana (2016), Ron Clements and John Muskerde.

From 10 to 12 years old: The Blue Lagoon (1980), by Randal Kleiser; Quest for Fire (1981), by Jean-Jacques Annaud; Cast Away (2000), by Robert Zemeckis; Whale Rider (2003), by Niki Caro; Princess Mononoke (1997), by Hayao Miyazaki; 2040 (2019), by Damon Gameau; Before the Flood (2016), by Fisher Stevens.

From 13 years old and on: March of the Penguins (2005), by Luc Jacquet; An Inconvenient Truth (2006), by Davis Guggenheim; The Day After Tomorrow (2004), by Roland Emmerich; Eating Will Take Us to Extinction (2021), by Ludo Brockway and Otto Brockway; River Blue (2016), by Roger Williams and David McIlvride; Our Planet (2019), with David Attenborough.

Tips for closing the exercise:

When closing the film cycle, the teachers of each class could ask for a reflection on it.

6 to 9 years old: a drawing or an essay on the theme "What would it be like to live in prehistoric times?"

10 to 12 years old: each student will produce a post for a social network with a message about "what would you change for a day?", the posts can be printed in photo and pasted in the classroom as an exhibition.

13 years old and on: classroom vote on favourite film, followed by a debate working on subsequent reflections after viewing. A student could be selected (or the teacher could take the role of note-taker) to write down the main conclusions to be later published in the school newspaper or stuck next to the board and available for other classes accessing that room.

This exercise is the result of ideas and suggestions produced in a participatory meeting with teachers from the municipalities covered by the Fôlego project and can be adapted to the various school grades.

NATURE CONCERT

We are about to embark on a nature-inspired sound journey! With the help of imagination and visual arts, natural or recycled materials will become real musical instruments for a concert inside or outside the classroom.

This exercise can be developed by any school grade and will give pupils the freedom to collect/choose the materials to use and the sounds to reproduce.

We leave as a guide an example for the first cycle of schooling for the reproduction of the sounds of: rain, wind, thunder/storm/water/sap/bird.

Materials needed:

The materials can be collected in advance by the pupils and placed on a day of their choice on a table in the classroom. The school may provide pencils, coloured pens, watercolours, acrylic paints, brown tape, glue, white paper, etc.

- Rain - Empty plastic pasta wrapper; cardboard tubes of kitchen roll, rice, seashells
- Wind - Empty fabric softener packaging

- Thunder and thunderstorm - X-ray or metal foil
- Water - Water bottle, sand and stones; Pizza box, rice and beans; Rope, plastic caps
- Bird - clay or wooden whistle with water that imitates the sound of birds
- Frog - Reco-reco

How to do the exercise:

- 1 - Invite pupils to organise themselves into groups of two or three.
- 2 - Each group should choose one of the materials and explore how it is possible to reproduce the sound of an element with that material. The educator can help them understand how to do it.
- 3 - The various groups organise themselves to produce a concert, exploring the combination of these sounds and their rhythm to create a replicable sound experience.

Tips for closing the exercise:

The concert could be presented to carers (in the case of younger pupils) or recorded to be played as ambient sound around the school corridors by older pupils.

This exercise is the result of ideas and suggestions produced in a participatory meeting with teachers from the municipalities covered by the Fôlego project and can be adapted to the various school grades.

PROTECT YOUR COASTLINE!

Coastal erosion is the process by which local sea level rise, strong wave action and coastal flooding erode or wash away rock, soil and/or sand along the coast. Coastal erosion and ice melt are two major concerns resulting from accelerating climate change.

This exercise proposes, through an experiment, to reflect on the consequences of both and to learn how they take place.

Materials needed:

- Two empty small water bottles
- Two transparent plastic boxes
- A glass jug
- Sand
- Seashells and pebbles
- Blue food colouring
- Sticks of kebab
- A thick blue marker
- Two sealable plastic bags
- Ice

How to do the exercise:

1. Put water in the glass jug and mix the food colouring. Place the sand in one corner of each box,

smoothing it out to create a small slope to the middle of the box.

2. In one of the boxes add the shells and pebbles on top of the sand. In the other box, stick lots of chopsticks into the sand.
3. Fill the boxes with the coloured water, without covering all the sand to simulate a beach.
4. Place the empty water bottles in the boxes, lying on the water, and shake them up and down to simulate waves. Ask pupils to observe and note the different reactions of the sand in the two boxes.
5. Mark with the marker the level of water in the boxes.
6. Place the bags of ice in the boxes, one over the water and the other over the sand. While the ice is melting, ask the pupils to predict whether the water level will rise in any of the boxes.

Tips for closing the exercise:

Pupils reflect on the global melting process and the consequences it will have when it occurs at the different Earth poles, and on solutions to protect soils from erosion by water.

This exercise is the result of ideas and suggestions produced in a participatory meeting with teachers from the municipalities covered by the Fôlego project and can be adapted to the various school grades.

A TIMELINE

A timeline is a visual representation of a chronological sequence of a process, a story or events, and helps to understand in a simple way how various events, people or actions play a role in a process over a period.

This exercise aims to understand global phenomena, whether positive or negative, from a perspective that articulates local and global events on a territory-centred scale. We also propose that it be an exercise developed throughout the school year and, for this, it needs a large space, with an adequate height and length, such as a corridor within the school.

The aim is to create a national and global repository of events that at the end of the school year can be viewed and analysed by all.

Materials needed:

- Scenic paper
- Glue tape
- Pens
- A4 sheets of paper
- Printer

How to do the exercise:

Line the corridor or wall with scenery paper and draw a timeline comprising the school year, dividing the paper. The top part will be for the respective country and the bottom part for the world. The line will be divided by months and weeks.

Throughout the year, the class does research on climate events, scientific research/studies or important findings related to climate change. Each contribution should always present one entry at national level and one at international level, with a short explanatory text and a photo.

The timeline can be adapted, for example reflecting the present at national level and the past at global level.

Tips for closing the exercise:

The secondary school class could choose to make a short film showing the events in the passage of time.

This exercise is the result of ideas and suggestions produced in a participatory meeting with teachers from the municipalities covered by the Fôlego project and can be adapted to the various school grades.

FROM THE OLD IS MADE NEW

Many artists today use rubbish as a starting point for their art creations. In Portugal, one of these artists, Bordalo II, uses all kinds of materials to create giant sculptures and installations (many of them representing animals) in the form of street art in an alert to the pollution of the planet.

With this exercise we propose to use waste in the service of imagination and creativity, transforming the school into an art gallery!

Materials needed:

All old and destined for the rubbish bin (plastic bottles and packaging, toothbrushes, old toys, magazines and newspapers, food or drink cans, even electronic waste such as cables, electrical plugs, etc.).

How to do the exercise:

1. Delimit an area in the entrance hall of the school and ask all pupils to contribute rubbish to that space

2. Pupils sort the rubbish into categories (materials or colours); divide into groups of 4 and produce proposals for the work to be done. A vote determines the preference and the necessary work steps are planned with the help of the teachers.
3. The class assembles and finishes the art object, then organises an opening.

Tips for closing the exercise:

All stages of the process are recorded in photographs, creating a portfolio.

Primary school: teachers can help with the photographic recording process and ask each pupil to develop a drawing of the work to be later pasted on a small card (where the text of the invitation is also attached), which they can deliver at home.

Other levels of education: students can develop an invitation for the inauguration of the work and organise for its distribution, either locally or through the regional press, for example.

1 – THE POWER OF THE PLANTS

Nowadays, there is more and more talk about deforestation, the greenhouse effect and their impact on our planet.

Do plants affect the temperature of the atmosphere? In what way?

With these questions as a starting point, challenge your students to do a creative experiment in the classroom: find out whether plants affect the temperature, or not, in a closed box for a fortnight.

Materials needed:

- Seven thermometers
- Six acrylic boxes
- Soil
- 3 small plants (with roots)
- Notebook

How to do the exercise:

- 1 – Number each box.
- 2 – Next, put enough soil in each acrylic box to allow you to bury the plants. The soil represents the earth, and the acrylic box represents the atmosphere.

3 – Stick each thermometer in the soil of the acrylic boxes.

4 – Plant each one of the plants in a box and close it - three boxes will have a plant and three will not.

5 – Place a thermometer in the classroom to measure the temperature of the room as a control.

6 – Put the boxes in a sunny spot (e.g., near a window). Each box should be rotated at the end of each week.

7 – Temperatures should be recorded three times every day for a fortnight. At the end of each week the recorded temperatures should be averaged.

While recording temperatures, the conditions in each box should also be noted.

Analysis of the results:

By the end of the two weeks, talk through the process with your students and discuss the results:

- In what ways do plants affect temperature?
- How do they affect the temperature, and why?
- What can be concluded from this experiment?

climate change

global education

critical thinking

local-based

participatory

AGES 10 TO 11

2 – DO A LIKE!

Nowadays, human activity is one of the main causes of destruction of the habitats of many species, threatening their survival and putting them at risk of extinction. One of the possible solutions to this problem is through knowledge of the world around us and awareness of this important threat.

Materials needed:

- 1 computer and internet
- A4 paper sheets or a notebook
- Pen

How to do the exercise:

1 - Organise your students into groups of four and ask them to choose two species at risk of extinction. One species of their own country and one species worldwide. To do this, they should consult the “Red Books”, which classify species in each territory according to their probability of extinction in a given period of time.

- For Portuguese threatened species, see: [\[natureza-portugal.org\]](http://natureza-portugal.org)
[\[icnf.pt\]](http://icnf.pt)
- For globally threatened species, consult: [\[iucnredlist.org\]](http://iucnredlist.org)

2 - Each group should carry out detailed research on each of the species selected:

- Identification and characteristics
- Geographical distribution
- Environmental conditions (climate etc.)
- Habitat
- Feeding habits
- Reproduction
- Main threats
- Curiosities

Tips for closing the exercise:

Based on the information gathered by each group, students will use social networks (blog, Facebook, Instagram, Pinterest) and create platforms where they can disseminate the knowledge gathered regarding endangered species and raise awareness of their importance in the school community. They could organise small weekly campaigns in which they highlight one species.

In the case of endangered species in Portugal, you may also organise study visits to protected areas and natural parks where they can visit them. You can find more information at: [\[icnf.pt\]](http://icnf.pt)

climate change

global education

critical thinking

local-based

participatory

3 – FOREST PRINTS

The Forest is a space full of shapes, textures, colours, and smells.

As they are all different, they deserve to be observed very carefully and recorded in detail! Challenge your students to visit a forest area near their school.

Materials needed:

- 1 folder with A4 white or coloured paper sheets
- Crayons and charcoal pencils

How to do the exercise:

1. The students are organised into thematic groups – for example flowers, leaves, trunks, seeds, and fruits.
2. The pupils set off to discover textures, using the frottage technique (a technique in which the crayon or charcoal pencil is rubbed onto a sheet placed over the texture to be collected. On coloured sheets, choose crayons in contrasting colours.)

3. At the same time, they can draw a picture of each species they have observed.
4. After collecting the print and the drawing, the students identify on each sheet the species that has been traced or drawn.

Tips for closing the exercise:

Back in the classroom, each group presents their findings to their classmates.

These can be put together in a common album, organised by species (e.g., the shape of the *Quercus suber*, the texture of the trunk and leaves and the acorn).

You can also suggest that your students bring a box to collect samples of dry or fallen elements in the soil. Later, in the classroom, each element can be studied and made into a stamp. Apply a thin layer of paint on an element, either whole or a piece, and press it on a sheet of paper. You can explore its shape, size, and texture!

climate change

global education

critical thinking

participatory

AGES 10 TO 11

4 – PREVENT TO PROTECT

Forest fires consume thousands of hectares of forest every year. Learning how to protect and preserve this natural space against this threat is an essential task that is within everyone's reach.

Challenge your students and organise a visit to the school nearest fire station with the aim of getting to know the main agents in preventing and fighting forest fires - the fire-fighters - the goal is for the students to learn about the main strategies used in the management of forest areas in their own municipality.

Materials needed:

- Paper and pen
- Recorder or cellphone
- Photo camera)

How to do the exercise:

- 1 – For this purpose - distributed in small groups - students should look at the map of the nearest forested area of the municipality.
- 2 – Afterwards, during the visit they can explore the equipment and techniques used and interview those responsible for the intervention teams in the field about the main ways of fire prevention and forest protection.

Tips for closing the exercise:

Suggest that each group of students, using the information gathered, to write an article to be published in the school newspaper or on the school blog/platform!

climate change

global education

critical thinking

participatory

1 - LIVING IN THE GLOBAL WORLD

In an increasingly global society, just a click away, do we really know the world we live in?

The International Organization for Migration (IOM) estimates that 1 in 30 persons are migrants:

[\[iom.int\]](http://iom.int)

Who are these migrants? Where do they come from? What situations have led them to leave their homeland?

Discuss with your pupils the current refugee crisis in Europe and what is at its origin and the concept of Integration.

Materials needed:

- Computer
- Internet
- Alternatively, recent newspapers and magazines

How to do the exercise:

- 1 – Suggest that the students conduct detailed research on the topic, using the Internet, the school library, and the municipality library.

- 2 – Then organise the class into groups of four.

- 3 – Challenge them to create projects for initiatives that promote integration in the school community: awareness-raising campaigns, festivals, exhibitions, competitions, etc.

- 4 – Then each group should organise a presentation of their initiative for their classmates, using multimedia resources (PowerPoint, videos, etc.). They should identify the following elements:

- Title of the event
- Detailed description of the event
- Target audience
- Resources needed
- Timetable

Tips for closing the exercise:

At the end of the presentations, all the projects presented should be gathered and published (on the school's Facebook page or hall, for instance). The project most voted by students can be put into practice, with the collaboration of other classmates and the teaching community.

global education

critical thinking

local-based

participatory

2 - ART IN NATURE

A habitat is an ecological area that is inhabited by a particular animal species, plant or other type of organism.

Challenge your students to discover the world beyond the school walls and learn about the different habitats around the school, such as gardens, parks or forests.

Organise a guided tour with your students to those near the school. The aim is for each student to choose a plant and draw it by sight, making sketches.

Materials needed:

- A4 paper sheets, cardboard or paperboard
- Drawing material (pencils, pens, crayons)
- Clipboard
- Photo camera (optional)

Tips for closing the exercise:

On returning to the classroom, each student must let their imagination run wild and artistically work on the chosen plant, using a technique of their choice (e.g., charcoal, oils, pastels, collages, photography, among others).

All the works must have a caption:

- Title of the work
- Description
- Materials used

At the end, you should collect the works created by the students and organise an exhibition for the whole school community.

Suggest to your students the organisation of guided tours, during which each student will have the opportunity to talk about their work: the choice of that plant, the selected technique and message.

For inspiration, see:

[\[moma.org\]](http://moma.org)

Also challenge your students to use social media (blog, Facebook, Instagram, Pinterest) and create platforms where they can promote their artwork. They could organise small weekly campaigns, in which they highlight a piece of artwork as well as the species portrayed.

climate change

global education

critical thinking

mixed arts

participatory

3 – PROFESSIONS IN THE FOREST

The Forest ensures the production, protection, and conservation of an extraordinary heritage. It is therefore important to get to know the people who daily work in this natural space.

There are many professions related to the Forest: the agronomist, the park ranger, the biologist, the architect, the fireman, the artist, the craftsman, the photographer, the writer, among others.

Materials needed:

- Pen and paper
- Recorder or cellphone
- Photo camera (optional)

How to do the exercise:

- 1 – Invite your students to organised themselves in groups.
- 2– In groups the students they will create an interview script and to apply it to a professional connected to this natural space, describing their role and a typical day in their job.

Tips for closing the exercise:

Each group should then present to their classmates the information they have gathered from their interview. If possible, ask students to film the interview and show it to their classmates through a video montage.

climate change

global education

critical thinking

local-based

participatory

4 – SUSTAINABILITY: REALITY OR UTOPIA?

The Forest, which represents about 30% of the earth's surface, provides us with economic and social resources, and energy. Sustainable management of natural resources is the order of the day.

Materials needed:

- Paper and pen
- Computer
- Internet

How to do the exercise:

- 1 – Ask students to divide themselves into three groups.
- 2 – Using the topics “Economic resources generated by the Forest”, “Energy resources provided by the Forest” and “The social resources of the Forest”, lead a discussion!
- 3 – Each group will be responsible for one of the themes and will have to present and defend it in a discussion moderated by the teacher.

Tips for closing the exercise:

At the end, they can write a collective article with their main conclusions.

Suggest your students to publish the article in their school newspaper or why not send it to a magazine!

climate change

global education

critical thinking

local-based

participatory

5 – CLIMATE CHANGE IN A POEM

You can challenge the students to create a poem using the blackout poetry technique.

The purpose of blackout poetry is to draw a new meaning from something initially made by another mind. Many blackout poets use words to string together a new story from the initial one.

Examples of blackout poetry:



Materials needed:

- paper
- glue
- scissors
- pens, pencils and crayons
- newspapers and magazines



How to do the exercise:

- 1 – Provide several magazines and newspapers on a table. Each student chooses only one page from them for the exercise.
- 2 – With a thick black marker, the students cover all the words in the page, except those they wish to preserve to create a new meaning.
- 3 – The students can also decorate and draw upon the article.
- 4 – Each student signs and dates the poem.
- 5 – Each poem can be displayed on a wall or on the blackboard.

Tips for closing the exercise:

The students go around and see the exhibition.

They reflect on the whole experience and how images and words make us think and feel about important issues such as climate change. The reflection can be aided with some questions:

- What do you think is the common ground of the visual poems?
- How did you choose what words you wanted to keep?
- Do you think that the poem can still represent climate change?

The exhibition can be kept on display for some time after the class.

climate change

global education

critical thinking

local-based

participatory



APPENDIX

In this Best Practices Manual, we propose a list of TED Talks and Bifrost interviews selected under the themes of the project **Fôlego**.

You may explore this list and other talks on the **TedTalks** homepage and **Bifrost** site.

[\[ted.com\]](https://www.ted.com)

[\[bifrostonline.org\]](https://bifrostonline.org)

A YOUNG ACTIVIST EXPLAINS WHY HE SEES CLIMATE CHANGE AS THE CENTRAL ISSUE OF OUR ERA

[\[bifrostonline.org\]](https://bifrostonline.org)

Environmental activist Xiuhtezcatl Martinez, winner of the inaugural Children’s Climate Prize, explains how climate change in his view is the central issue of our era precisely because it connects to so many other issues that define today’s critical social and environmental challenges, from racism to forced climate migration, from water security in the hinterlands of North America to degradation of our oceans, from LGBTQ rights to the rights of indigenous people. To Xiuhtezcatl these are all part of the same struggle.

REPRESENTING CLIMATE CHANGE

[\[bifrostonline.org\]](https://bifrostonline.org)

Þorvarður Árnason reflects on the challenges of representing unsustainable carbon-dioxide emissions. Global warming and climate change are some of the best-known effects, of many, on environments around the world due to societies’ continued unsustainable burning of fossil fuels for their energy needs. Such effects are often difficult to represent in efforts to communicate scientific findings or policy priorities on climate change. Árnason’s repeat photography project, documenting glacial recession in an outlet glacier of Vatnajökull (Iceland’s largest glacier) attempts to bear witness to one tangible effect among a multitude of local environmental changes happening around the planet due to the world’s unsustainable reliance on fossil fuels. “The recession of glaciers,” Árnason notes, “is the canary in the global coal mine... due to the build-up of these gasses that are invisible.”

WHAT'S IN A WORD?: THE HIGH-STAKES TIES OF LANGUAGE, KNOWLEDGE AND ENVIRONMENT

[bifrostonline.org]

Geographer Shari Gearheard reflects on one of many ways in which environmental change can impact and challenge longstanding local and traditional knowledge as reinforced through cultural practice and language. Examples from Inuit life in arctic Canada and Greenland highlight some of the high stakes connections that exist between language, knowledge and environment. Intangible cultural resources of knowledge are codified in the memories of community elders, in the local practices and environmental lore of hunters and in the very languages that tie Inuit communities to their environment and to each other. Arctic environments are changing as a result of a warming world and less predictable conditions in many polar and sub-polar regions. As they do, local environmental knowledge becomes vulnerable, and less reliable in some key ways, placing people who have relied on such traditional knowledge resources, in some cases for many generations, at increased risk. The stakes may be very high.

HOW DOES CLIMATE CHANGE IMPACT INDIGENOUS COMMUNITIES IN REMOTE REGIONS OF CANADA?

[bifrostonline.org]

Indigenous legal scholar Aimée Craft discusses the effects of climate change on remote northern communities in Manitoba not only in terms of impacts on health, economics, and social stability, but also in terms of the threats to language, culture and identity that may be accelerating as a result of the new vulnerabilities caused by environmental impacts. Cultural losses occurring in part due to increased migration from traditional smaller communities to urban centers in Southern Canada represent one of many threats to indigenous heritage among Canada's First Nations people.

WHAT IS THIS CONCEPT WE HEAR ABOUT MORE AND MORE — THE ANTHROPOCENE?

[\[bifrostonline.org\]](https://bifrostonline.org)

Credit: Owen Gaffney and Félix Pharand-Deschênes. [\[Welcome to the Anthropocene\]](#). [\[2012 Stockholm Resilience Centre\]](#) / [\[Future Earth\]](#) / [\[Gloia\]](#) ([CC BY 4.0])

A three minute journey through the last 250 years of human history, from the start of the Industrial Revolution, charting the growth of humanity into a global force on an equivalent scale to major geological processes.

THE FRAGILE EARTH

[\[ted.com/talks\]](https://ted.com/talks)

In this image-filled talk, Yann Arthus-Bertrand displays his three most recent projects on humanity and our habitat – stunning aerial photographs in his series “The Earth From Above,” personal interviews from around the globe featured in his web project “6 billion Others,” and his soon-to-be-released movie, “Home,” which documents human impact on the environment through a breathtaking video.

WHAT HISTORICAL CONCEPTS CAN HELP US NEGOTIATE THE IMPLICATIONS OF THE ANTHROPOCENE?

[\[bifrostonline.org\]](https://bifrostonline.org)

Environmental anthropologist Gísli Pálsson (University of Iceland) reflects on the ancient Greek concept of *oikos* (housekeeping / household economy), from which the modern concepts both of economy and ecology derive. Pálsson suggests this root meaning holds a renewed relevance in the Anthropocene. With human beings searching for solutions to wicked problems in a world in which ‘planetary boundaries’ have become a priority consideration, we may find in this root concept of *oikos* a new tool in an ancient sheath as we actively rethink and reexplore our bonds to the earth and to each other.

VISUALIZING CLIMATE CHANGE IN THE PAST CENTURY – THE “THE 100 YEAR TIME-LAPSE” PROJECT (A BIFROST FEATURE)

[\[bifrostonline.org\]](http://bifrostonline.org)

Visualizing Climate Change in ways everyone can see and understand requires collaboration by scientists and artists across disciplinary boundaries. Where scientific evidence is no longer enough to change hearts and minds on the global climate crisis, perhaps a glimpse of the radical changes our familiar landscapes are undergoing, on a scale of only a few human generations, can serve to drive home an understanding of the rich natural and cultural legacies that are rapidly disappearing.

CRITICAL THINKING

[\[ted.com/talks\]](https://www.ted.com/talks)

Education programs often advertise that they teach critical thinking, but most often, these skills are mixed in with general course information. “A lot of people think that they’re great critical thinkers because they equate critical thinking with a degree,” says Darcy Roland. “You can have a Ph.D. and be crap at critical thinking.” So she designed her own specific class.

UNDERSTANDING CULTURAL-ENVIRONMENTAL CONNECTIONS

[\[bifrostonline.org\]](http://bifrostonline.org)

How well do we grasp the impacts of our habits of consumption on the world? Does it really make a difference just what food we choose to put into our bodies at the poles, or in small island states threatened by sea-level rise? How do we imagine ourselves in relation to the environments we inhabit? More importantly, how do we imagine ourselves in relation to the environments we never see? What impact does the pace of working life have on the atmosphere? Do our vacations make threatened habitats more vulnerable? Four environmental humanities scholars from Taiwan, Britain, Norway and the USA reflect on a variety of cultural trends and individual routines as they play out, sometimes unexpectedly, in many of today's greatest environmental challenges and risks.

POPULATION GROWTH

[\[ted.com/talks\]](http://ted.com/talks)

The world's population will grow to 9 billion over the next 50 years - and only by raising the living standards of the poorest can we check population growth. This is the paradoxical answer that Hans Rosling unveiled at TED@Cannes using colorful new data display technology.

WHO ARE 'WE'? AND HOW CAN WE OVERCOME OUR DIFFERENCES TO FACE THE CHALLENGES OF THE ANTHROPOCENE?

[\[bifrostonline.org\]](http://bifrostonline.org)

Environmental anthropologist Gísli Pálsson unpacks some knotty assumptions that need to be worked out if the international community is to manage a coherent response to the challenges of the Anthropocene. One of these is the problematic notion of human unity — the “we” too often casually assumed — in light of the diversity of geographical, cultural, political and socio-economic differences in human groups and societies around the globe. Our notion of science, Pálsson argues, is already losing the capital “S” in response to a growing need to unite disciplines and varieties of knowledge represented by social sciences, literary scholarship, and the humanities in the broadest sense, as well as other communities not part of the academic establishment of specialists. Such refinements in our thinking and assumptions may need to be embraced if we are to come to terms with the new challenges facing humanities and the planet in the Anthropocene.

THE PARIS AGREEMENT ON CLIMATE CHANGE

[\[ted.com/talks\]](https://www.ted.com/talks)

What would you do if your job was to save the planet? When Christiana Figueres was tapped by the UN to lead the UN Climate Change Conference in Paris (COP21) in December 2015, she reacted the way many people would: she thought it would be impossible to bring the leaders of 195 countries into agreement on how to slow climate change. Find out how she turned her skepticism into optimism - and helped the world achieve the most important climate agreement in history.

A WARRIOR'S MESSAGE ON WHY HUMAN COMMUNITIES MUST COME TOGETHER TO FIGHT CLIMATE CHANGE (A BIFROST DOCUMENTARY)

[\[bifrostonline.org\]](https://bifrostonline.org)

"Nature, my boss, is unforgiving" states First Nations activist Milton Born With A Tooth in a powerful message on how the world must come together as global people to face our common global problem, climate change. The principles of reconciliation, cooperation and mutual respect lie at the heart of Milton Born With A Tooth's passionate plea for human solidarity and purposeful action. It is a warrior's message on the brink of a campaign to protect our common home, the earth, and a future worth fighting for.

HOW STORIES MAKE — AND CAN REMAKE — THE WORLD

[\[bifrostonline.org\]](https://bifrostonline.org)

Environmental humanities scholar and theater director Frédérique Ait-Touati discusses how new stories, as much in research as in art, can help to shape new realities in the world, breaking powerful structures to which the terrible stories of the past still chain us.

FINDING ANSWERS TO TODAY'S ENVIRONMENTAL CRISES — AND A SPACE FOR MEANINGFUL ACTION — BETWEEN THE POLES OF HOPE AND DESPAIR

[\[bifrostonline.org\]](https://bifrostonline.org)

Philosopher and nature writer Kathleen Dean Moore suggests that as we interact in and with our environment we need to think beyond false dichotomies of hope and despair and instead direct our energies more to the idea/s of "what it means to be a decent human being in a very difficult time."

HOW TO GROW A FOREST IN YOUR BACKYARD

[\[ted.com/talks\]](https://www.ted.com/talks)

Forests don't have to be far-flung nature reserves, isolated from human life. Instead, we can grow them right where we are – even in cities. Eco-entrepreneur and TED Fellow Shubendu Sharma grows ultra-dense, biodiverse mini forests of native species in urban areas by engineering soil, microbes, and biomass to kickstart natural growth processes. Follow along as he describes how to grow a 100-year-old forest in just 10 years and learn how you can get in on this tiny jungle party.

INTERVENTION OF THE SCHOOL IN THE COMMUNITY

[\[ted.com/talks\]](https://www.ted.com/talks)

A whirlwind of energy and ideas, Stephen Ritz is a teacher in New York's tough South Bronx, where he and his kids grow lush gardens for food, greenery – and jobs. Just try to keep up with this New York treasure as he spins through the many, many ways there are to grow hope in a neighborhood many have written off, or possibly even in your own neighborhood.

RENEWABLE ENERGY IN DEVELOPING COUNTRIES

[\[ted.com/talks\]](https://www.ted.com/talks)

How do we build a society without fossil fuels? Using her native Costa Rica as an example of positive action on environmental protection and renewables, climate advocate Monica Araya outlines a bold vision for a world committed to clean energy in all sectors.

WIND POWER

[\[ted.com/talks\]](https://www.ted.com/talks)

In this brief talk, Saul Griffith unveils the invention his new company Makani Power has been working on: giant kite turbines that create surprising amounts of clean, renewable energy.

ART WITH PLASTIC POLLUTION

[\[ted.com/talks\]](https://www.ted.com/talks)

Alejandro Durán uses art to spotlight the ongoing destruction of our oceans' ecosystems. In this breathtaking talk, he shows how he meticulously organizes and reuses plastic waste from around the world that washes up on the Caribbean coast of Mexico – everything from water bottles to prosthetic legs – to create vivid, environmental artworks that may leave you mesmerized and shocked.

TECHNOLOGY FOR NATURE CONSERVATION

[\[ted.com/talks\]](https://www.ted.com/talks)

Ecologist Lian Pin Koh makes a persuasive case for using drones to protect the world's forests and wildlife. These lightweight autonomous flying vehicles can track animals in their natural habitat, monitor the health of rainforests, even combat crime by detecting poachers via thermal imaging. Added bonus? They're also entirely affordable.

CHILDREN'S ROLE ON THE PLANET

[\[ted.com/talks\]](https://www.ted.com/talks)

Child prodigy Adora Svitak says the world needs "child-ish" thinking: bold ideas, wild creativity and especially optimism. Kids' big dreams deserve high expectations, she says, starting with grownups' willingness to learn from children as much as their desire to teach them.

SOLE – BUILD A SCHOOL IN A CLOUD

[\[ted.com/talks\]](https://ted.com/talks)

Onstage at TED2013, Sugata Mitra expressed his bold TED Prize wish: Help me design the School in the Cloud, a learning lab in India, where children can explore and learn from each other - using resources and mentoring from the cloud. Hear his inspiring vision for Self-Organized Learning Environments, which have since begun to take root in many international contexts.

JULIANA V. UNITED STATES: A YOUTH CLIMATE LITIGATION CASE THAT CONTINUES TO MAKE A DIFFERENCE INSPIRING SIMILAR CASES AROUND THE WORLD (A BIFROST FEATURE)

[\[bifrostonline.org\]](https://bifrostonline.org)

As a case study in the building of a community of purpose, the story of this landmark legal case — linking youth and their schools, their parents and neighbors, local activists and non-profit organizations, scientists, legal scholars and practicing lawyers – also has the potential to open up new horizons of engagement for researchers and educational communities, in partnership with actual communities and the many stakeholders they include. As a case study in social-ecological interdependency, civics and the integrated networked actions of communities, government institutions and civil society, the story behind this case offers lessons that students and seasoned researchers alike can take away with profit.

THE FUTURE IS NOW / FRAMTIDEN BÖRJAR NU

[bifrostonline.org]

The Future is Now is a Swedish-English triptych film produced by *Bifrost* and the Nobel Prize Museum in Stockholm for viewing in the museum's three-screen cinema space as part of a free school program for secondary school students to address human-environmental challenges and the need for inclusive cultural change to redress the problems human beings have created on the planet.

Schools have a vital part to play in raising the visibility of these questions in the course of covering a variety of academic subjects in the classroom. Students from all over the Stockholm school district visited the museum in class excursions for this school program during 2017. Teachers' evenings for high school educators from across the arts, humanities, social science and natural science spectrum were also organized to suggest ways in which ecological perspectives and ethical questions dealt with briefly in the film could be incorporated into their curricula and classroom practice in the schools.

The film highlights three very different examples of en-

gaging proactively with the world's present sustainability challenges. In three chapters it features: 1) the case of Our Children's Trust and the 21 youth from the USA taking on their Federal government in court for inaction on climate change; 2) the powerfully emotive work of artist and filmmaker Chris Jordan on the remote Island of Midway in the Pacific, communing with albatross who are literally choking to death on the plastic garbage flows human beings are filling the oceans with; and 3) the case of the Global High School in Stockholm where students have decided to take the lead in working to make their world sustainable. The original triptych produced by Peter Norrman, Anders Birgersson and Steven Hartman (in three separate video channels) for Nobel Museum's three-screen cinema space has been modified here for viewing on a single screen, while maintaining a virtual triptych form in some places. The film contains spoken narration, interactions and interviews in both English and Swedish and has been subtitled in both languages throughout.

AUTHENTIC CULTURAL VOICE

[\[ted.com/talks\]](https://www.ted.com/talks)

Our lives, our cultures, are composed of many overlapping stories. Novelist Chimamanda Adichie tells the story of how she found her authentic cultural voice – and warns that if we hear only a single story about another person or country, we risk a critical misunderstanding.

BIFROST: DEVELOPING THE ENVIRONMENTAL HUMANITIES (A BIFROST SPATIAL DOCUMENTARY)

[\[vimeo.com\]](https://vimeo.com)

The first iteration of the Bifrost project, titled “Developing the Environmental Humanities” exhibited as a spatial documentary at Sigtunastiftelsen in Sigtuna, Sweden in October 2011. This multi-screen documentary (exploring the link between nature, human-driven environmental change and the humanities historical, cultural and philosophical disciplines) was produced by NIES and Zoopeople in partnership with the Sigtuna Foundation, and premiered in 2011 at a major international conference organized by the Nordic Network for Interdisciplinary Environmental Studies. Scholars interviewed for this installation include the following ecocritics and historians of science, technology and environment (in their order of appearance in the film): James Fleming, Ursula Heise, Greg Garrard, Sarah Elkind, David Nye, Donald Worster and Hannes Bergthaller. The work was produced by Peter Norrman, Anders Birgersson and Steven Hartman.

THINKING ABOUT THE PAST: DECLINE IS NOT THE INEVITABLE RESULT OF SOCIO-ECOLOGICAL CRISES

[\[bifrostonline.org\]](https://bifrostonline.org)

Through the ages societies have faced major crises. Historian Mahesh Rangarajan reminds us that, historically speaking, environmental and economic crises have resulted not only in societal decline or collapse, but in reform as well as social and political reorganization. Adopting broader historical perspectives of long-term change, he argues, can be one way to avoid the traps of paralyzing despair or naïve optimism in times of socio-ecological crisis.

WHAT ARE THE OBLIGATIONS OF PRESENT GENERATIONS TO THE FUTURE OF THE EARTH?

[\[bifrostonline.org\]](https://bifrostonline.org)

Philosopher and nature writer Kathleen Dean Moore reflects on the obligations of human societies in the present to future generations and future social-ecological systems for a range of reasons, some of them pragmatic and others governed more by ethical principles. As a moral creature, Moore emphasizes that the human being is obligated to safeguard the existence of the most vulnerable both now and in the future, including children, marginalized societies and threatened species. The knowledge systems that we have inherited and continue to develop, in both scientific and non-scientific traditions, speak to the wisdom of precautionary principles of care and planetary stewardship.

An aerial photograph of a group of people gathered in a natural, wooded area. The group is clustered under several large, leafy trees in the center of the frame. Some people are sitting on white plastic chairs, while others are standing or sitting on the ground. The surrounding landscape is a mix of green trees and dry, brownish vegetation, suggesting a semi-arid or Mediterranean climate. A dirt path or road is visible on the left side of the image. In the background, a building with a curved roofline is partially visible on a hillside. The overall scene appears to be a community gathering or a group activity in a park or natural area.

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CHAPTER 3 - GLOBAL EDUCATION

[\[coe.int\]](http://coe.int)
[\[coe.int\]](http://coe.int)

CHAPTER 4 - CRITICAL THINKING

[\[artsmanagement.net\]](http://artsmanagement.net)
[\[nga.gov\]](http://nga.gov)
[\[c4aa.org\]](http://c4aa.org)
[\[artandobject.com\]](http://artandobject.com)
[\[revistacomunicar.com\]](http://revistacomunicar.com)

RESOURCES TO FEED AND NOURISH EAGER MINDS:

TOOLKIT

[\[climate.peopleinneed.net\]](http://climate.peopleinneed.net)
[\[bifrostonline.org\]](http://bifrostonline.org)

LESSONS PLANS

[\[land.oce.global\]](http://land.oce.global)
[\[oce.global\]](http://oce.global)

TOOLBOX

[\[climate.gov\]](http://climate.gov)

VIDEOS

Screening of Drowning Monuments, Alice-Ivy Pemberton:

[\[youtube.com\]](http://youtube.com)

Art for Climate Change:

[\[youtube.com\]](http://youtube.com)

The sound of Climate Change:

[\[youtube.com\]](http://youtube.com)

Extinction Sounds:

[\[youtube.com\]](http://youtube.com)

George The Poet:

[\[youtube.com\]](http://youtube.com)

National Geographic:

[\[education.nationalgeographic.org\]](http://education.nationalgeographic.org)

A silhouette of a person's head and shoulders, looking upwards against a deep blue sky. The person's mouth is slightly open, and their hair is visible. The background shows faint outlines of mountains or hills. The overall mood is contemplative and serene.

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