



Office
for Climate
Education



2018

ACTIVITY REPORT



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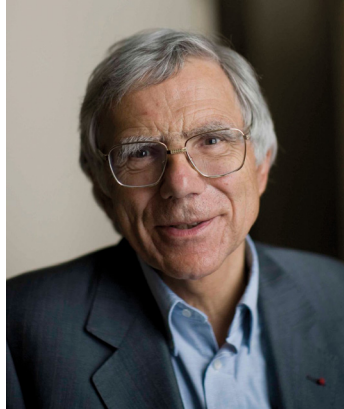


Foreword	4
The Office for Climate Education, year 1	5
Organisation and governance.....	6
Educational resources production.....	8
Professional development for teachers	10
Structuring and coordinating a community of practice	12
Disseminating and communicating.....	14
Carbon offset	15
Financial report	16
Key figures.....	17

FOREWORD

A word from Pierre Léna

Meeting the established climate targets by the Paris Agreement (COP21, 2015) mobilises political, economic, financial, industrial, and diplomatic actors. The success of the initiative will equally depend upon large-scale behaviour changes and a new sense of collective awareness. Education at all levels plays a decisive and recognised role in this process, as expressed in Article 12 of the Paris Agreement.



experience accumulated in favour of an active teaching of science, as well as from powerful international networks to implement it. However, it must devise tools adapted to climate change education. The choice made is to focus on education for students aged 9 to 15. Beyond the experience gained in the sciences, the Office must broaden its thinking and proposals to an interdisciplinary vision. This includes the social sciences and cannot ignore the ethical

dimensions of justice and solidarity.

Having played a leading role since 1996 in transforming science education at the primary and secondary levels, through its *La main à la pâte* initiative, the French Academy of Sciences could not ignore this new challenge. In collaboration with the French Development Agency (AFD), it organised a conference on *Education, Sustainable Development, and Climate Change* in late 2016, with the participation of Laurent Fabius and Laurence Tubiana. At the same time, the InterAcademy Partnership for Science mobilised experts nominated by 25 Academies of Science to draft a recommendation on *Climate Change and Education*, which was adopted by a large majority of the world's 113 Academies of Science and made publicly available in December 2017 in Paris. Finally, it became clear that this educational goal could not be directly addressed by the IPCC, although the institution recognised its urgency.

It is from this international context that the Office for Climate Education was created in spring 2018, as a French initiative. The Office was created as a foundation sheltered by the Foundation for scientific cooperation *La main à la pâte*, itself established in 2011 by the French Academy of Sciences with the Écoles Normales Supérieures of Paris and Lyon. It thus benefits from the considerable

In 2018, the Office was formally established. Despite the modest resources available at the time, many actions have been implemented, as this first activity report shows. The interest shown in the project by the numerous partners, both private and public, makes it possible to implement a more ambitious budget and plan for the year 2019.

The climate emergency is taking time to take hold. We hope that the Office will make its modest contribution to the success of the Paris Agreement. The Office would not exist without the encouragement and support that we have received consistently from our climatologist friends, Jean Jouzel, Anny Cazenave, Marie-Lise Chanin and Hervé Le Treut within the French Academy of Sciences, Valérie Masson-Delmotte within the IPCC, Veer Ramanathan in California and John Schellnhuber in Germany, among many others. The support given by the Fondation *La main à la pâte* and the Institut Pierre-Simon Laplace was decisive. May this first activity report show everyone that their trust is not in vain.

Pierre Léna, President of the OCE

The Office for Climate Education, year 1

PROMOTING CLIMATE CHANGE EDUCATION

The year 2018 marks the birth of the Office for Climate Education (OCE). Its creation follows a reflection carried out between the Fondation *La main à la pâte*, the French Academy of Sciences and the French Development Agency (AFD) in 2016 and, following the Paris Conference (COP21), by an involvement of the scientific community (notably the IPCC Working Group 1 and the Institut Pierre-Simon Laplace) leading in 2017 to a feasibility study conducted within the Fondation *La main à la pâte*.

This study, funded by the French Ministry for the Ecological and Inclusive Transition (MTES), was based on an international meeting named *Climate change: a challenge for education*, which brought together in Italy approximately thirty scientific organisations, NGOs and educational institutions. It concluded that it was necessary to launch a

major operation to promote climate change education throughout the world, starting at the primary and secondary school levels, by promoting a multidisciplinary approach involving both traditional scientific fields and the human and social sciences, as well as active teaching methods.

A SHELTERED FOUNDATION

The Office for Climate Education, the project's supporting structure, was launched in March 2018 in Paris, in the form of a foundation sheltered by the Fondation *La main à la pâte*, and whose founding members are the French National Research Institute for Sustainable Development (IRD), Météo France and the association Météo et Climat.

AN INTERNATIONAL NETWORK OF SCIENTIFIC AND EDUCATIONAL ACTORS

The OCE's mission, which is in line with the implementation of UNESCO's programmes and strat-

egies, entails coordinating the activities of a vast international network of scientific and educational actors in order to support teachers with educational resources and high-quality professional development. Until 2023, the Office will publish, with each IPCC report, *Resources and Tools for teachers* that will demonstrate how to introduce climate knowledge and recommendations into the classroom.

To do this, the Agency relies on an international network of partners who contribute closely to the development of resources and the local mobilisation of teachers.

The OCE is based in Paris, in the premises of the Institut Pierre-Simon Laplace (IPSL), on the Jussieu campus.

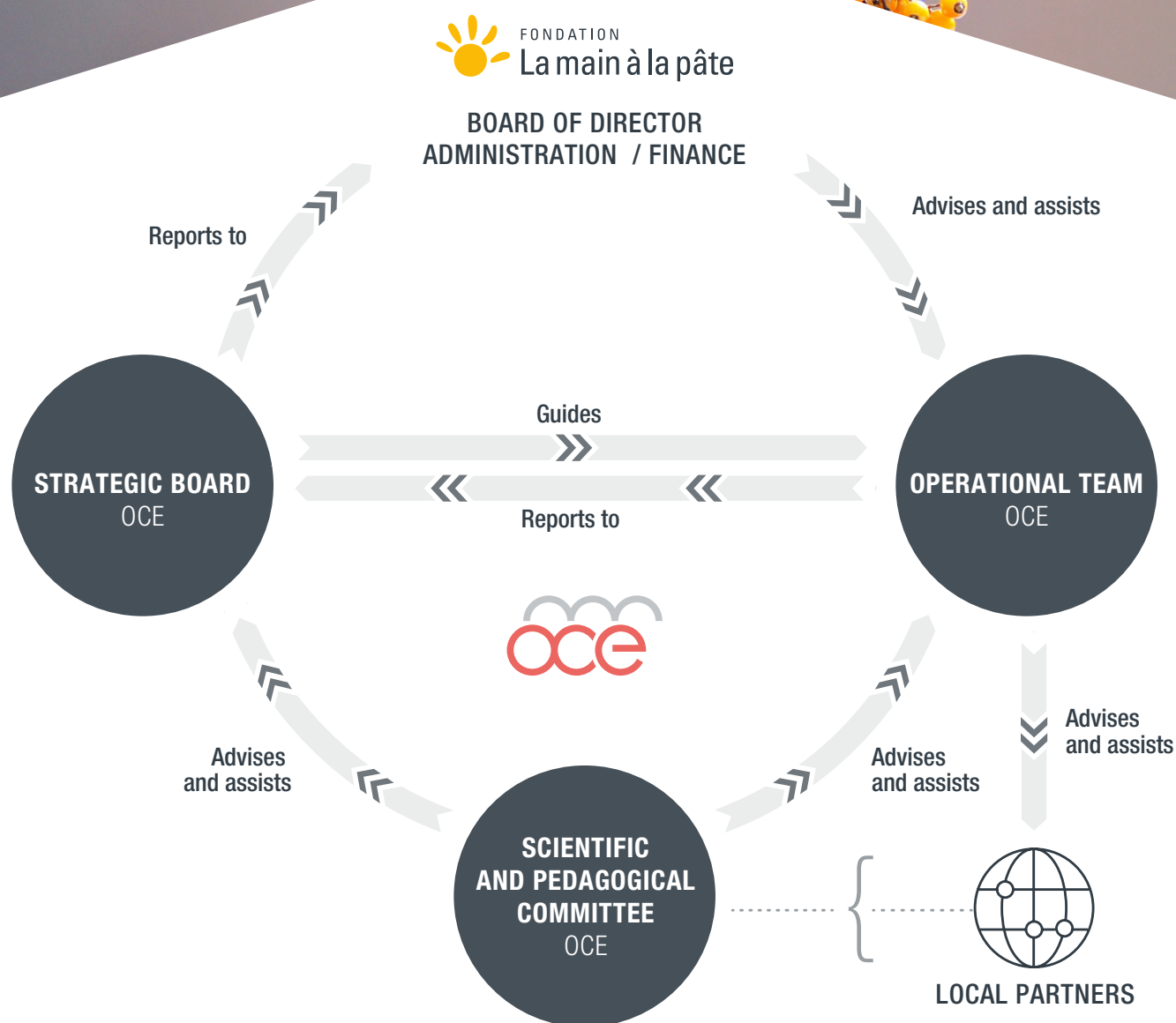




Organisation and governance

The Office for Climate Education, a foundation sheltered by the Fondation *La main à la pâte*, does not have a legal personality of its own. However, it enjoys operational autonomy and has its own governance structures, linked to the foundation that houses it:

- a Strategic board;
- a Scientific and pedagogical committee;
- an Operational team (also called “executive secretariat”) based in Paris.



STRATEGIC BOARD

The Strategic board decides on the missions and development of the OCE, establishes an annual action plan, votes on the budget, appoints the members of the Scientific and pedagogical committee, etc. In 2018, the board met on June 20 and December 18.

The Strategic board of the OCE is composed of:

Representing the founders:

- **Jean Jouzel**, president of the association Météo et Climat;
- **Hervé Roquet**, deputy director of research, Météo France;
- **Daniel Rouan**, president of the Fondation *La main à la pâte*;
- **Marie-Lise Sabrié**, director of the Scientific and technological culture mission of the IRD.

Qualified individuals, representing the main partners of the OCE:

- **Anna Pirani**, head of the IPCC Working Group 1's *Technical support unit*;
- **Hervé le Treut**, member of the French Academy of Sciences, director of the Institut Pierre-Simon Laplace (IPSL);
- **Stefan Rahmstorf**, professor at the Potsdam Institute for Climate Impact Research (PIK);
- **Barbara Filtzinger**, head of education at the Siemens Foundation;
- **Peter McGrath**, coordinator of the InterAcademy Partnership (IAP);
- **Pierre Léna**, member of the French Academy of Sciences.

Pierre Léna is the president of the Strategic board of the OCE.

SCIENCE AND EDUCATION COMMITTEE

The Scientific and pedagogical committee ensures the evaluation of the actions carried out by the OCE (in particular: production of educational resources and professional development actions). In 2018, the Committee met on June 29 and September 28. It has set up various thematic workgroups (in particular for the reports *Global warming of 1.5°C* and *The Ocean and Cryosphere in a Changing Climate*) which have met separately.

The Committee is composed of eighteen qualified individuals:

- **Juan Carlos Andrade**, educational project manager, Innovec, Mexico;
- **Stéphan Baillargeon**, director of the Pôle régional pour l'enseignement de la science et de la technologie, Québec, Canada;

- **Ingo Bräuer**, economist, scientific coordinator for the PIK, Germany;
- **Xavier Bougeard**, head of education, Tara Foundation, France;
- **Sanny Djohan**, director of the PT Kuark Internasional, Indonesia;
- **Éric Guilyardi**, oceanographer and climatologist, IPSL / Météo et Climat, France;
- **Raphaëlle Kounkou**, head of climate studies at the Île-de-France inter-regional office, Météo-France;
- **Maria Martin**, climate physicist, PIK, Germany;
- **Claudia Martinez**, University of California Office of the President, USA;
- **Robin Matthews**, oceanographer, IPCC Working Group 1's *Technical support unit*, France;
- **Hubert Mazurek**, geographer, IRD, France;
- **Cliona Murphy**, associate professor at the Institute of Education, Dublin City University, Ireland;
- **Elvira Poloczanska**, scientific advisor, IPCC Working Group 1's *Technical support unit*, Germany;
- **Daniel Schaffer**, director of the Foundation for Environmental Education, Denmark;
- **Jenny Schlüpmann**, physicist, Freie Universität, Berlin, Germany;
- **Vincent Viguié**, economist at the Center for International Research on Environment and Development, France;
- **Ulrike Wahl**, head of projects for Latin America, Siemens Foundation, Germany;
- **Gabrielle Zimmermann**, professional development provider and biologist, Fondation *La main à la pâte*, France.

Eric Guilyardi and Cliona Murphy are copresidents of the OCE's Science and Education committee.

OPERATIONAL TEAM

The OCE's operational team, based in Paris at the IPSL premises, is in charge of implementing the Office's actions: project management, network activities, resource production, professional development for teachers and professional development providers, communication, etc. As of December 2018, this team comprised three full-time employees:

- **David Wilgenbus**, chief executive officer (permanent contract);
- **Lydie Lescarmontier**, science officer (fixed-term contract);
- **Sakina Pen Point**, education officer (fixed-term contract);

In addition, **Léah Goldfarb** has worked as a consultant with the OCE team from May to June 2018.



Educational resources production

The Office for Climate Education aims to complement, over the 2018-2023 period, the publication of IPCC reports with **educational resources for teachers** to enable students to:

- **acquire fundamental scientific knowledge** on climate science;
- **understand climate change in all its various dimensions**, scientific, economic and social, both locally and globally;
- **develop their reasoning** and critical thinking skills;
- **develop their creativity**, by discovering the innovation opportunities that can arise from the fight required by climate change (mitigation and adaptation), both in their daily lives and in their envisioned future;
- **understand the profound behaviour changes that are required**, for example, regarding frugality and consumption (particularly in developed countries), by cultivating a vision of ethics and solidarity;
- **take specific action**, by developing their emotional and social skills, at the school, family, and community levels.

These resources thus rely on active teaching methods such as science education focused on investigation, project-based teaching, role-playing, or debating.

They are multidisciplinary and oriented towards action and positive thinking, with an emphasis on societal issues of adaptation and mitigation.

In 2018, with the active participation of many of the scientific and educational partners in its network, the OCE operational team produced several educational resources: a summary of the IPCC report *Global warming of 1.5°C*, a conceptual scenario and two professional development protocols (see next page).

Published in December 2018, in English, on the OCE's website at <http://oce.global>, these resources will be translated into French, German and Spanish for online publication in early 2019. All these documents are published under a Creative Commons license that allows free use and adaptation in a non-commercial context.

Moreover, during 2018, the OCE started working on a project that will be completed by the end of 2019 and will complement the upcoming IPCC report *The ocean and cryosphere in a changing climate*. The Office will issue:

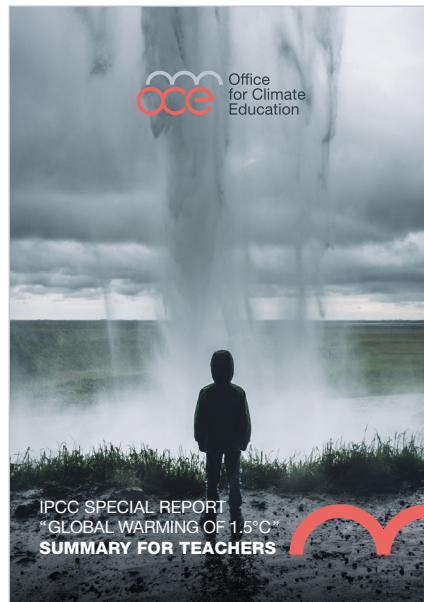
- ~ a summary for teachers, conceptual frameworks, and professional development protocols, in line with the resources produced in 2018 for the IPCC *Global warming of 1.5°C* report;
- ~ a complete educational project, made up of sequences of lessons proposing turnkey activities;
- ~ video clips;
- ~ multimedia animations;
- ~ new resources for teacher professional development.

A REPORT

Global warming of 1.5°C – summary for teachers

This report complements the IPCC Special Report *Global warming of 1.5°C* and its *Summary for Policy-makers*, published in September 2018. It provides an explanation of the IPCC report, richly illustrated, scientifically rigorous, and accessible to non-specialist teachers.

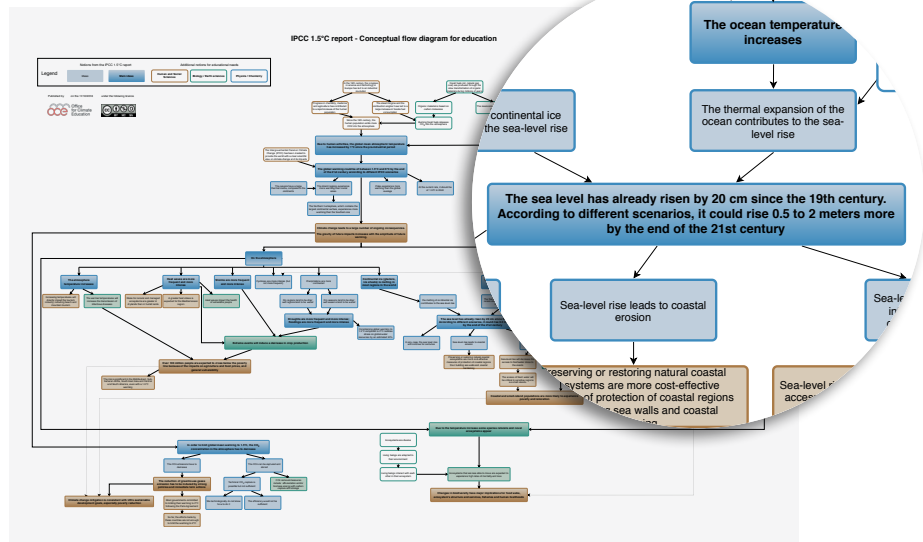
This summary is enriched with educational ideas that will enable them to discuss the covered issues in their classrooms.



A TOOL

Conceptual framework

This tool makes it possible to visualize all the scientific concepts found in the IPCC report, formulated in “student language”, as well as the links that exist between them. The conceptual framework helps teachers and professional development providers who wish to build an educational project and think about how to develop it over the years, from a curricular perspective.



TWO PROFESSIONAL DEVELOPMENT PROTOCOLS

Understanding the greenhouse effect and Ocean and climate change

Professional development protocols for teachers offer turnkey activities, enriched with scientific and educational insights. These educational resources published in 2018 cover two topics:

- ~ Understanding the greenhouse effect;
- ~ Ocean and climate change.



Professional development for teachers

Depending on audiences and needs, the Office for Climate Education offers professional development activities that can last from one to several days and focus on scientific content, societal issues or classroom practices.

Each activity includes the following elements:

- **“Immersive” workshops** that simulate a research context (inquiries, debates, experiments, individual work, group work, etc.) to familiarise participants with both climate sciences and active teaching methods. These are designed to be easily recreated in a classroom environment and require only common and inexpensive supplies.
- **Moments to analyse** what they have just experienced (both regarding acquired knowledge and steps carried out).
- **Moments for the exchange of practices**, during which participants can present and discuss the initiatives they have carried out locally up until then.
- **Production workshops**, allowing groups to design educational projects adapted to different countries.
- **Field trips** (laboratories, industries, farms, eco-centres, etc.) to meet local actors involved in the search for solutions for adapting to or mitigating climate change.
- **An activity jointly conducted** by OCE professional development providers and local providers or scientists.



In 2018, the OCE organised 5 national or regional professional development workshops, each lasting from 3 to 5 days, for a total of approximately 430 man-days of training. The 120 teachers and professional development providers involved in these courses come from the following countries:

- Africa: Benin, Cameroon, Chad, Ivory Coast, Madagascar, Mauritania, Niger, Senegal.
- Southeast Asia: Indonesia, Malaysia, Maldives, Sri Lanka.
- Europe: France.
- Pacific: Kiribati, New Caledonia, Vanuatu.

In addition, the OCE is supporting the pilot centre of *La main à la pâte* in Nogent sur Oise during 2018/2019 in the design and deployment of an ambitious multidisciplinary local educational project on climate change. This project, called **Science en scène** (Science on stage), includes the training of approximately twenty teachers, the implementation of scientific activities in their classes, the participation of scientists who will present their work to students, and the development of two outreach initiatives (an exhibition and a theatre play) aimed at other schools and the community.



Malaysian teachers working to understand how climate change is causing sea level rise. After studying the role of melting glaciers and ice caps, they carry out an experiment on the thermal expansion of water. Coloured water, sealed in a small container fitted with a straw, is placed over a heat source. Seconds later, the water level rises along the straw, showing that water expands as its temperature increases.

PROFESSIONAL DEVELOPMENT ACTIVITIES ORGANISED BY THE OCE IN 2018

Climate change and sustainable development

With the Fondation *La main à la pâte*
{ VILLARCEAUX, FRANCE }

Teaching climate change

With the CREIPAC, the IRD and Météo France
{ NOUMÉA, NEW CALEDONIA }
{ PORT VILLA, VANUATU }

Ocean and climate

With the pilot centre of *La main à la pâte*
in Nogent sur Oise
{ NOGENT SUR OISE, FRANCE }

16-20 APRIL

27-31 AUGUST

3-7 SEPTEMBER

12-15 NOVEMBER

12-13 NOVEMBER

Training Workshop for IBSE Master Trainers on Climate Change Education

With the ISTIC and the IAP
{ KUALA LUMPUR, MALAYSIA }

Teaching climate change in Africa

With the AFD, the Institut français de Cotonou, the IRD and the Ministries of Education of 8 francophone African countries
{ COTONOU, BENIN }

Structuring and coordinating a community of practice

The Office for Climate Education develops and coordinates a community of various actors involved in climate education: teachers, professional development providers, institutional staff, researchers, engineers, etc. This community aims to **promote peer learning, experience sharing, and more generally the empowerment** (autonomy, responsibility, sustainability) of its members through international exchanges. To this end, the OCE relies on existing networks, developed in recent years by both scientific and educational partners (including *La main à la pâte*, Eco-Schools, Experimento, Innovec, ECBI, IRD, IPCC, IAP...)

The coordination of these networks is based on interpersonal meetings (national or regional activities, yearly meetings of the science and education committee), high-level events (colloquiums, side events in parallel with the COPs, etc.) and digital social networks.

In 2018, the OCE participated in **11 major events**. All of them are part of OCE's strategy to **stimulate a dynamic around climate change education, involving public authorities, NGOs, and the scientific community** (including the Academies of Sciences, the IPCC, and research institutes). This institutional approach is notably aimed at **facilitating the incorporation of climate issues into school curricula and teacher professional development**.



MAJOR EVENTS IN 2018

- 30th anniversary of the IPCC**
Ceremony organised by UNESCO
{ PARIS, FRANCE – MARCH }
- European Geosciences Union (EGU)**
Annual meeting
{ VIENNE, AUSTRIA – APRIL }
- Climate Change Conference**
Organised by the UNFCCC
{ BONN, GERMANY – MAY }
- International conference on climate change education**
Organised by the ISTIC
{ KUALA LUMPUR, MALAYSIA – MAY }
- La main à la pâte seminar**
International seminar organised by *La main à la pâte*
{ SÈVRES, FRANCE – JUNE }
- Global Climate Action Summit**
Organised by the State of California
{ SAN FRANCISCO, USA – SEPTEMBER }
- Forum francophone du Pacifique**
Organised by the Government of New Caledonia
{ PORT-VILLA, VANUATU – SEPTEMBER }
- Global Engineering Congress**
Annual congress organised by the World Federation of Engineering Organisations
{ LONDON, UNITED KINGDOM – OCTOBER }
- AMASA 14**
Fourteenth Annual Meeting of African Science Academies
{ COTONOU, BENIN – NOVEMBER }
- Science Education and Climate Change Education**
Meeting organised by UNESCO
{ PARIS, FRANCE – NOVEMBER }
- COP24 – Education day**
Organised by the United Nations
{ KATOWICE, POLAND – DECEMBER }

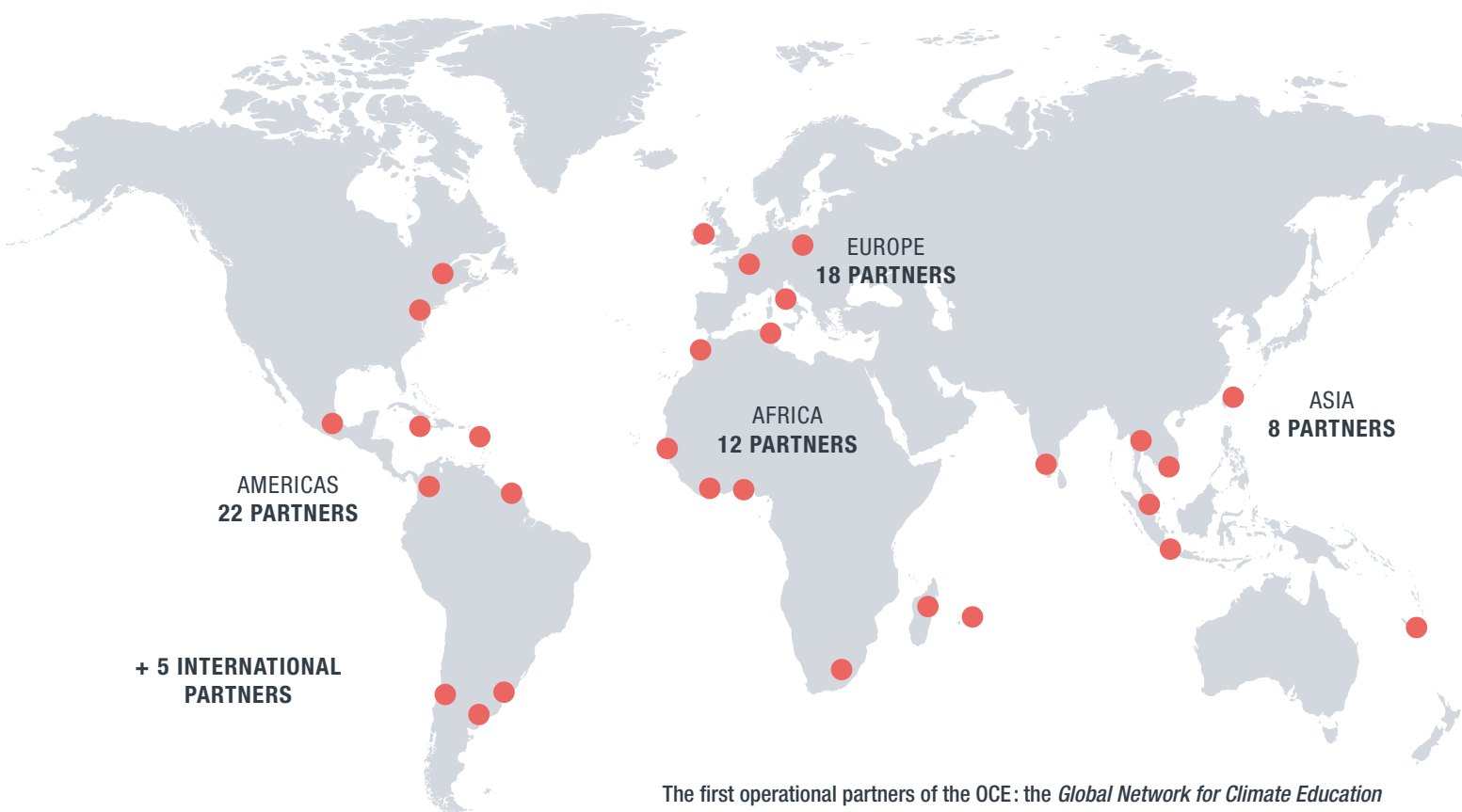


The international meetings in which the OCE participated in 2018 made it possible to involve approximately sixty organisations, local, national, or international, in the Office's project.

This **Global Network for Climate Education**, coordinated from Paris by the OCE team, provides expertise and operational support in resource production, teacher professional development and field assistance.

In 2018, the OCE and its first partners drew up the **Network charter**, which outlines its missions and operating principles.

This network, which began being structured in 2018, will continue to develop and will implement its first operational actions in 2019.



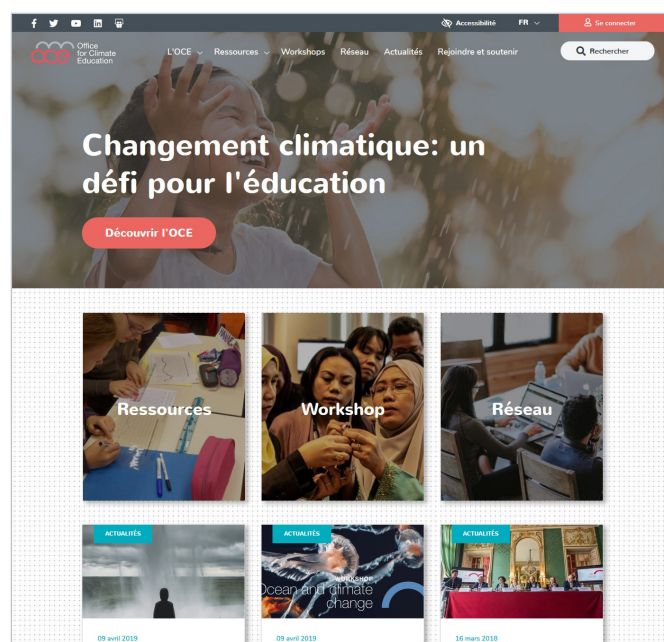
Disseminating and communicating

The Office for Climate Education carries out a communication and valorisation mission among the public (teachers, professional development providers, institutional staff, scientists, policymakers) and within the network.

The OCE's **digital ecosystem** (website and social media) is its **main communication tool**. It allows teachers to access resources, learn about major network events, contact nearby partners, and interact with peers and scientists. Beyond this priority target, it addresses the general public and institutional partners, thus acting as a showcase for the network's actions.

WEBSITE AND SOCIAL NETWORKS

The OCE set up a provisional website in 2018 and then developed and opened its permanent website in January 2019.



www.oce.global

It has also established various communication channels using the social networks Facebook, Twitter, YouTube, and also SlideShare.

Twitter turned out to be the most successful tool in 2018.



The four tweets that were retweeted the most were:

- 18/06/2018: Eric Guilyardi, oceanographer and climatologist at the Institut Pierre-Simon Laplace, presents the philosophy of the OCE at the international seminar of the Fondation *La main à la pâte*, held at the Academy of Sciences.
- 04/09/2018: Broadcast by France TV Calédonie.
- 13/09/2018: *Global climate to action summit*.
- 11/12/2018: *Global warming of 1.5°C - Summary for teachers*.

The **Facebook** account has been less popular, having only 70 followers, almost exclusively French. The total number of engagements was 4827 in 2018. The two posts that were shared the most correspond to the publication of the summary for teachers that supports the IPCC report (*Global warming of 1.5°C*) and to the publication of the job offer to recruit a scientific mediator.

MEDIA IMPACT

In 2018, the OCE is featured in the press, on the radio, and on a TV channel.



Press

The OCE

BULLETIN DE LA MÉTÉO ET DU CLIMAT, MARCH 2018

A network for climate change education in schools around the world

DISPATCH AFP – MARCH 16, 2018

The OCE, a climate change education organisation

LA MÉTÉOROLOGIE – MAY 2018

Educating young people about climate change

FAMILLE & ÉDUCATION – MAY 2018

A newcomer: the Office of Climate Education

GREENSCHOOL – OCTOBER 2018

Climate change: the importance of active teaching methods

ADOSEN – NOVEMBER 2018



Radio

Interview with David Wilgenbus about the creation of the OCE

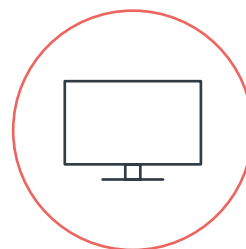
FRANCE INTER – 17/03/2018

How to teach climate change in French-speaking African schools

C'EST PAS DU VENT – RFI, 16/11/2018

A love story between a man, a penguin, a woman, an iceberg and two Greenlanders

FOULE CONTINENTALE – FRANCE INTER, 09/12/2018



TV

Global warming, how to engage students?

JT DE 19H30, NC 1ÈRE – 03/09/2018



Interview with David Wilgenbus, CEO of the OCE, during the 19h30 news (TV channel: NC 1ère), 03/09/2018

Carbon offset

The OCE has limited, as much as possible, the carbon footprint generated by its activities, in particular by limiting international travel to what is strictly necessary:

- The various meetings organised by the OCE's governance bodies and working groups have been held using videoconferencing tools for participants who are not physically located in France.
- The OCE has involved local scientists in each of the professional development activities it has organised abroad.

The OCE has also committed voluntarily to offsetting its emissions, by supporting two initiatives in 2018:

- **The Good planet foundation** (offsetting 8t of CO₂ as part of the project Action carbone solidaire, which is focused on renewable energy and the composting of household waste).
- **La Ferme des Sables d'Auton** (offsetting 16t of CO₂ as part of a reforestation project in the Vienne department).



Financial report

From a financial point of view, 2018 is not representative of a full year of activity due to the fact that the OCE was only launched in March. In accordance with its operational objectives, its expenses and revenue will increase in the coming years.

EXPENSES

In 2018, expenses amounted to €236,000. The main area of expenditure concerns staff wages (85%). The management expenses correspond to the administrative support provided by the Fondation *La main à la pâte* on behalf of the OCE.

REVENUE

Revenue amounted to €235,000 in 2018. 74% came from private partners (Luciole Foundation, Siemens Foundation, Albert II Foundation...) and 26% from public partners (AFD, Météo France).

IN-KIND CONTRIBUTIONS

In 2018, the Office for Climate Education received significant support in the form of in-kind contributions (IPSL, Sorbonne University) estimated at €77,000. These contributions represent 25% of the OCE's income.

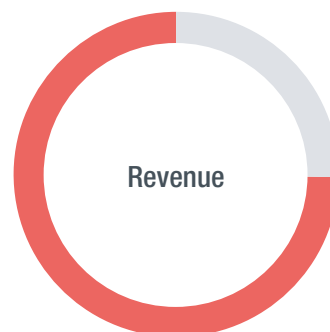
RESULT OF THE FINANCIAL YEAR

The result for the financial year 2018 amounts to -€ 918, explained by higher management expenses than what had been anticipated in the 2018 funding.

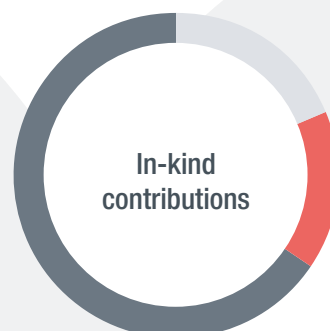
The 2018 accounts of the Office for Climate Education were examined at a Strategic board meeting held on June 20, 2019, and certified at a meeting of the Fondation *La main à la pâte*'s Board held on June 27, 2019, by its auditor, the firm DBA Audit, represented by Laurent Echauzier.



- 85% Staff wages and expenses
- 13% Operating expenses
- 2% Management expenses



- 74% Patrons and private partners
- 26% Public partners



- 65% Services provided by the IPSL for the OCE
- 16% Premises offered by the Sorbonne University
- 19% Volunteer work



21 PEOPLE
• 3 on the Operational team
• 18 on the Scientific and pedagogical committee



11 HIGH-LEVEL EVENTS



5 PROFESSIONAL DEVELOPMENT WORKSHOPS



120 TEACHERS AND PROFESSIONAL DEVELOPMENT PROVIDERS ATTENDED OCE ACTIVITIES



60 PARTNERS IN 28 COUNTRIES



4 EDUCATIONAL RESOURCES PUBLISHED



26 025 INTERACTIONS
• Clicks, downloads, shares...
• Generated from publishing the document *Global warming of 1.5 °C - Summary for teachers*



5 PRESS ARTICLES
3 RADIO BROADCASTS
1 TV BROADCASTS



<http://oce.global>

contact@oce.global

Sorbonne Université, Case 100

Campus Pierre et Marie Curie

4 place Jussieu, 75005 Paris – France

