

Climate Change and Cultural Heritage

DURATION: 2012 – 2013

TARGET COUNTRIES: All countries

PARTNERS INVOLVED :

Coordinating centre: CUEBC, Ravello, Italie

Other Centres: C.R.S.T.R.A, Biskra, Algérie

Other Partners: Université de Cergy-Pontoise (France), Centre de Recherche et Restauration des Musées de France (Palais du Louvre)

OBJECTIVES OF THE PROJECT

Global objective for 2012-2013:

Update on current knowledge regarding the impact of climate change and global change on the built cultural heritage (monuments, museums, libraries, archives and storerooms), on towns and cities and urban tourism, through a scientific, political, technical, economic and managerial approach.

Specific objectives:

2012:

The following points will be covered in detail: climate models and new GIECC scenarios, heritage climatology, impact on the built heritage and towns and cities, rational energy use, impact of tourism on world heritage sites.

2013:

Idem

EXPECTED RESULTS

2012:

High-level training on this subject for science, town planning, engineering, architecture and heritage conservation students.

2013:

Idem

RESULTS OBTAINED PREVIOUSLY

Between 2009 and 2011, the Council of Europe helped to organise and fund 4 major events on the same theme:

1- An international workshop on "Climate Change and Cultural Heritage" held in Ravello from 14 to 16 May 2009. It attracted 42 participants from 17 countries and international organisations.

2- An initial Master's/PhD-level course on "Vulnerability of Cultural Heritage to Climate Change" held in Strasbourg from 7 to 11 September 2009. 36 students from 13 countries and 17 lecturers from 7 countries took part.

These two initial events led to publication of the proceedings and course notes in the form of a 201-page illustrated volume entitled "Climate Change and Cultural Heritage" (R.-A. Lefèvre and C. Sabbioni, ed., Edipuglia, Publ., Bari).

3- A second Master's/PhD-level course entitled "Management and Protection of Cultural Heritage. Facing Climate Change" held from 4 to 9 October 2010 in Ravello. It attracted 22 students from 7 countries and 16 lecturers from 8 countries.

4- A third Master's/PhD-level course entitled "Climate Change, Cultural Heritage and Risk. Energy, Mobility and Access", which ran from 3 to 7 October 2011 in Ravello, with 24 students from 8 countries and 13 lecturers from 4 countries.

RESULTS OBTAINED IN 2012

Work package 1 (prepared by CUEBC):

Description:

Training planning (contacts with the lecturers, distribution of lectures, etc) - Call for application, announcement

Associated deliverables:

Programme of the course and list of applicants

September 2012	Monday 10	Tuesday 11	Wednesday 12	Thursday 13	Friday 14
9.30-10.45	- Welcome address <i>M. Lavandier/M. Menu, C2RMF</i> - Introduction <i>C. Sabbioni, co-</i>	-Global Change and Heritage Climatology <i>A. Bonazza</i>	-Climate Change and Indoor Environments <i>D. Camuffo</i>	-Energy requirements of indoor heritage <i>A. Bernardi</i>	-The risk of flooding in Paris and the museums storages

	<p><i>Director of the Course, CNR-Bologna, Italy</i> <i>E. Apicella, Secretary General, CUEBC, Ravello, Italy</i> <i>B. Menendez, Cergy-Pontoise University</i></p> <p>-From Climate Change to Global Change <i>R.A. Lefèvre</i></p>				<p><i>S. Colinart</i></p> <p>-Closing of the Course. <i>Certificate of Attendance</i> <i>E. Fernandez-Galiano, Council of Europe, Strasbourg</i></p>
11.00-12.15	- Impact of Climate Change on Built Heritage and Urban Landscape, <i>C. Sabbioni</i>	-Salts Climatology applied to Built Cultural Heritage, <i>B. Menendez</i>	-Impact of Global Change on Urban Heritage <i>M. Cassar</i>	-Energy-Natural resources, trends and opportunities <i>C. Iwaszkiewicz</i>	-11.00-13.00: Visit of the C2RMF Laboratory
14.00-15.15	-Climate modelling and uncertainties <i>M. Déqué</i>	-“Climate Myths” (Practical exercise) <i>M. Cassar</i> <i>C. Sabbioni</i> <i>A. Bonazza</i>	-Managing climate risks <i>F. Lakhdari</i>	- A material in a Changing Environment: Glass and Stained Glass <i>A. Ionescu</i>	-Cruise on the Seine: the UNESCO List in Paris.
15.30-17.00	-Presentation of the practical exercise “Climate Myths” <i>C. Sabbioni</i> <i>A. Bonazza</i>		-Managing tourism pressure on World Heritage <i>M. Rossler</i>	-Built Heritage and Museums Collections facing Climate Change <i>E. Doehne</i>	

List of lecturers

Eugenia APICELLA, European University Centre for Cultural Heritage, Ravello, Italy
Adriana BERNARDI, ISAC-CNR Padova, Italy
Alessandra BONAZZA, Institute of Atmospheric Sciences and Climate (ISAC) of the Italian National Research Council (CNR) , Bologna-Italy
Dario CAMUFFO, ISAC-CNR Padova, Italy
May CASSAR, Director Centre for Sustainable Heritage, University College London (UCL) , UK
Michel DEQUE, Météo-France-CNRM
Eric DOEHNE, Université Cergy-Pontoise, France
Eladio FERNANDEZ-GALIANO, EUR-OPA Major Hazards Agreement, Council of Europe, Strasbourg, France
Casimir IWASZKIEWICZ, RES Inbuilt, Kings Langley-UK
Fattoum LAKHDARI, Scientific and Technical Research Centre on Arid Regions, Biskra-Algeria
Roger-Alexandre LEFEVRE, Professeur émérite à l'Université Paris XII, France
Cristina SABBIONI, Institute of Atmospheric Sciences and Climate (ISAC) of the Italian National Research Council (CNR) , Bologna-Italy

Work package 2 (prepared by CUEBC, CRSTRA):

Description:

A 5-day course will be held in Paris at Université de Cergy-Pointoise

Associated deliverables:

Training course - documentation (Powerpoint) prepared by lecturers.

Climate change is merely one aspect of the climate change that has been affecting our planet for over two centuries now. This change is a result of the impact of human activity on the environment, with some scientists even suggesting that we have entered a new geological era, the Anthropocene, such is the extent of the changes which humankind has wrought on the planet since it began making large-scale use of energy resources.

This global change is not only affecting the Earth's system, including climate, but is also having a wide impact on society itself, through its population and its use of material and energy resources.

Cultural heritage is affected by climate change not only because of the gradual change in climatic parameters and pollution levels (temperature, air humidity, rain, wind, greenhouse gases, etc.) and, in coastal areas, rising sea levels. It could also be affected by the increase in the number and intensity of devastating, violent and relatively brief events such as storms, hurricanes, floods, heat waves, droughts, frost, etc.

The global changes in society are affecting cultural heritage through large-scale urbanisation, tourism, whether cultural or mass, the use of materials, water scarcity, water and air pollution.

These issues were all addressed in the European PhD course run jointly by the European University Centre for Cultural Heritage, the Council of Europe's Major Hazards Agreement and the University of Cergy-Pontoise, from 10 to 14 September 2012, at the *Centre de Recherche et de Restauration des Musées de France*, in the Louvre. There were 35 students from 9 countries and 14 lecturers from 6 countries.

An initial set of lectures looked at the purely scientific aspects of climate and global change: climate models, heritage climatology (with a practical exercise focusing on “mythical”, i.e. notional towns and cities, in a variety of contexts), impact on built urban heritage (including the effect of salt on porous materials and the effects of climate and pollution on glass and stained glass), impact on indoor heritage (museums, libraries, collections, archives, etc.). A second set of lectures looked at the problems presented by energy use for heating, lighting and air conditioning in the same indoor cultural settings, with special emphasis on the pressure that tourism can place on world heritage.

Capitalising on the fact that the course venue, the Louvre, is in the heart of an area of Paris that is on the UNESCO World Heritage List, the potential risks posed by flooding of the Seine for the many monuments and museums (in particular their storerooms) were assessed, along with the strategies designed to safeguard them.

The secretariat of the CUEBC, which had moved for the occasion to Paris, handled the practical arrangements and ensured that the course ran smoothly and that each participant received a copy of the presentations given by the lecturers.

There is no question that, besides the importance and topical nature of the subject-matter and the high calibre of the course, the grants awarded by the Council of Europe together with the financial contribution from the CUEBC and the University of Cergy-Pontoise greatly contributed to the course’s popularity with young students of many different nationalities.

List of Participants

Alexander ALEXANDROV, Bulgarian Academy of Sciences
Tanya ALEXANDROVA, University of Plovdiv, Bulgaria
Riccardo BERRIOLA, Soprintendenza Speciale per i beni Archeologici di Napoli e Pompei
Umberto CICCARELLI, Rimini, Italia
Mara D'AVINO, Somma Vesuviana, Napoli
Mélanie DENECKER, Université de Cergy Pontoise, France
Maria Concetta DI TUCCIO, University of Milano - CNR-ISAC, Padova, Italy
Monica DI TULLIO, Soprintendenza Speciale per i beni Archeologici di Napoli e Pompei
Alessandra FIASCO, University of Bologna
Stefania GATTO, Napoli, Italia
Josep GRAU-BOVE', London, UK
Vigen HARUTYUNYAN, Western Survey for Seismic Protection RA; Yerevan State University, Armenia
Vardan HAYRAPETYAN, Western Survey for Seismic Protection, Ministry of Emergency Situations of the Republic of Armenia
Varsik HAYRAPETYAN, Yerevan State University
Angela LUPPINO, Soprintendenza Speciale per i beni Archeologici di Napoli e Pompei
Irene NATALI, ISAC-CNR
Ivana OSWALDOVA, Faculty of Mechanical Engineering, Czech Technical University in Prague
Lala RAHMANOVA, Baku - Oxford School
Mandana SAHEB, LISA, UPEC
Dimitra-Makrina SALMANIDOU, Aristotle University of Thessaloniki
Silvia SAVINI, University of Torino
Olga SHASHKINA, Ministry of Environment Protection of Republic of Georgia
Paolo SIANO, Paris, France
Sonya SPASOVA, State University of Library Studies and Information Technologies, Sofia, Bulgaria
Emma TURVEY, University of Lincoln, UK
Giovanna VISINTIN, AlmaMater Studiorum, Faculty of mathematical, Bologna, Ita
Nadya VLADIMIROVA, State University of Library Studies and Information Technologies, Sofia, Bulgaria
Gillian WALKER, The University of Reading
Gergana ZAEMDZHIKOVA, Bulgarian Academy of sciences – Forest research institute, Sofia, Bulgaria

Work package 3 (prepared by CUEBC, CRSTRA):

Description:

Promotion and dissemination of results

Associated deliverables:

Newspapers and on-line articles - online publication of proceedings

Copies of all the presentations have been sent to the Executive Secretariat.

ACTIVITIES PLANNED IN 2013

Working package 1 (prepared by CUEBC):

Description:

Training planning (contacts with the lecturers, distribution of lectures, etc) - Call for application, announcement

Associated deliverables:

Programme of the course and List of applicants

Work package 2 (prepared by CUEBC, CRSTRA):*Description:*

A 5-days course to be held in Ravello

Associated deliverables:

Training course - documentation (Powerpoint) prepared by lecturers

Work package 3 (prepared by CUEBC):*Description:*

Reports

Associated deliverables:

Financial statement and scientific report

Work package 4 (prepared by CUEBC, CRSTRA):*Description:*

Promotion and dissemination of results

Associated deliverables:

Newspapers and on-line articles - online publication of proceedings