



EUROPEAN / European
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Programme

Research on Climate Change

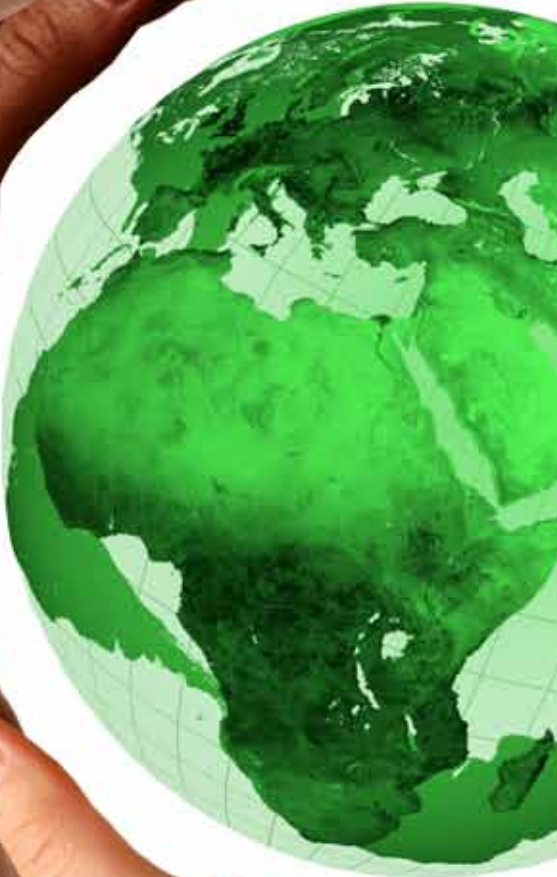
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International Co-operation in the Framework Programme for European Research

European climate research is global in scope and addressing key questions on the function of the Earth-system, the human interference, its impacts and consequences. The European research Framework Programme (FP) is open to participation of all countries of the world. Specific international co-operation actions are dedicated to developing countries and emerging economies. Research partners from these countries are also eligible for funding. Here, we present a sample of FP projects.

The crucial role of science in the UNFCCC process was highlighted during the Copenhagen conference in December 2009 (COP 15). The Copenhagen Accord recognises that global warming should not exceed 2 °C above the pre-industrial level. Climate change research will have to answer the central question of the feasibility and regional implications of this target and how efforts could be shared.

Climate change is global and complex in its causes and consequences. Understanding and dealing with climate change represents one of the great challenges for modern society. Presently, the pivotal role of climate change research in this endeavour is emphasised. Although substantial scientific progress has been made, major uncertainties remain in projecting impacts and developing adequate adaptation and mitigation options.

Research on climate change promotes innovation to address these challenges. Innovation is not only technological research and its applications, but also innovative management (e.g. adaptation and mitigation strategies), new business models and services (e.g. optimised public transport) as well as behavioural changes, which all represent added value for the general public. For example, computer-based models simulating future climate and impacts can be used by experts in governments, consultancies and research institutes to develop policies.

Through the Framework Programme the European Commission is increasingly undertaking actions to strengthen the EU research and innovation dimension in the international arena and the corresponding interface with policy in the field of climate change. It supports important research activities on mitigation, adaptation, impacts, REDD and LULUCF, exhibiting also a strong international dimension going well beyond European borders.



The economics of climate change

Research on the economics of climate change such as costs of impacts, mitigation and adaptation is a priority notably for supporting the policy making process. Research has shown that the economic benefits of mitigation far outweigh the costs of inaction.

For more details on specific FP projects, see:

CLIMATECOST www.climatecost.eu

RESPONSES www.responsesproject.eu

CLIMSAVE www.climsave.eu

MEDIATION <http://mediation-project.eu>



Reducing Emissions from Deforestation and Degradation (REDD)



Tropical forests continue to disappear at an alarming rate. A substantial body of evidence suggests that action to prevent further deforestation would be a highly cost-effective way of reducing emissions. Did you know that an estimated 13 million hectares of tropical forest are destroyed each year, resulting in the emission of 5.8 gigatonnes of carbon dioxide annually, about 20% of total human-caused emissions of greenhouse gasses?

For more details on specific FP projects, see:

REDD-ALERT www.redd-alert.eu

Observing and modelling climate change

Understanding climate variability is of prime importance for assessing climate change projections and designing adaptation strategies accordingly. The Arctic is the most vulnerable region to climate change. During the last 100 years, the Arctic atmosphere has warmed up almost twice as fast as the global average. Arctic sea ice cover has rapidly thinned and decreased during at least three decades. For example September 2008 and 2009 had the second and third lowest summer sea ice extents in the Arctic ever observed; Arctic sea ice might completely disappear in summer by the end of this century.

For more details on specific FP projects, see:

DAMOCLES www.damocles-eu.org

ICE2SEA www.ice2sea.eu



Health impacts in developing countries

Climate variability is an important determinant for the incidence of a number of significant human and animal diseases and associated socioeconomic impacts. This is particularly important for low-income countries, where the influence of climate variability on health is widely recognised and where economic development is severely affected by disease in humans and animals. A better assessment of the impact of climate on major diseases affecting low-income countries could improve the reliability of predictions of epidemic disease outbreaks. Such predictions would allow health stakeholders to react in a timely and cost-effective way and to make long-term decisions regarding health policies.

For more details on specific FP projects, see:

EDEN www.eden-fp6project.net

QWECI <http://esp.ictp.it/qweci>



Regional adaptation



Whatever the success of mitigating climate change may be, certain impacts are unavoidable and some regions will need to adapt to those impacts. Regional water resources are already under severe economic and demographic pressure; the effects of climate change could raise serious sustainability questions. For example the Mediterranean is positioned at the border between the tropical climate zone and the mid-latitude climate belt. In most of the region, precipitation is concentrated in the winter months and the summers are relatively dry and hot. Summer storms, however, are very important in some regions (e.g. islands). Climate change could modify this equilibrium. Do you know that planting trees around the Mediterranean will retain the soil against sudden floods, will capture CO₂, will reduce droughts and will generate employment?

For more details on specific FP projects, see:

CIRCE www.circeproject.eu

CLARIS LPB www.claris-eu.org

CORFU-FP7 www.corfu-fp7.eu

Climate change impacts on water and security

Southern Europe and neighbouring regions are already experiencing a broad range of natural and man-made threats to water security. According to climate projections, these regions are at risk for an even pronounced susceptibility to changes in the hydrological budget and extremes. A cluster of 3 projects comprises a critical mass of scientists from 44 partners, including 10 international institutions, with an overall EC contribution of more than 9 million Euros.

For more details on this cluster, see:

CLICO www.clico-fp7.eu

CLIMB www.climb-fp7.eu

WASSERMED www.wassermed.eu



Carbon sources and sinks assessment

Changes in the Earth's climate are the result of both internal variability within the climate system and external factors, such as anthropogenic emissions of long-lived greenhouse gases. Carbon dioxide (CO₂) is the most important manageable driving agent for climate change. Greenhouse gases, such as CO₂, tend to warm up the atmosphere and have a lasting effect on our Earth.

For more details on specific FP projects, see:

CARBOEUROPE www.carboeurope.org

CARBOOCEAN www.carboocean.org

GHG EUROPE www.ghg-europe.eu



Land Use, Land Use Change and Forestry (LULUCF)

Land use changes have potentially crucial anthropogenic influences on the terrestrial water cycle. Irrigation effects are smaller but significant in specific regions, and they are likely to become stronger because irrigated areas will probably increase in the future. It is already established that the effects of land use changes may even exceed those of climate change in some regions.

For more details on specific FP projects, see:

EU-WATCH www.eu-watch.org

CCTAME www.cctame.eu



For more information on climate research projects, see:

<http://ec.europa.eu/research/environment/pdf/cop-15.pdf>

or find a specific project on the CORDIS website:

FP7: http://cordis.europa.eu/fp7/projects_en.html

FP6: <http://cordis.europa.eu/fp6/projects.htm>

For more information on EC research:

<http://ec.europa.eu/research>

