



News releases

09-02-2012

Climate change : French researchers complete new simulations for the next IPCC report

The French climatology community has just completed a major exercise in the simulation of past and future climate conditions on a global scale. This new body of data confirms the conclusions of the most recent report by the IPCC (2007) on future changes in temperature and rainfall. By 2100, average global temperatures are expected to rise by 3.5 to 5°C according to the most unfavorable scenario, or 2°C according to the most optimistic projections. This study has been made available to the international community, and will be used by the IPCC in its next report, to be released in 2013. It provides information on likely climate conditions and trends at the end of the century and, for the first time, over the next 30 years as well.

05-12-2011

Atopica : launch of a program to assess the impact of climate change on pollen allergies

What is the impact of climate and environmental change on pollen-related allergic diseases in Europe? For the first time in Europe, an interdisciplinary approach will be used to tackle this question. A scientific project, funded for a three-year period by the European Union, and, in France, involving researchers and engineers from LSCE, LMD and INERIS, will endeavor to quantify the effects of such change on allergies in order to propose recommendations and preventive action at European level.

13-10-2011

Emissions of atmospheric compounds : new scenarios for the IPCC

Emissions of the main greenhouse gases, reactive gaseous and particulate chemical compounds have been inventoried over the period 1850-2300 by an international collaboration involving scientists from the LATMOS and Laboratoire d'Aérodynamique. This quantification has enabled researchers to propose four new scenarios that will be used in future climatic simulations of the 5th IPCC report, due in 2013. This work, which is published in a special edition of the journal *Climatic Change*, was supported by CNRS, CNES and ADEME.

29-09-2011

Supersaturated water vapor in Martian atmosphere

Analysis of data collected by ESA's Mars

Express spacecraft leaves no room for doubt: the Martian atmosphere contains water vapor in a supersaturated state. This surprising finding will enable scientists to better understand the water cycle on Mars, as well as the evolution of its atmosphere. The research was led by a team from the LATMOS in collaboration with Russian and French colleagues and received support from CNES. It is published in the 30 September 2011 issue of the journal *Science*.

15-09-2011

LISA is testing the efficiency of depolluting construction materials in Belgium

From September 8 to 23, LISA is implied in testing the depolluting effect of photocatalytic cement in Leopold II tunnel in Brussels. LISA is especially responsible for the field strategy of this campaign.

13-09-2011

Fifty new exoplanets discovered

An international team of astronomers has today announced the discovery of 50 new extrasolar planets in orbit around nearby stars. This impressive haul, collected by ESO's Chile-based highly-performing exoplanet-searcher HARPS, includes 16 super-Earths, in other words planets whose mass is comprised between one and ten times that of the Earth. One of these super-Earths is located within the habitable zone of its star: it could therefore support life. In addition, researchers have determined that over 40% of stars similar to the Sun host at least one planet whose mass is inferior to that of Saturn.

10-06-2011

Causes of melting tropical glaciers identified

The causes of melting of tropical glaciers over the past 10 000 years have at last been unveiled by a team of French researchers from CNRS, CEA, IRD and Université Joseph Fourier, together with a US researcher from the University at Albany (State University of New York). They have shown that the retreat of the Telata glacier in Bolivia over that period is mainly linked to a 3 °C rise in air temperature and to the warming of the tropical Pacific Ocean in response to an increase in insolation.

09-05-2011

The first potentially habitable exoplanet, just 20 light years from Earth

The planetary system around the red dwarf Gliese 581, one of the closest stars to the Sun in the galaxy, has been the subject of several studies aiming to detect the first potentially habitable exoplanet. Two candidates have already been discarded, but a third planet, Gliese 581d, can be considered the first confirmed exoplanet that could support Earth-like life. This is the conclusion of a team of scientists from the Institut Pierre Simon Laplace in Paris, France, whose study is published today in *The Astrophysical Journal Letters*.

21-12-2010

A step forward in predicting the evolution of volcanic plumes

Using the MIMOSA model developed within the LATMOS together with modules able to transport aerosols, LATMOS scientists took advantage of the CALIPSO satellite observations and meteorological forecasts to study the evolution of a volcanic plume at a high spatial resolution (a few kilometers) and predict its position and optical properties several days in advance.

05-11-2010

Sulfur dioxide in the upper atmosphere of Venus : a key to fighting global warming on Earth ?

A layer of sulfur dioxide (SO₂) has been discovered in the upper atmosphere of Venus by an international team including LATMOS scientists. The researchers obtained this result using measurements performed by ESA's Venus Express spacecraft. They propose a new mechanism to explain this unexpected result. SO₂ is of particular interest to them since this gas could be used to cool down the Earth via a geo-engineering process put forward by Chemistry Nobel Laureate Paul Crutzen.

21-10-2010

Climate change : water cycle dries out

An international study published by Nature (October 21, 2010) reveals evapotranspiration has

been slowing down for the last twelve years, worldwide. This trend could have an impact on vulnerable ecosystems, water resources and climate feedbacks. Researchers of LSCE took part in this study.

18-10-2010

Wind stalling over the continents of the Northern hemisphere in the last 30 years

An international study on the Northern hemisphere winds has just been published by LSCE and ECMWF researchers. The analysis of more than 800 weather stations surface wind indicates that wind speed has been decreasing by 10% on average, over the last 30 years in several regions of the world, such as the United States, China, Australia, and in several European countries.

12-10-2010

Are carbonates stable on Mars's surface ?

Many ints prove that liquid water exists on Mars. So, why have carbonates never been detected on the red planet ? Though the most common hypothesis explained their decomposition by an intense UV radiance, two experiments led by LISA and LATMOS just contradict this idea.

10-09-2010

Concordiasi 2010, premier lâcher de ballons réussi

La ronde des ballons au-dessus de l'Antarctique, menée dans le cadre du programme international Concordiasi, vient de débiter avec succès avec un premier lâcher de ballons réussi depuis la base de McMurdo (jeudi 9 à 9h, soit mercredi 8 à 23h heure de Paris). Mieux connaître le climat de l'Antarctique et les mécanismes de destruction de l'ozone atmosphérique, tel est l'objectif de ce programme.

06-09-2010

Changement climatique : quel avenir pour l'eau douce et l'agriculture en Chine ?

Pour la première fois, une équipe de chercheurs franco-chinoise, à laquelle participent des chercheurs du LSCE, s'intéresse à l'évolution du climat en Chine depuis 1960. L'objectif de ces recherches est de mieux comprendre l'impact du changement climatique sur les ressources en eau douce et sur l'agriculture de ce pays. L'étude a consisté à rassembler, croiser et synthétiser plusieurs données concernant le climat, l'hydrologie, et l'évolution de la production agricole, au cours de ces dernières décennies. Ces résultats sont publiés dans la revue Nature.

27-07-2010

Simulation du nuage de cendres du volcan Eyjafjöll

Des chercheurs et ingénieurs du LMD ont simulé l'évolution du nuage de cendres du volcan

islandais Eyjafjöll avec le modèle d'atmosphère LMDZ. Cet exercice leur a permis de tester le comportement de leur modèle en configuration semi-opérationnelle sur un cas concret. Ce travail s'inscrit dans l'effort continu d'évaluation qui accompagne la production et l'analyse des simulations climatiques effectuées avec le modèle de l'IPSL, dont LMDZ est l'une des composantes, pour le prochain rapport du GIEC.

08-07-2010

Measuring photosynthesis: the Fluxnet network refines theoretical models

Using measurements of the FLUXNET global network, an international team led by the Max Planck Institute, with participation of the Laboratoire des Sciences du Climat et de l'Environnement (LSCE / IPSL, CEA-CNRS-UVSQ), was able to quantify more precisely the exchange between atmosphere and terrestrial ecosystems, related to photosynthesis.

02-07-2010

What is the link between atmospheric ozone and early solar system solids ?

Finding out whether such a link does or does not exist is one of the key questions allowing to better understand solar system formation. Current knowledge suggests that the oxygen isotopic composition of the oldest solar system solids is either caused by molecular self shielding in the solar nebula or by a certain class of chemical reactions. Depending on the mechanism, physico-chemical conditions in the nebula are very different, explaining the interest in this question.

14-06-2010

PICARD : une mission originale dédiée au Soleil et à son influence sur le climat de la Terre

Le satellite Picard sera lancé ce mardi 15 juin à 16h42, heure de Paris, par une fusée Dniepr depuis la base de Yasny, en Russie. Ce micro satellite français de 143 kg, financé par le CNES, devrait permettre d'améliorer notre connaissance du fonctionnement du Soleil et de mieux comprendre son influence sur le climat de la Terre.

04-12-2009

Measuring oceanic CO2 for a more accurate assessment of the global carbon balance

An international team, including French researchers from CNRS and UPMC, have developed a synthetic approach aimed at evaluating CO2 uptake by the oceans. For the first time, scientists have mapped the amounts of CO2 absorbed over the whole North Atlantic.

25-11-2009

Climate change accelerating beyond expectations, urgent emissions reductions required, say leading scientists

Global ice-sheets are melting at an increased rate; Arctic sea-ice is disappearing much faster than recently projected, and future sea-level rise is now expected to be much higher than previously forecast, according to a new global scientific synthesis prepared by some of the world's top climate scientists.

06-07-2009

Air pollution in the urban environment : a large-scale monitoring campaign gets under way in Ile-de-France

A monitoring campaign to better understand pollution produced by large conurbations will be carried out in the Paris area during the whole month of July.

22-06-2009

The ozone hole reduces atmospheric CO₂ uptake in the Southern Ocean

Does ozone have an impact on the ocean's role as a 'carbon sink'? Yes, according to researchers from three IPSL laboratories. Using original simulations, they have demonstrated that the hole in the ozone layer reduces atmospheric carbon uptake in the Southern Ocean and contributes to the increase in ocean acidity.

20-06-2008

The climate has changed in an abrupt way at the very end of the last ice age

New very high resolution ice cores analyses from Greenland reveal that the climate has changed very suddenly, within a few years, at the end of the last ice age, about 10 000 years ago.

26-05-2008

Epoca: ocean acidification and its impact on ecosystems

Epoca aims to better understand ocean acidification, to study its effects on marine biology and to predict them for the next century, and especially to make recommendations to policymakers.

14-05-2008

The evolution of greenhouse gases concentration during 800 000 years

To predict the future evolution of greenhouse gases, to trace their evolutionary past, further and further over the time, is a major issue. In analyzing the Antarctic ice extracted during the EPICA ice drilling project, the French LGGE and IPSL scientists, together with several international partners, managed to push the existing limits.