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## **COP21 gets underway CNES at the core of the space agenda**

**At the COP21 climate conference opening today in Paris, 196 delegations will be working towards a historic agreement. For CNES, which is spearheading the space agenda of the conference, this marks the end of an odyssey started in 1992 with the launch of the TOPEX/Poseidon oceanography mission that has gathered pace this year through strong commitments and agreements secured with the world's space agencies to combat climate change.**

Space's key role in studying climate and helping to curb climate change is clear for all to see. Be it in deriving models for weather forecasting, measuring sea level rise, anticipating climate-related disasters and aiding relief efforts, or gauging greenhouse gas emissions, satellites have long been scientists' most precious ally. Indeed, out of the 50 essential climate variables established by the International Panel on Climate Change (IPCC), 26 can only be observed from space.

CNES's more-than-20-year heritage in oceanography goes back to the 1980s, during which it paved the way for the launch in 1992 of the French-U.S. TOPEX/Poseidon mission that was the precursor of today's Jason satellites. Ever since, CNES has made countless contributions to the global fleet of satellites and missions studying climate, notably the Pleiades Earth-observing satellites, the SMOS Soil Moisture and Ocean Salinity mission and the IASI Infrared Atmospheric Sounding Interferometer instruments. Pursuing its efforts to find new ways of combating global warming, CNES is now set to launch the MicroCarb and MERLIN missions in 2020. MicroCarb will measure regional emissions of carbon gases, while MERLIN will survey methane. Together, these are the two main greenhouse gases driving the global rise in temperatures.

Thanks to its central role and expertise in this field, CNES has led discussions with the world's space agencies to give the space agenda of the COP21 climate conference every chance of success. Since the start of the year, the agency's experts have undertaken a marathon of meetings. Key milestones were the first climate change conference of the International Academy of Astronautics (IAA) in February, the meeting of Heads of Space Agencies at CNES's Head Office during the Paris Air Show in June, and most recently the meeting with the Indian Space Research Organisation (ISRO) on 23 November in New Delhi. But the most emblematic event of all was undoubtedly the Mexico Summit of Heads of Space Agencies, which produced a common declaration on 18 September on the role of space in combating climate change.

At national and European level, the MicroCarb mission and the MERLIN mission developed with Germany, both set to be orbited around 2020 by a European launcher from the Guiana Space Centre, will mark a turning point in space's contribution to this effort.

For CNES President Jean-Yves Le Gall, "we are now on the verge of sealing a historic agreement for which CNES has worked tirelessly by highlighting current and future space-based solutions to combat climate change. CNES's efforts in furthering this cause, particularly this year, are the logical translation of its expertise and commitment over several decades, and of its desire to effectively serve the French government, which we thank for entrusting us with this most important task."

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