

Remote Sensing

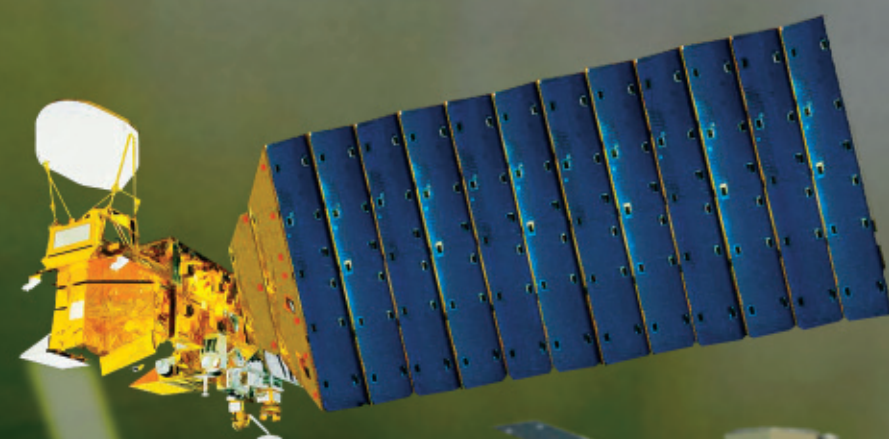
Technologies for a better future

THE GLOBAL CHANGE RESEARCH PROGRAM (GCRP) WAS ESTABLISHED TO ANSWER QUESTIONS REGARDING CLIMATE CHANGE. NATIONS COLLABORATE TO DESIGN INSTRUMENTS AND SPACECRAFT TO MAKE THIS LARGE SCALE EXAMINATION OF OUR PLANET AS EFFICIENT AS POSSIBLE. INCLUDED ARE REMOTE SENSING SATELLITES, POWERFUL TOOLS TO DETERMINE THE EXTENT TO WHICH AIR QUALITY AND CLIMATE CHANGE ARE LINKED.

PICTURED IS THE A-TRAIN, A SERIES OF SIX REMOTE SENSING SATELLITES WORKING IN TANDEM. BOTH INDUSTRY AND ACADEMIA FROM NUMEROUS NATIONS ARE PARTICIPATING IN THIS PROJECT.

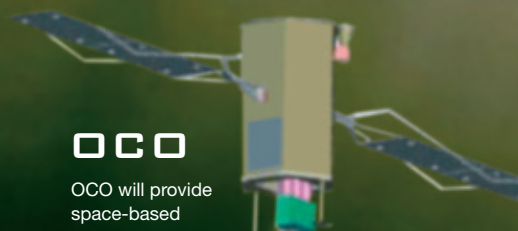
AQUA

Aqua carries an imaging spectroradiometer (MODIS), a radiometer for measuring the Earth's radiation budget (CERES), a microwave scanning radiometer (AMSR-E) and various infrared and microwave sounders to establish temperature and humidity profiles of the atmosphere.



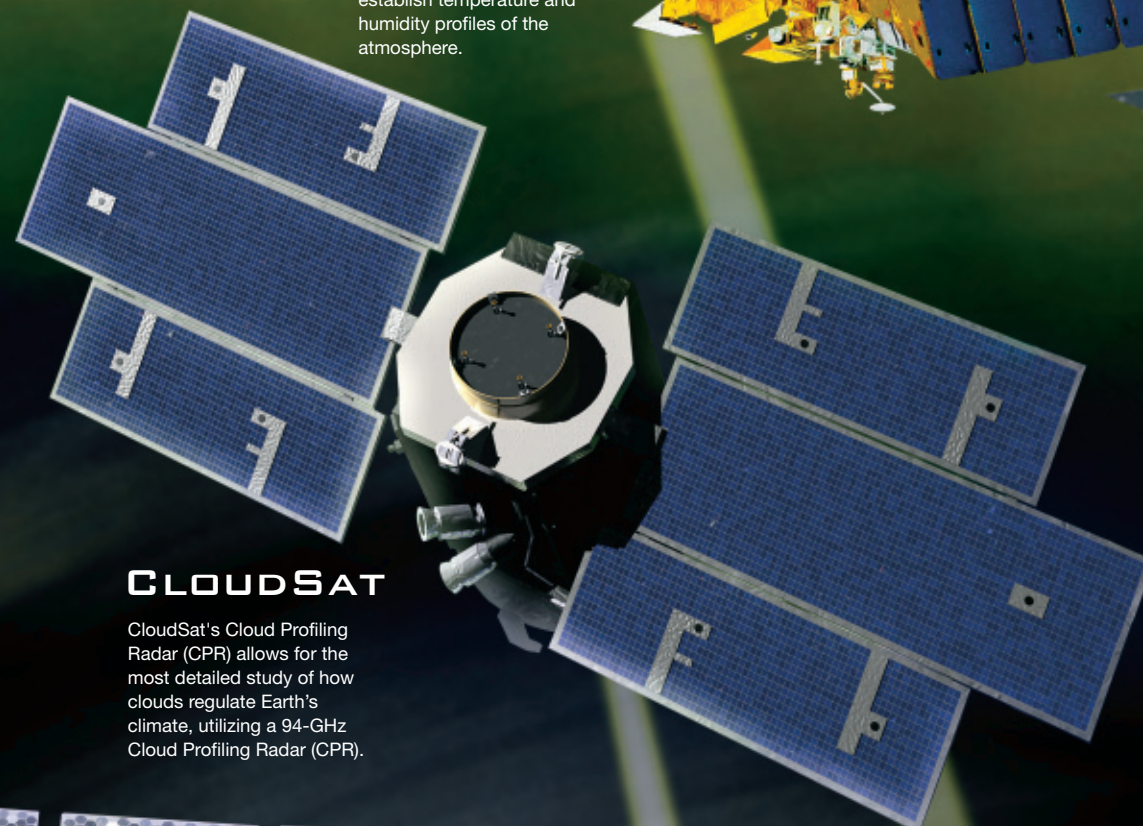
OCO

OCO will provide space-based observations of atmospheric carbon dioxide, carrying a single instrument that incorporates three high-resolution grating spectrometers to measure reflected sunlight off the Earth's surface. Launch Date: 9/15/08



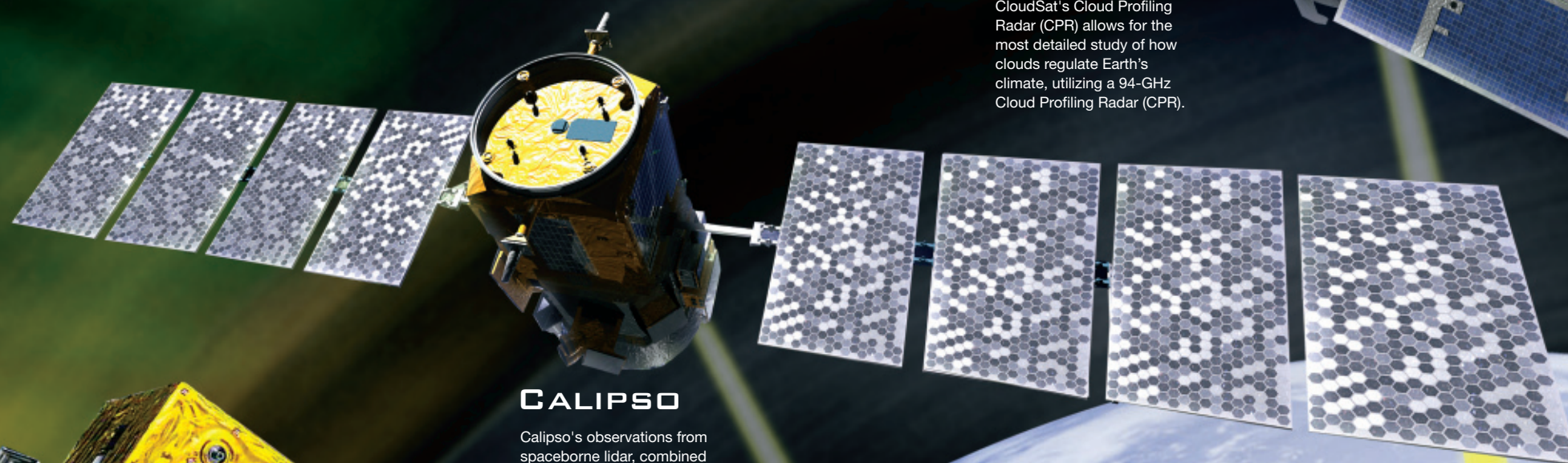
CLOUDSAT

CloudSat's Cloud Profiling Radar (CPR) allows for the most detailed study of how clouds regulate Earth's climate, utilizing a 94-GHz Cloud Profiling Radar (CPR).



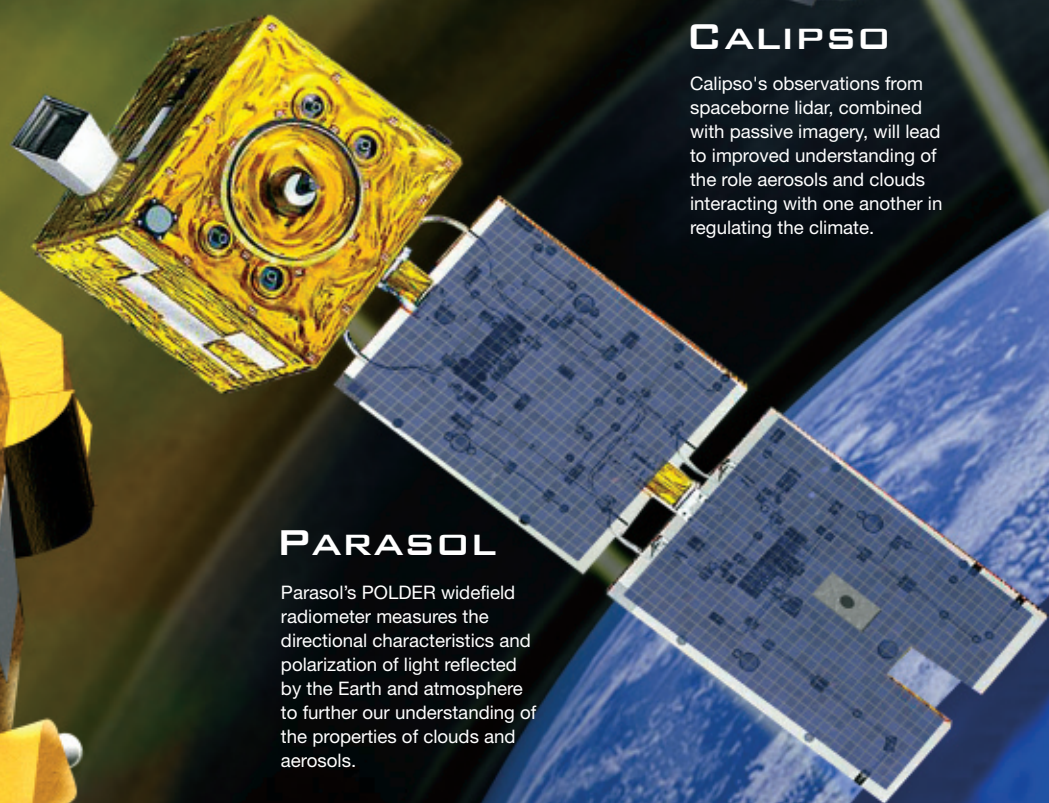
CALIPSO

Calipso's observations from spaceborne lidar, combined with passive imagery, will lead to improved understanding of the role aerosols and clouds interacting with one another in regulating the climate.



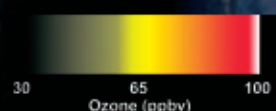
PARASOL

Parasol's POLDER widefield radiometer measures the directional characteristics and polarization of light reflected by the Earth and atmosphere to further our understanding of the properties of clouds and aerosols.



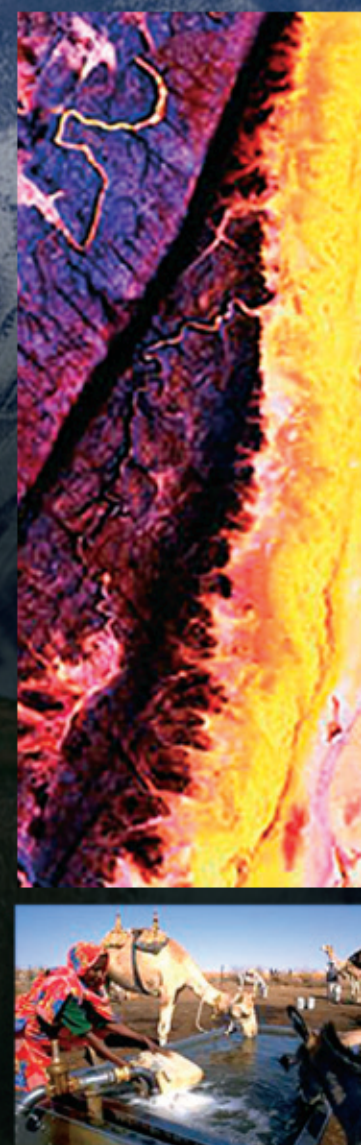
AURA

Aura will study atmospheric chemistry, focusing on the distribution of key atmospheric pollutants and gases and how they evolve change over time. Payload includes: High Resolution Dynamics Limb Sounder (HIRDLS), Microwave Limb Sounder (MLS), Ozone Monitoring Instrument (OMI), Tropospheric Emission Spectrometer (TES)



MEETING THE DEMANDS OF A GROWING POPULATION

LOCATING WATER RESOURCES AND MANAGING AGRICULTURE WITH ENVIRONMENTALLY SOUND AND SUSTAINABLE TECHNIQUES IS INCREASINGLY SUPPORTED BY REMOTE SENSING. IMAGES PROVIDE INFORMATION REGARDING NUTRIENT DEFICIENCIES, WATER USE, DAMAGE FROM A VARIETY OF SOURCES, AND PLANT POPULATIONS. AS A RESULT PESTICIDE USAGE IS REDUCED, ENERGY IS SAVED, AND POTENTIAL WATER QUALITY IMPACTS OF CROP PRODUCTION ARE MINIMIZED.



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