

## **The Izaña Atmospheric Research Center: GAW activities**

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The Izaña Atmospheric Research Center (IARC) is part of the Meteorological State Agency of Spain (AEMET). The IARC is a Joint Research Unit of the National Research Council (CSIC). The main objective of IARC's GAW program is to provide data and scientific added-value on the chemical composition and related physical characteristics of the atmosphere and their trends. The IARC manages the global GAW Izaña Observatory (IZO; 28°18'N, 16°29'W, 2373 m a.s.l.), the urban air quality research Observatory at Santa Cruz (SCO; 52 m a.s.l.), the Botanic ozonesonde Observatory (BTO; 30 m a.s.l.) ,and the high mountain Pico Teide Observatory (PTO; 3555 m a.s.l.). Long term monitoring of in-situ greenhouse gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and SF<sub>6</sub>) and in-situ reactive gases (O<sub>3</sub>, CO, NO-NO<sub>2</sub>, SO<sub>2</sub>) have been carried out since 1984. Ozone layer is monitored with both Brewer spectrophotometers and ECC sondes since 1992 providing unique information of the subtropical UTLS. IZO hosts the Regional Brewer calibration Center for Europe (RBCC-E). A comprehensive program of in-situ (ACTRIS station) and column aerosols (AERONET, GAW-PFR, MPLNet) is carried out for air quality and climate studies. IZO is an absolute calibration site of AERONET-Europe. A FTIR program has been implemented for long-term monitoring of atmospheric gas composition in the framework of the international networks NDACC (Network for the Detection of Atmospheric Composition Change) since 1999 and TCCON (Total Carbon Column Observing Network) since 2007. IZO is a Baseline Surface Radiation Network (BSRN) located in a strategic site to conduct studies of dust radiative forcing. GAW twining is currently held with global stations of Ushuaia-Argentina (ozonesonde program) and Tamanrasset-Algeria (Brewer and Cimel-AERONET), as well as cooperation with other institutions working in Antarctica. IARC develops activities within the WMO Sand and Dust Storm Warning Advisory and Assessment System (SDS WAS). New technical developments, such as a total sky camera, a CCD spectrometer and lunar photometer are carried out collaborating with private companies. More information at <http://izana.aemet.es>.