



STATUS OF THE IZAÑA BSRN STATION.



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Since March 2009 the Izaña station belongs to the BSRN network (*Baseline Surface Radiation Network*). The Izaña Observatory (IZA in the BSRN notation) is managed by the Izaña Atmospheric Research Center, from the Meteorological State Agency of Spain (AEMET), and is located on Tenerife Island (Spain) at 2367 meters above sea level. (28°17.9'N, 16°24.96'W). The observatory is located on the top of a mountain plateau in a pre-national park area (Teide National Park) that is environmentally protected by the "sky law". IZA is normally above a temperature inversion layer, generally well established over the island, and so free of local anthropogenic influences. This station is member of the GAW (*Global Atmospheric Watch*) programme of the WMO (*World Meteorological Organization*). This work was developed within the Specific Agreement of Collaboration between the University of Valladolid and the CIAI-AEMET "Establish methodologies and quality assurance systems for programs of photometry, radiometry, atmospheric ozone and aerosols within the atmospheric monitoring program of the WMO".

IZAÑA BSRN STATION

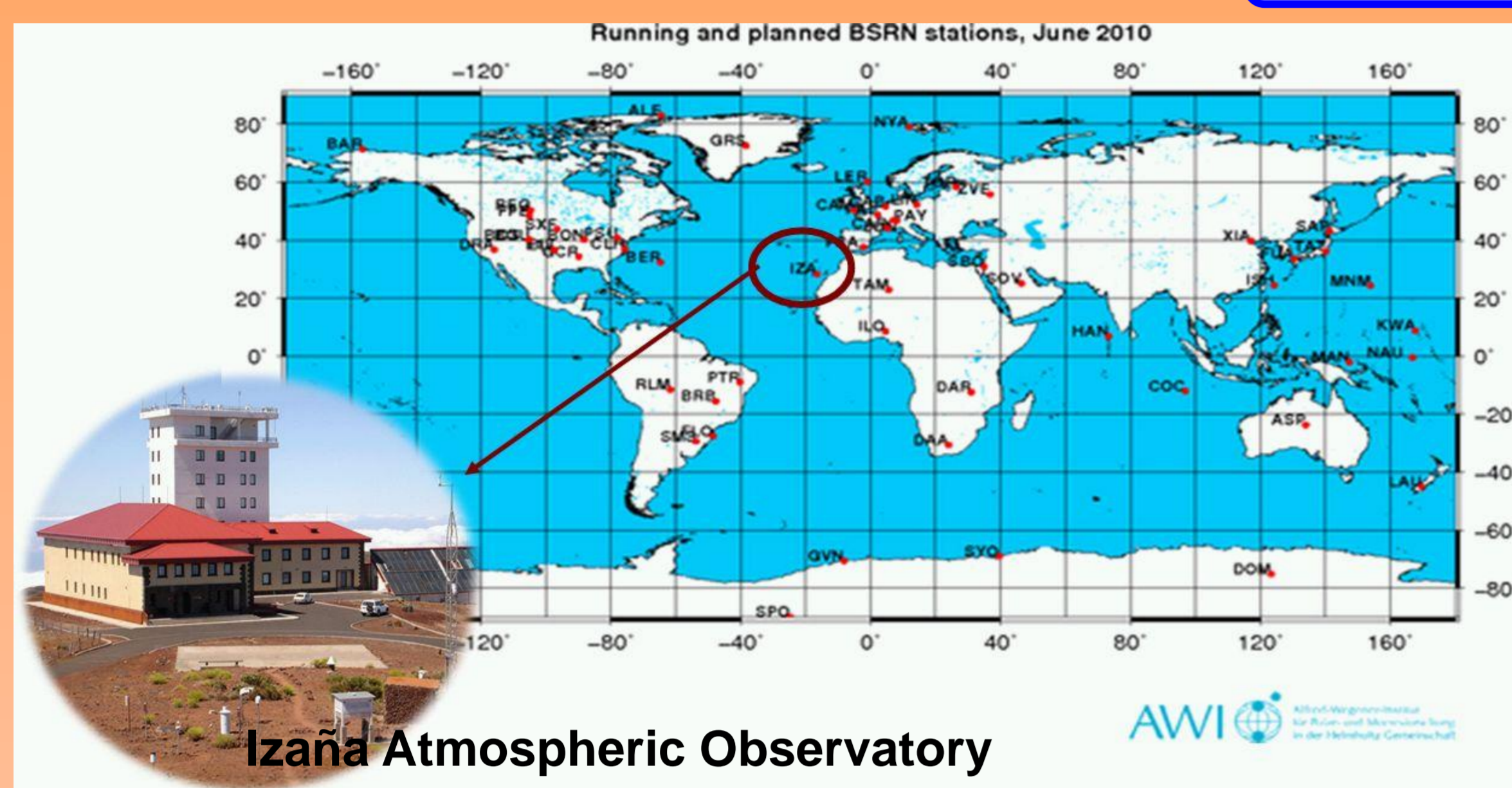
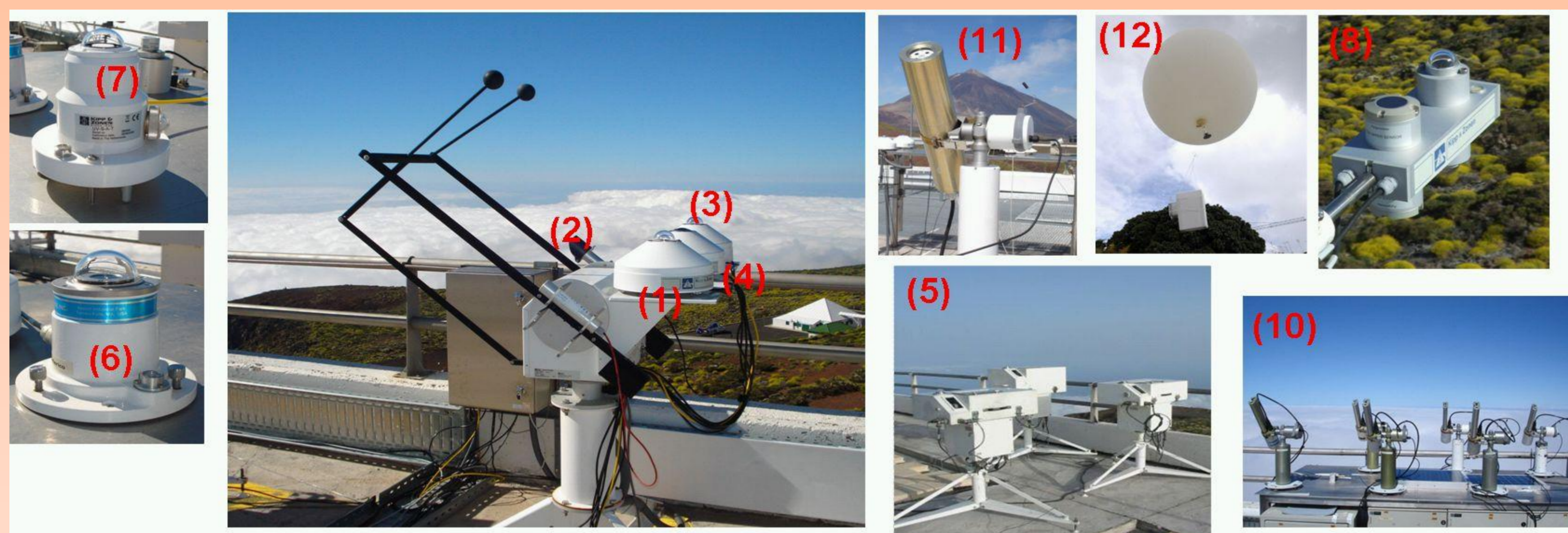


Figure 1.- Location of the Izaña station on a global maps of all stations of the Baseline Surface Radiation Network (BSRN). <http://www.bsrn.awi.de>

- Izaña Atmospheric Observatory (IZO) is located on the island of Tenerife at 28°17.9'N, 16°24.96'W. Tenerife is an island of volcanic origin about 300 km away the African continent and about 1200 km from the Iberian Peninsula. The station is located in the Atlantic Ocean.
- The station is located at 2.367 meters above sea level, in the free troposphere above the quasipermanent inversion layer present in the Canary Islands. The Izaña Station is not influenced by local sources of pollution or other changing local anthropogenic factors.
- The observatory is on a high mountain plateau in a pre-national park area (Teide National Park). This may effect the local albedo, since the observing site is often surrounded by a stratocumulus sea below the observatory.
- Izaña is a WMO Global Atmospheric Watch (GAW).
- Izaña is part of NDACC, AERONET, MPLNet, CRISTA, ICOS, GALION, GEOMON and EUMETNET networks.

INSTRUMENTS AND MEASUREMENTS IZAÑA BSRN



MEASUREMENTS	INSTRUMENTS
Global Radiation	(1) Pyranometer CM-21 K&Z
Direct Radiation	(2) Pyrheliometer CH-1 K&Z
Diffuse Radiation	(3) Pyranometer CM-21 K&Z
Longwave Radiation	(4) Pyrgeometer CG-4 K&Z
Ozone	(5) Spectrophotometer Brewer
UV-B Radiation	(6) Pyranometer Yankee YES
UV-A Radiation	(7) Pyranometer UV-A-ST K&Z
Net Radiation	(8) Net Radiometer K&Z
Sky Image	(9) SONA Camera
Aerosol Optical Depth	(10) Photometer CIMEL
Aerosol Optical Depth	(11) PFR
O ₃ , T, P, H, Wind	(12) Ozone Soundings

IZAÑA STATION AUXILIAR MEASUREMENTS

IZAÑA STATION MEASUREMENTS

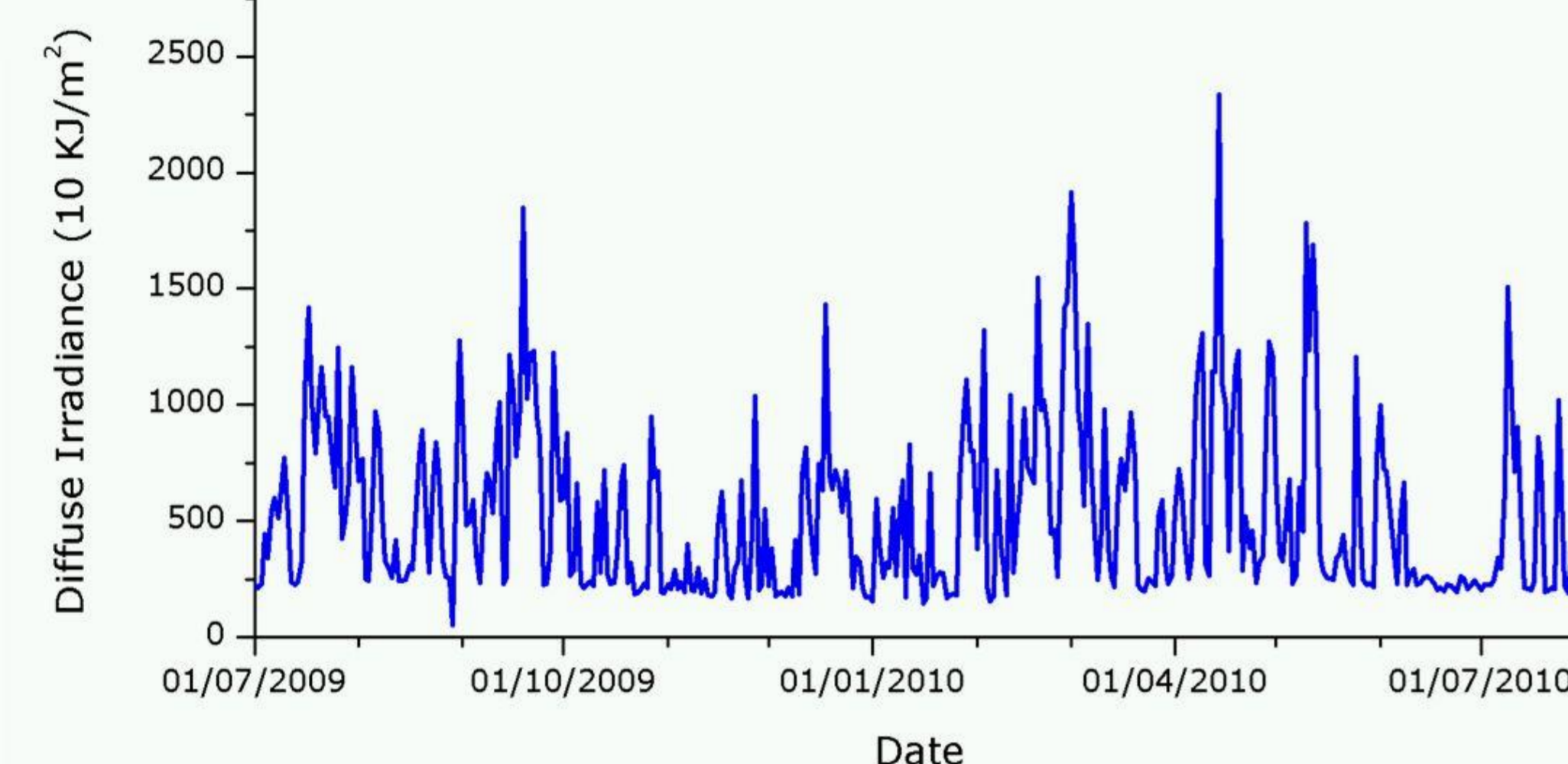
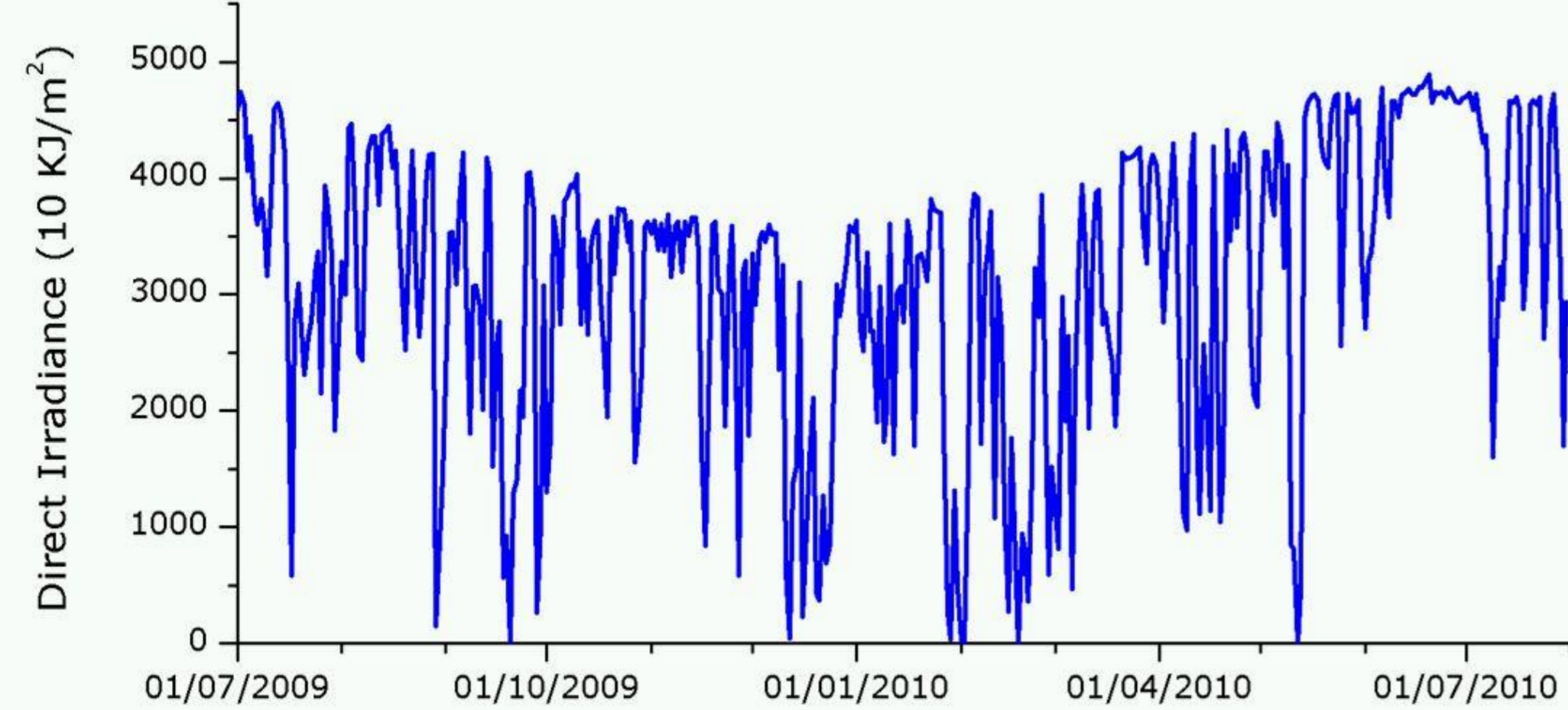
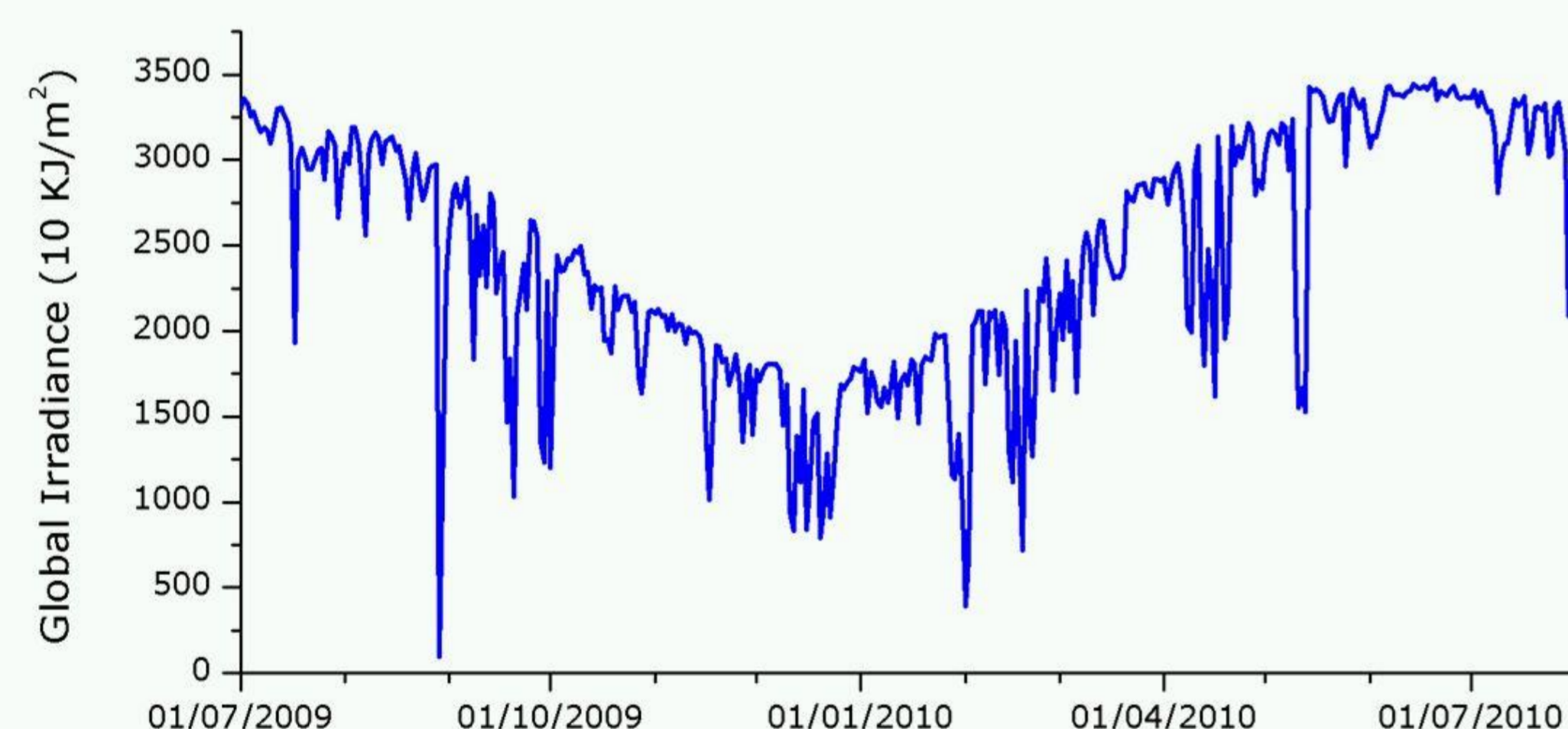


Figure 2.- Daily values of global, direct and diffuse radiation between July 2009 and July 2010 measured Izaña BSRN station.

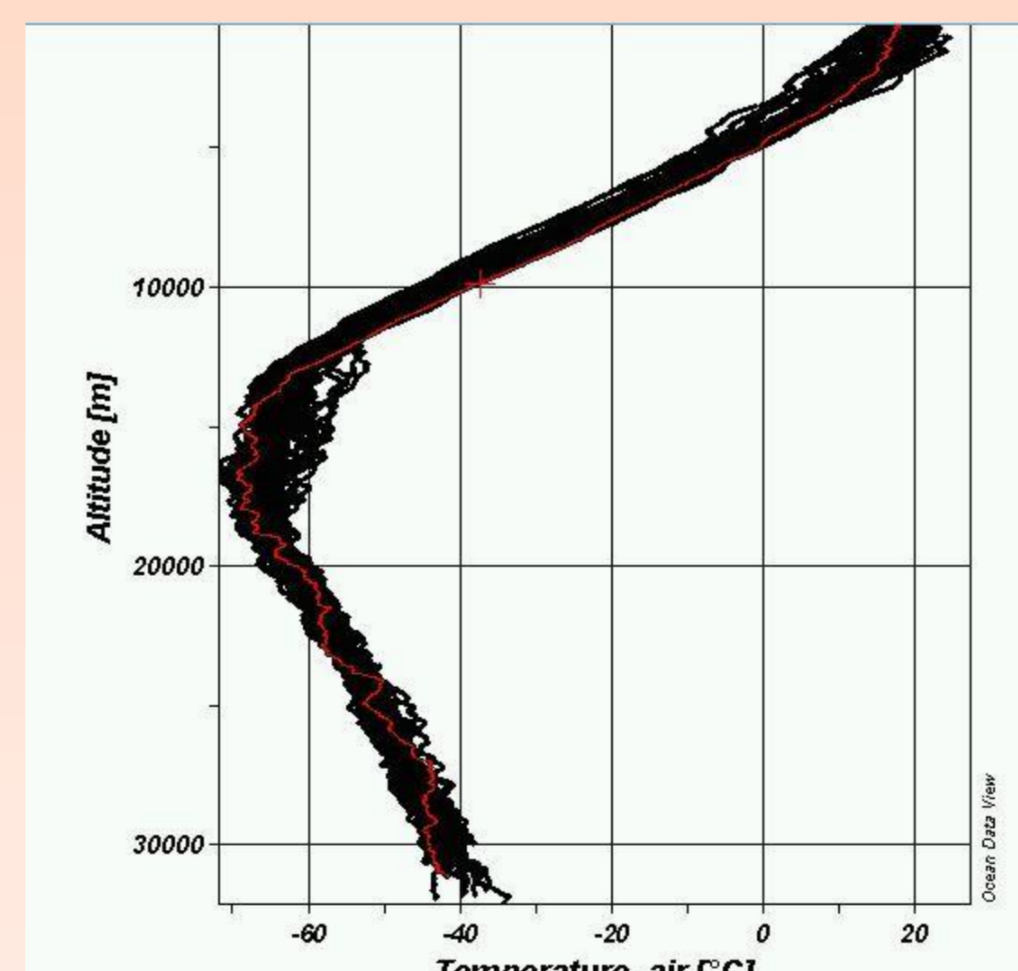


Figure 3.- Vertical profiles of temperature derivad from radiosondes. Radiosondes (Since Late 70s) and Ozonosondes (Since Nov 1992).

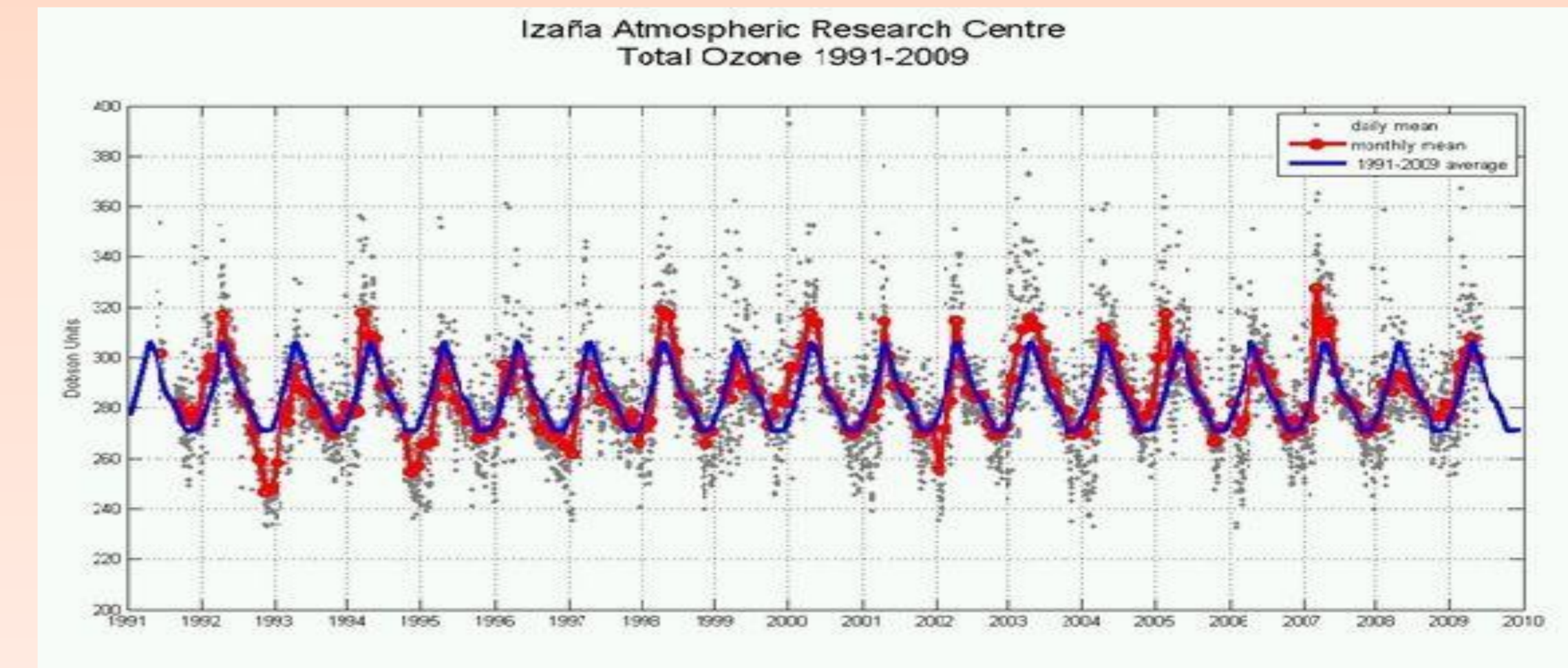


Figure 4- Total ozone time series of Izaña (1991-2009). Total ozone started at Izaña Observatory (IZO) in May 1991 with the installation of the Brewer spectrometer #033 (Alberto Redondas IARC).

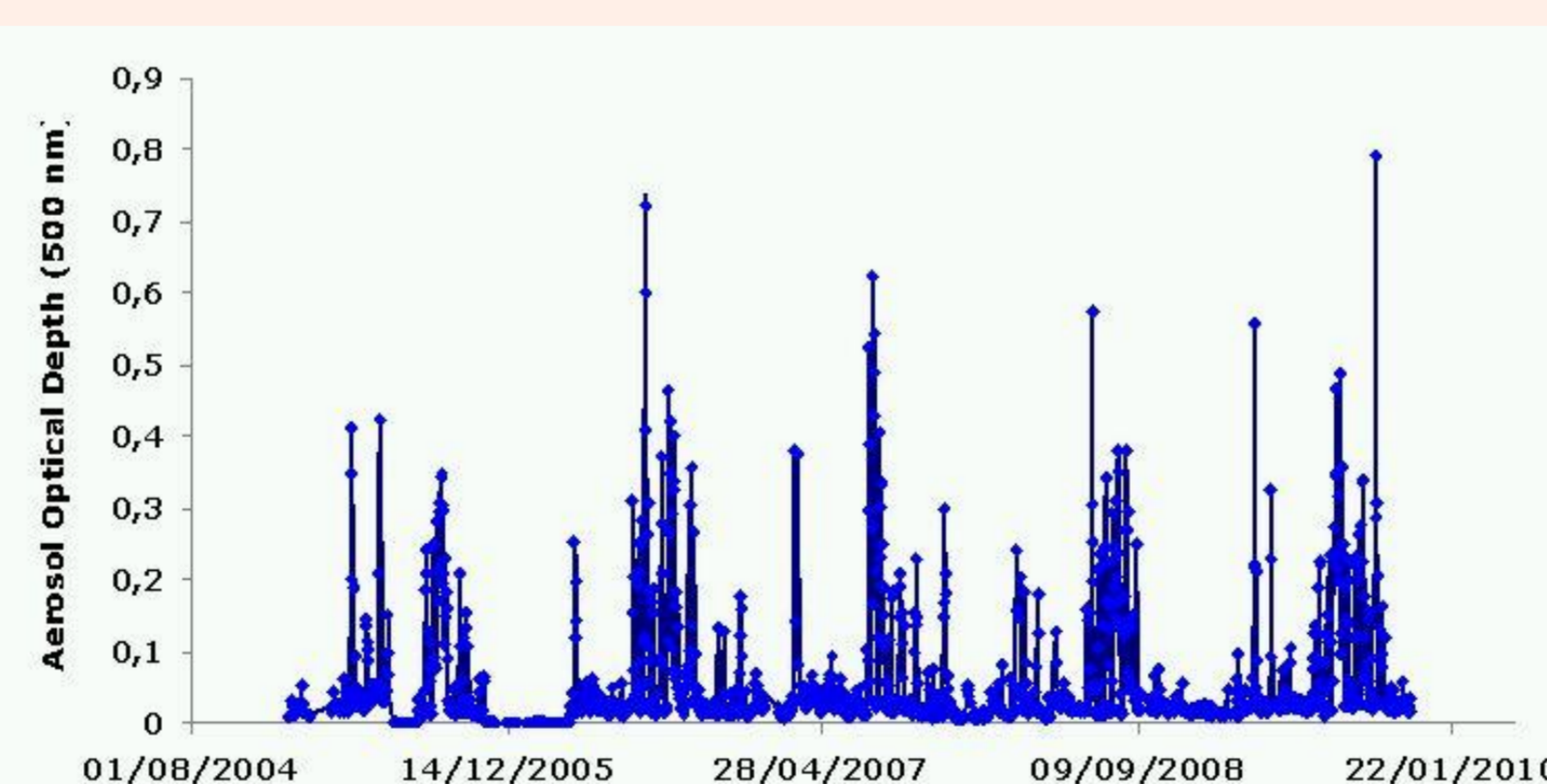


Figure 5.- Time series of aerosol optical depth at 500 nm for Izaña (2006-2009) (AERONET <http://aeronet.gsfc.nasa.gov/>)

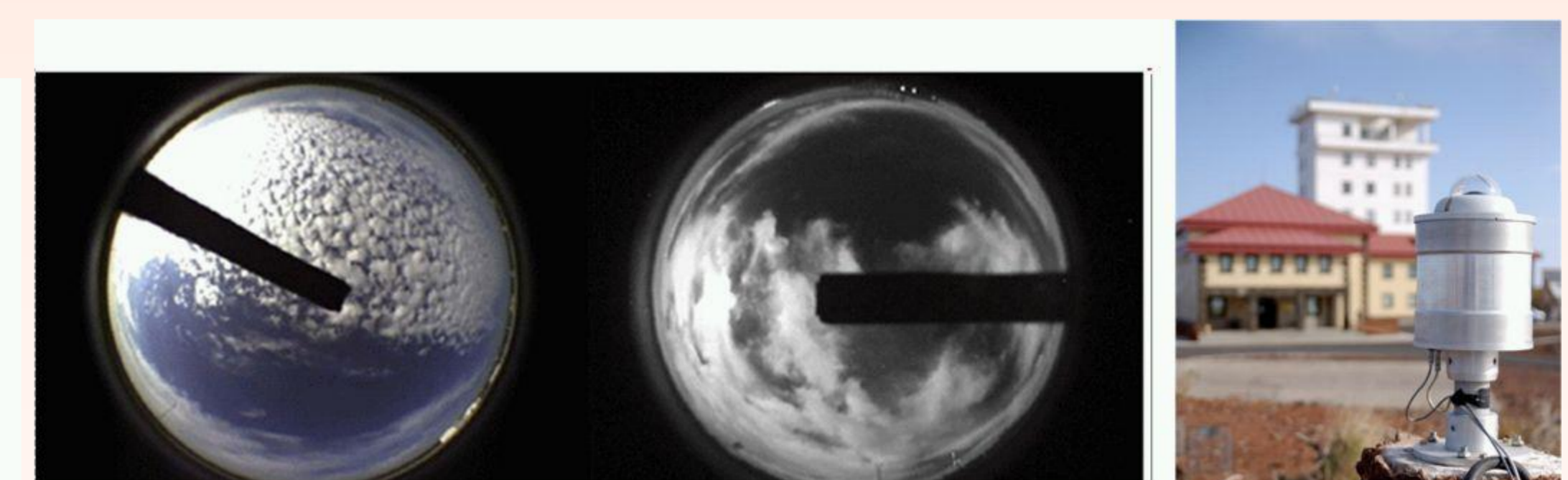


Figure 6.- Total sky images: SONA (Automatic Cloudiness Observation System) has been developed at the Izaña Observatory by the R+D Sieltec Company in collaboration with the IARC.

QUALITY CONTROL : TRANSFER RADIATIVE MODEL LIBRADTRAN

<http://www.libradtran.org>
libRadtran

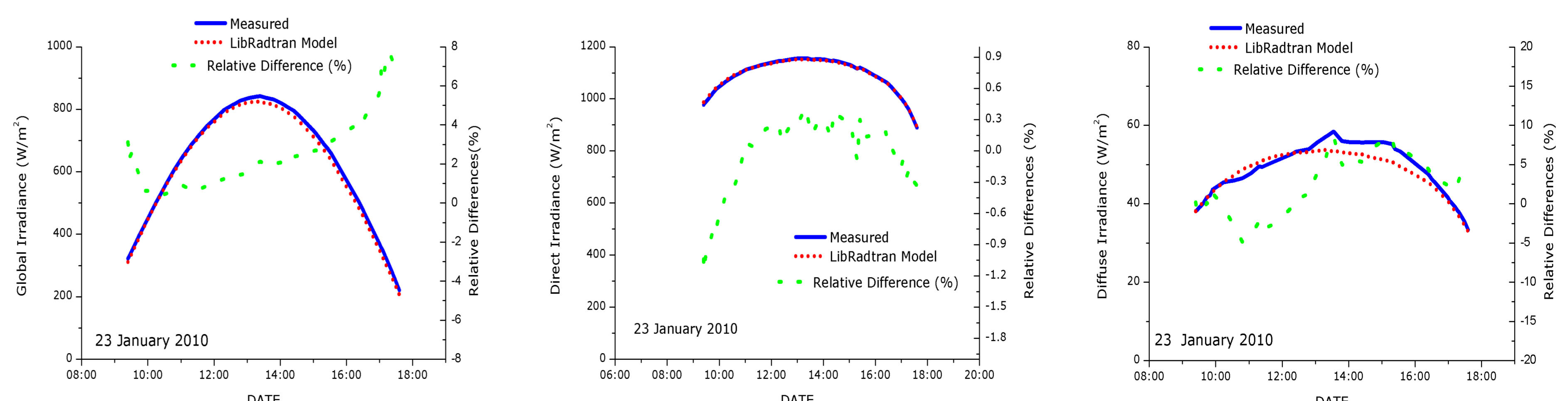


Figure 7.- Comparison between of measured and modeled global, direct and diffuse radiation at BSRN Izaña in 23 January 2010.

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