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Antarctic Ozone Hole overpass cases above South American continent since 2009. Consequences and actions

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Overpass events of the Antarctic Ozone Hole over the South American continent since year 2009 are analyzed on the base of satellite data and ground measurements from nine stations of the Argentine Ozone-UV Network: La Quiaca (22.11°S, 65.57°W, 3459 m a.s.l.), Pilar (31.66°S, 63.88°W, 338 m a.s.l.), Mendoza (32.88°S, 68.87°W, 704 m a.s.l.), Rosario (32.96°S, 60.62°W, 25 m.a.s.l.), Buenos Aires (34.61°S, 58.41°W, 25 m a.s.l.), Comodoro Rivadavia (45.78°S, 67.50°W, 46 m a.s.l.), San Julián (49.32°S, 67.75°W, 62 m a.s.l.), Río Gallegos (51.60°S, 69.32°W, 5 m a.s.l.) and Ushuaia (54.80°S, 68.27°W, 14 m a.s.l.). Years of particular occurrence of overpass cases were 2009, 2011, 2013 and 2015. Total ozone column reduction is analyzed along with the registered UV levels for these dates against climatologic values, although UV irradiance and daily dose is also conditioned by cloudiness, atmospheric aerosols and surface albedo. The environmental consequences of these events are considered, particularly those referred to human public health, and the public alert campaigns through massive diffusion media in Argentina is detailed as a response.