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Ninety-year-old world temperature record in El Azizia (Libya) is invalid

Improved data strengthens climate knowledge

GENEVA, 13 September 2012 (WMO) - A World Meteorological Organization panel has concluded that the all-time heat record held for exactly 90 years by El Azizia in Libya is invalid because of an error in recording the temperature. The announcement follows a danger-fraught investigation during the 2011 Libyan revolution. Death Valley National Park in California, USA, now officially holds the title of the world's hottest place – as symbolic for meteorologists as Mt. Everest is for geographers.

During 2010-2011, a WMO Commission of Climatology special international panel of experts conducted an in-depth investigation of the long-held world-record temperature extreme of 58°C (136.4 °F). That temperature (often cited by numerous sources as the highest surface temperature for the planet) was recorded at El Azizia, approximately 40 kilometres south-southwest of Tripoli on 13 September 1922. The investigation was conducted with the support of the Libyan National Meteorological Centre for the WMO Commission of Climatology World Archive of Weather and Climate Extremes (<http://wmo.asu.edu/>), the official WMO world meteorology-verified record of weather and climate extremes.

The investigating committee composed of climate experts from Libya, Italy, Spain, Egypt, France, Morocco, Argentina, United States, and United Kingdom identified five major concerns with the 1922 El Azizia temperature extreme record, specifically (a) problematical instrumentation, (b) a likely inexperienced observer, (c) an observation site over an asphalt-like material which was not representative of the native desert soil, (d) poor matching of the extreme to other nearby locations and (e) poor matching to subsequent temperatures recorded at the site.

The WMO evaluation committee concluded the most compelling scenario for the 1922 event was that a new and inexperienced observer, not trained in the use of an unsuitable replacement instrument that could be easily misread, improperly recorded the observation and was consequently in error by about seven degrees Celsius.

Based on these findings, the WMO Commission of Climatology World Archive of Weather and Climate Extremes has invalidated the 58°C temperature extreme measured at El Azizia in 1922.

“This investigation demonstrates that, because of continued improvements in meteorology and climatology, climate experts can now reanalyze past weather records in much more detail than ever before. The end result is an even better set of climate data for analysis of important global and regional questions involving climate variability and change,” said Professor Randall Cerveny, Rapporteur of Climate and Weather extremes for the WMO.

Consequently, the WMO assessment is that the official highest recorded surface temperature of 56.7°C (134°F) was measured on 10 July 1913 at Greenland Ranch (Death Valley), California, USA. Full details of the assessment are given in the on-line issue of the Bulletin of the American Meteorological Society (<http://dx.doi.org/10.1175/BAMS-D-12-00093.1>).

World Meteorological Organization is the United Nations System's authoritative voice on Weather, Climate and Water

WMO website: www.wmo.int

A full list of weather and climate extremes is available at the WMO Archive of Weather and Climate Extremes (<http://wmo.asu.edu/>) This includes the world's highest and lowest temperatures, rainfall, heaviest hailstone, longest dry period, maximum gust of wind, as well as hemispheric weather and climate extremes

Interview with Randall Cerveny, WMO Rapporteur of Weather and Climate Extremes is available at <http://vimeo.com/49196737>

For more information, please contact: Clare Nullis, Press Officer, Communications and Public Affairs, Tel: +(41 22) 730 8478; 41-79) 7091397 (cell), e-mail: [cnullis\(at\)wmo.int](mailto:cnullis(at)wmo.int) .

Committee Members

Khalid Ibrahim El Fadli, Climate & Climate Change Dept.- Libyan National Meteorological Centre, (kelfadli63@gmail.com)

Randall S. Cerveny, Arizona State University School of Geographical Sciences, USA (Cerveny@asu.edu)

Christopher C. Burt, wunderground.com (Weather Underground, LLC.), (ccburt@earthlink.net)

Philip Eden, Chilterns Observatory Trust, UK. (philip@weather-uk.com)

David Parker, Met Office Hadley Centre, UK (pressoffice@metoffice.gov.uk)

Manola Brunet, Centre for Climate Change (C3), Dept. of Geography, University Rovira i Virgili, Spain (manola.brunet@urv.cat)

Thomas C. Peterson, NOAA's National Climatic Data Center, USA, (thomas.c.peterson@noaa.gov)

Gianpaolo Mordacchini, Climatological Department of the Italian Air Force Meteorological Service (clima@meteoam.it)

Vinicio Pelino, Climatological Department of the Italian Air Force Meteorological Service, (clima@meteoam.it)

Pierre Bessemoulin, Meteo-France, (pierre.bessemoulin@yahoo.fr)

José Luis Stella, National Meteorological Service, Climatology Department, Argentina

Fatima Driouech, Climate Studies Service at the Direction de la Météorologie nationale of Morocco

M.M Abdel wahab, Department of Astronomy and Meteorology, Cairo University, Egypt