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World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

Secrétariat

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Our ref.: 33330/2018/CLW/GCOS/TTLOCA

18 December 2018

Subject: Online survey for locating thunder day data

Action required: To complete and submit the online survey by **31 January 2019**

Dear Sir/Madam,

The WMO Commission for Climatology (CCI), as part of its mandate to "assist Members in the gathering, management and sharing of climate data", together with the Global Climate Observing System (GCOS) established a Task Team on Lightning Observations for Climate Applications (TTLOCA) in 2017. Lightning is a proxy for storm activity and therefore relevant for climate monitoring. Measurements of lightning have become more extensive and the availability of new satellite instruments has further enhanced observation coverage in recent years. GCOS therefore introduced lightning as one of 54 Essential Climate Variables in its 2016 Implementation Plan ("The Global Observing System for Climate: Implementation Needs", GCOS-200, October 2016).

However, operational monitoring of lightning only started late in the 20th century, therefore the diagnostic value of lightning time series monitoring changes in thunderstorm activity in a response to long-term climate change is still limited. In contrast, thunder day observations, which are defined as days when thunder has been heard, are a proxy for lightning activity and have been done in a systematic fashion since the 19th century. These observations can be used to extend lightning time series back in time.

WMO has twice played a key role as organizer of these global observations. In 1953 WMO assembled data from 3 840 stations in 190 countries to produce a global monthly climatology. A second key WMO contribution toward an organized multi-station time series of thunder day data was facilitated by a collaboration with the United States Air Force in 1972 on the Global Surface Observation of the Day (GSOD) dataset. GSOD focused on archiving data from the time of its inception onwards, but little effort was devoted to collecting the station archives on thunder days from the period prior to 1972. However, there is abundant evidence that these data exist in the meteorological archives of individual countries.

Therefore the CCI/GCOS TTLOCA started an initiative to locate thunder day observations worldwide toward supplementing records of thunder days in existing digital data archives, such as the United States National Oceanic and Atmospheric Administration GSOD dataset and the NOAA Global Historical Climatology Network - Daily dataset (GHCNd).

I would therefore like to invite you to arrange for an expert from your service to complete the attached online survey https://www.research.net/r/thunder_day_data. It would be appreciated if the survey could be completed at your earliest convenience, but no later than **31 January 2019**.

To: Permanent Representatives (or Directors of Meteorological or Hydrometeorological Services) of Members of WMO

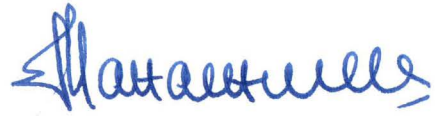
cc: Hydrological Advisers to Permanent Representatives

Ref.: 33330/2018-15 CLW/GCOS

Should you have any questions regarding this survey, Valentin Aich of the GCOS Secretariat can be contacted directly (vaich@wmo.int).

I would like to express my appreciation for your continued support of WMO programmes and climate-related activities.

Yours faithfully,



(E. Manaenkova)
for the Secretary-General