

WORLD METEOROLOGICAL ORGANIZATION

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CBS/GCOS-LC/Doc.  
(10.03.2012)

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**CBS LEAD CENTRES FOR GCOS**

Original: ENGLISH

## **REPORT OF THE CBS-LC-NOAA/NCDC FOR GCOS**

*(Submitted by Jay Lawrimore, NOAA/National Climatic Data Center)*

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### **Summary and Purpose of Document**

Activities of the CBS Lead Centre-NOAA/NCDC for the period from November 2009 to December 2011 are reported.

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### **ACTION PROPOSED**

The meeting is invited to take into account the information provided in the document when discussing relevant agenda items

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## NCDC Lead Centre Report

1. There has been a recent transition in GCOS Lead/Archive Centre responsibilities. Dr. Matthew Menne has taken on additional projects at NCDC as well as with the WMO's Atmospheric Observation Panel for Climate. Mr. Stuart Hinson has taken on new activities within NCDC's Customer Services Branch. Because neither Dr. Menne nor Mr. Hinson can continue to dedicate the time required for necessary oversight and management of the GCOS Lead and Archive Centres, Mr. Jay Lawrimore, Chief of NCDC's Ingest and Analysis Branch, has assumed leadership of these activities. He will be supported by Mr. Bryant Korzeniewski, also of NCDC's Ingest and Analysis Branch.
2. NOAA/NCDC continued its responsibility for calculation and transmission of US CLIMAT messages following the transition of responsibility from NOAA's Climate Prediction Center to NCDC that had taken place in October 2009. Problems that had occurred during the first several months following NCDC's assumption of responsibilities were largely absent in the most recent year. There was one delay (in the transmission of August 2011 data) due to IP connectivity problems with the Washington DC Hub. This problem has been resolved and is not expected to occur in the future.
3. The Lead/Archive Center at NCDC modified a series of web accessible reports which provide information on the number of hourly and synoptic reports received at the Center. The reports are available at <ftp://ftp0.ncdc.noaa.gov/pub/data/gcos/>. Users are invited to review these reports and provide feedback on their usefulness and any recommendations for further changes.

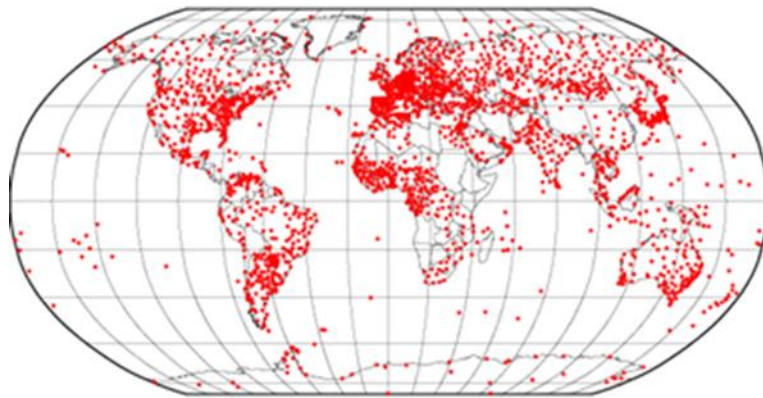
The modifications were completed in response to requests for the removal of redundancy in the calculation of monthly summaries of hourly and synoptic totals. These changes were made to the files GSN\_sum\_short\_term.txt, GSN\_sum\_long\_term.txt, WW\_REG\*\_POR\_summary, and WW\_ALLREG\_POR\_summary. The reports now show a maximum of 744 hourly reports each month for each station and a maximum of 248 synoptic reports from 2005 through 2011. Some years preceding 2005 still contain totals exceeding those limits but can be reprocessed as needed. Although often more than one report is received each hour, the revised calculations tally only one report received within 10 minutes of the top of each hour (e.g., FM-15, FM-16, AUTO) no matter how many are provided each hour. The software also only tallies one synoptic report in any 3-hour period regardless of the number of synoptic reports (e.g., FM-12, SY-MT) provided.

Modifications were also made to correct the omission of report information for several regions in the files GSN\_types\_short\_term.txt and GSN\_types\_2010.txt.

4. The state of CLIMAT reporting in RA IV remains generally strong. NCDC continued to collect and process CLIMAT messages on a routine basis. These provide an important foundation for US and WMO climate monitoring activities through the Global Historical Climatology Network-Monthly (GHCN-M) dataset, enabling ongoing perspectives on the state of the global climate. More than 500 stations in Region IV provided CLIMAT messages in 2011, and the percentage of reporting GSN stations exceeded 90% in each of the past four years.

By September 2011, approximately 2700 CLIMAT messages were being received at NCDC each month. The figure below shows the distribution of stations received via GTS transmissions.

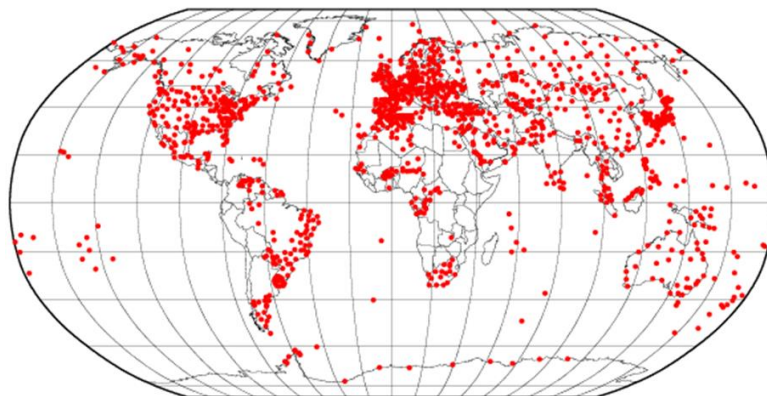
## 2298 CLIMAT Stns Rcvd at NCDC September 2011



**Figure 1. CLIMAT messages received via GTS in September 2011 at the GCOS Lead Centre.**

The number of CLIMAT messages received has approximately doubled in the past seven years.

## 1199 CLIMAT Stns Rcvd at NCDC September 2004



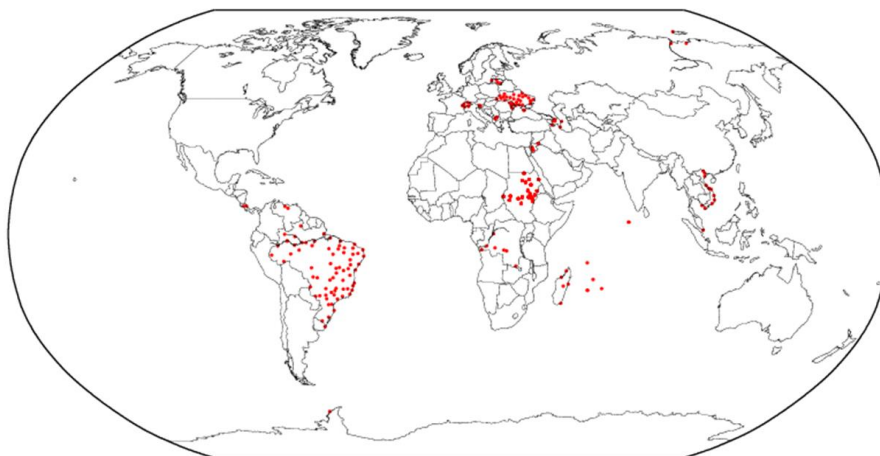
**Figure 2. CLIMAT messages received via GTS in September 2004 at the GCOS Lead Centre.**

In Canada some periods of system outage occurred, primarily in July and part of August 2011. This caused the loss of CLIMAT data at Wager Bay (71049), Robertson Lake (71490), and Arctic Bay (71592). These stations have now returned to service. However, some stations are no longer contributing to the GSN program. The loss of Smithers A

(71950), which has not transmitted data since September 2010, is attributed to an unavoidable change in the observation program. Program changes also resulted in the loss of data at Quesnel AWOS (711103), which has not transmitted data since June 2010. Formal recommendations for replacement stations have been made.

The Met Office/Hadley Centre in the United Kingdom (UKMO) continued to provide NCDC with a complete set of CLIMAT messages received by their centre each month, some of which supplement those received by NCDC.

NCDC now receives more than 150 e-mail reports of CLIMAT summaries and corrections on a regular basis each month as well as a number of paper copies sent by parcel post, which combined provide many reports not available via the GTS. It takes several months before NCDC's monitoring reports reflect the mailed messages. As shown in the figure below, many of these are provided by sources in South America, Africa, Eastern Europe, and parts of Southeast Asia.

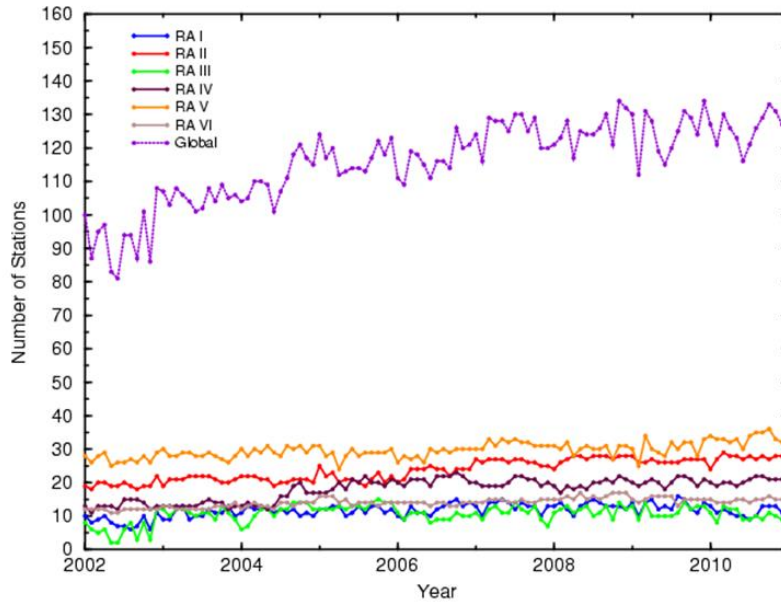


**Figure 3. Locations of stations providing CLIMAT messages to NCDC via e-mail or parcel post in June 2011.**

5. Status of the GUAN: Ongoing rehabilitation and system improvement efforts have led to the near full implementation of the GUAN, with 170 GUAN stations reporting at the end of 2011. NCDC's Integrated Global Radiosonde Archive (DSI-6351) serves as the database for the GUAN. Figure 4 shows the number of GUAN sites providing temperature and wind up to 30hPa, and humidity to tropopause from 2002 through 2011 (one observation on at least 25 days each month).

Several GUAN stations appear to be silent, including two in RA IV:

78762 JUAN SANTAMARIA INT. AIRPORT  
78954 GRANTLEY ADAMS



**Figure 4. Time series of the number of GUAN stations meeting the minimum performance requirements (source: IGRA).**