

Interim Report on The Redrafting of Action A3
International Exchange of SYNOP and CLIMAT Messages

Imke Durre – 14 March 2019

Status:

I have spoken with Jay Lawrimore and exchanged emails with Peer Hechler to obtain a current status on the exchange of daily CLIMAT messages and reviewed existing documents related to this Action. These documents are provided in this same Google Drive folder.

The below material has been drafted as an initial effort to reword and refocus Action A3.

Background:

Data archives of hourly, daily, and monthly-surface observations of essential climate variables (ECVs) contain significant gaps in space and time, particularly with respect to data coverage during the most recent few months. Two important reasons for the data gaps include lack of observations and restrictive data sharing policies.

To address the gaps, the WMO has particularly focused on observations at the daily timescale by establishing a protocol for exchanging CLIMAT messages containing daily observations for the most recent complete month. The creation of these messages requires that the requisite information be encoded in Universal Binary Format (UBFR), a format that many countries are not yet ready to fully support.

As of March 2019, a template for formatting daily CLIMAT messages as well as a program for encoding and decoding these messages have been developed by NOAA/NCEI in the United States. The template and software are available at <ftp://ftp.ncdc.noaa.gov/pub/data/dailyclimat/>. Effective February 2019, the WMO has initiated a trial phase in which countries can test sending and receiving daily CLIMAT messages, and a formal communication was sent to all Member Countries regarding this trial phase. According to Peer Hechler, Scientific Officer in the Data Management Applications Division of WMO's Climate and Water Department, the following countries began sending their messages as part of the trial: Japan; Antarctica (RA II); Hong Kong, China; Ireland; Estonia; Norway; Russian Federation. Other countries informed us that they are planning to participate in the trial: Kazakhstan; Mexico; Switzerland; Egypt; Spain; Indonesia; Chile; Latvia; Australia; Brazil; Argentina; Pakistan. NOAA/NCEI has not yet attempted to capture any such messages.

With this Action, AOPC intends to support existing efforts to encourage and facilitate increased data sharing at the hourly, daily, and monthly timescales. Specifically, AOPC intends to:

- Establish the capability to monitor the receipt of subdaily SYNOP messages as well as daily and monthly CLIMAT messages by major archiving centers, so that progress towards improved participation by Member Countries can be tracked. Specifically, the GSNMC webpage could be expanded to accommodate such monitoring, . And updates could be provided annually at AOPC meetings.
- Identify actions that can be taken by GCOS to encourage and facilitate participation. Examples include 1) encouraging the unification of the multiple messages transmitted by Members in an effort to reduce the number of such messages, thereby simplifying the encoding, transmission, and decoding processes; 2) further exploring the reasons for gaps in the transmission of SYNOP and monthly CLIMAT messages and formulating recommendations for actions to mitigate those causes.

Next steps:

Finalize a reworked version of this Action at AOPC-24.