

Meulen van der, Jitze (KNMI)

From: Meulen van der, Jitze (KNMI)
Sent: 19 February 2024 22:01
To: 'Balmelli, Simone'; 'Heikki Pohjola'; 'Dr. Gao Chen'; 'Timothy Lang'; 'Eric Bruning'
Cc: 'Joerg.Klausen@meteoswiss.ch'; amilan@wmo.int
Subject: TT-WIGOSMD Issue #391 lightning

Dear Lightning Experts involved with defining variables for the WMDS under the responsibility of WMO TT-WIGOSMD,

On the github site on issue #391 (1-01-01 Part 2, Lightning), [<https://github.com/wmo-im/wmds/issues/391>], new variables are defined w/r lightning (both for surface as space based observations). @joergklausen has asked me to give this action new momentum because it seems almost solved but not really finalized. Taking notice of all the comments, I have concluded that in fact the discussion is much broader and I can **split** this issue into the following activities:

1. **modification of the existing notations** 12001, 12002, 258, 259, 260, 432 and 433 and **replacement** of 257 by a new notation
2. introduction of **new, alternative notations**
3. introduction of new notations in line with **satellite based products** because the present notations are largely associated with surface based observations
4. **additional review** to be done for the **entire code library** related to lightning detection to generate a more complete or better structured set; may be a complete reorganization of all lightning associated notifications.

So, in order to speed up, **it may be better to finalized first activity no. 1** and than follow up with the others.

w/r 1:

For the current proposal (see on top), I think acceptance is straightforward at present. One suggestion is still open (see [comment](#) by @joergklausen: 432 (direction) and 433 (distance): *Suggestion to replace "lightning" by "lightning discharge", so that it is clear we are not speaking of lightning flashes.*

w/r 2:

mentioned in the [comment](#) by @deeplycloudy and @tjlang a new notation is suggested: *lightning flash extent density (FED)*. However the notations with *lightning (flash) density* are comparable and distinction between a new notation and the existing ones must be clear to avoid confusion.

w/r 3:

This would be a separate activity, dedicated to experts working on lightning observations by satellites. I recommend to take note of the new (2021) [Volume IV of the GIMO \(WMO-No. 8\)](#) on Space-based Observations and with paragraphs describing the technology to determine and observe lightning from space. For an excerpt from this Volume on lightning, see: [8 IV 2021 en\(Excerpt on Lightning\).pdf](#)

w/r 4:

A overall review of the entire code library is proposed. It will help to improve consistency, although such a review may result in a major revision of the present naming convention (flash, discharge, etc.). Although the WMDR codes should be technology free, most notations are linked to available observation techniques. So, this review will be quite a challenge and time consuming. For this activity I recommend to take note of the new version of the chapter on Lightning Detection in [GIMO, Volume III \(WMO-No. 8\)](#). The latest version is approved by EC-76 mid 2023, see: [8 III 6 en LCP.pdf](#)

So, I kindly request you and all contributors to give their comments on this proposal, see the entry on github on <https://github.com/wmo-im/wmds/issues/391>. Please also note new recent comments (e.g. by John Eyre).

If necessary, in case no consensus is found or clarifications are required, we can organize an on-line meeting which may help to finalize this issue #391.

Thank you in advance,
Jitze van der Meulen

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