

## **File Naming Structure for PSWS Data Files**

Rev 0.00 2020-04-28 by JCGibbons / N8OBJ

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The file naming structure was requested to be informative of its contents such that rudimentary sorting of the data files (and the information contained within) could be quickly assessed by the simple inspection of the filename itself. This proposal to define the naming structure that will be used for the PSWS project.

ALL collected data time stamping will be done in UTC time to avoid confusion with time zones. ALL dates and times are stated in UTC only. Imbedded filename dates are given in ISO UTC format only.

This document is intended to be a work in progress as only the entire group knows all aspects of this project and what the needs are for each aspect of the project.

## **Node DataBase Contents Definition**

The data for each collection node contains the following information:

1. Node number (N00000 – N99999)
2. City and State
3. Latitude, Longitude, Elevation
4. GridSquare (Maiden-Head Locator) AA00aa (full 6 digits)
5. Radio Make and Model
6. Antenna Description (Make and Model if commercial)
7. Magnetometer information
8. Temperature Sensor(s) information
9. Lightning Sensor information
10. ??? Sensor information

Data that needs a higher security level (Contact Info) to view but is included WRT the node

11. Contact Callsign
12. Contact Name
13. Contact Address
14. Contact Cell Phone
15. Misc Info

ALL Info will be all tied back to the node number as the central reference point in the database

## Low Cost PSWS Filename Structure

YYYY-MM-DD\_N12345\_AA00aa\_TYP\_MOD.csv

Filename will be constructed with the above sequence of info:

1. YYYY-MM-DD - ISO format of UTC day (date) for collected data in file (10 Chars)
2. N12345 – Node number assigned to this station (6 Chars)
3. AA00aa – 6 position GridSquare locator of station (6 Chars)
4. TYP – 3 character description of data (3 Chars)
  - FRQ = frequency data
  - TMP = Temperature data
  - MAG = Magnetometer data
  - LGT = Lightning strike data
5. MOD – A modifier field to further describe the TYP field. Variable length (0 to ?? Chars)  
MOD field starts after TYP field “\_” and is terminated by the . for the files extension .csv  
MOD identifies data type included in the file:
  - FRQ: WWV2p5, WWV5, WWV10, WWV15, WWV20, WWV25, CHU3, CHU7, CHU14
  - TMP: N/A
  - MAG: N/A
  - LGT: N/A
6. .csv – Descriptor of file format for data storage

Examples:

2020-05-03\_N00001\_AA00aa\_FRQ\_WWV2p5.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_WWV5.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_WWV10.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_WWV15.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_WWV20.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_WWV25.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_CHU3.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_CHU7.csv  
2020-05-03\_N00001\_AA00aa\_FRQ\_CHU14.csv  
2020-05-03\_N00001\_AA00aa\_TMP.csv  
2020-05-03\_N00001\_AA00aa\_MAG.csv  
2020-05-03\_N00001\_AA00aa\_LGT.csv

## **Initial Assignment of Node Numbers (and what they mean)**

- N00000 – Test Node - data contained is for testing Low Cost PSWS - not to be used in real DB
- N00001 – N00049 – Initial development/testing teams nodes for low cost PSWS. Data is valid
- N00050 – Test Node – data contained for testing of Tangerine PSWS - not to be used in real DB
- N00051 – N00099 – Initial development/testing teams nodes for Tangerine PSWS. Data is valid
- N01000 – N04999 – Normal user installed nodes for low cost PSWS installations
- N05000 – N09999 – Normal user installed nodes for High Performance PSWS installations

**Special significance will be given to N00000 and N00050 as test nodes** for coding and testing development by both development teams.

The database should be able to sort and view all aspects of these database fields from a database engine designed to do these inquiries. Security to see contact info needs to be controlled based on who is using the query engine.

## **File Structure used on Low Cost PSWS**

This is intended to be running on a Raspberry Pi running the Raspbian Linux Kernel.

This is the file structure currently in use on the Low Cost PSWS's presently (since July, 2019)

~ = user base for filesystem – which for user pi would translate to /home/pi

Since Windows may be part of the system, the use of . [period] or – [minus] in the filename is avoided.

From here:

- ~/WWVdata/ - directory where all PSWS day's data files for data processing are stored
- for user pi this becomes = /home/pi/WWVdata/

Subdirectories of ~/WWVdata are as follows

- /WWVPython - where all python code is located for data processing
- /temp - daily cron status file (and temp location for data processing)
- /WWV2p5 - processed data and plots for 2.5MHz WWV data
- /WWV5 - processed data and plots for 5MHz WWV data
- /WWV10 - processed data and plots for 10 MHz WWV data
- /WWV15 - processed data and plots for 15 MHz WWV data
- /WWV20 - processed data and plots for 20 MHz WWV data
- /WWV25 - processed data and plots for 25 MHz WWV data
- /CHU3 - processed data and plots for 3.330 MHz CHU data
- /CHU7 - processed data and plots for 7.850 MHz CHU data
- /CHU14 - processed data and plots for 14.670 MHz CHU data
- /MAG - processed data and plots for Magnetometer data
- /TMP - processed data and plots for Temperature Data
- /LGT - processed data and plots for Lightning Data