USE OF DATA SENSORS

Native file: DDMMYY.txt (http://149.139.16.93/test/dataDDMMYY.txt))
Original Excel file: DATA STRING.xlsx

Copy the Excel file in another directory, rename it " ". "DATA DDMMYY MODIFIED.xlsx ' and empty its contents keeping headers.

Open the DDMMYY.txt file. Select all of its contents and paste it into the first box of the file DATA DDMMYY MODIFIE.xlsx. In the DATA tab choose CONVERT then
→ → DELIMITED FILE TYPES ACCORDING TO
→ → → COMMA SEPARATORS ACCORDING TO
→ → STANDARD DATA FORMAT → FINISH

The data is now in the form of a table as it is advocated by its author.

TRANSFORMATIONS:

To make it more easily exploitable, the resulting Excel table must undergo some transformations:

- Empty **the content** of the columns A to F Inclusive,

Rename A sample number = headers
B = GPS data
C = place
UTC Date = D
E = hour UTC
F = local time

- Remove columns **J** , **L** , **N** .

  Click in cell A2 and give it a value of **1**
  Click in cell A3. In the formula bar type **A2 + 1**
  Extend the formula to the bottom of the column. (C liquer on the point at the bottom right of the cell and do slide downwards until the end of the column).

- Restore the string GPS:

  During the filling of the Excel file, the NMEA format GPS data are separate in different cells. Gold, so you can easily locate a sample, it is necessary to use the native format. The 'GPRMC DECODER"of the site application https://rl.se/gprmc allows geotag a sample on a very clear map. In addition, several decodes now provide the path of the sensor.
  Click in cell B2
  In the bar type formulas

= CONCATENATE (Q2; ","; R2; ","; S2; ","; T2; ","; U2; ","; V2; ","; W2; ","; X 2; ";" Y2; ","; Z2; ","; AA2; ","; AB2; ","; AC2;)

  Expand the formula down the column.

GPS channel is thus reconstituted into a single cell and in its native format.

- Complete column C manually after Geolocation.

- Complete column D (Date UTC):

Click in cell D2

In the formula bar type

= CONCATENATE (VALUE (GAUCHE(Z2;2));") / "; (STXT(Z2;3;2));" /";" 20 ";(DROITE(Z2;2)))

The Z2 column contains the date of the sample in the form DDMMYY. The previous formula can be a numeric value (in Excel format) by putting end to end the two characters on the left of the contents of the cell Z2, the character ' /', the two characters from the third of the contents of the Z2, the character cell ' /', '20' characters and the two characters on the right of the contents of the cell Z2.
Expand the formula down the column.

- Fill in column E (UTC time)

By default, GPS data refer to time universal (UTC). In the GPS string, time UTC is encoded HHMMSS.xxx. In the Excel table, these data are in the R column. To decode the value and put it in Excel format:

Click in cell E2

In the bar type formulas

= VALUE (CONCATENATE (GAUCHE(R2;2); ":";)) STXT(R2;3;2); ":"; MID (R2;5;2)))

Expand the formula down the column.

- Fill in column F (local time)

Click in cell E2

In the bar type formulas

= VALUE (CONCATENATE ((VALUE (GAUCHE(R2;2))+3); ":";)))) STXT(R2;3;2); ":"; STXT(R2;5;2))))

↑

The difference between UTC and local time can be determined from the location data. Then to adjust its value in the above formula. Here, the value is +3 , which matches samples of Bulgaria.

- Check the format of the data

A number of sample number column

B data GPS Standard column or text

C place Standard column or text

Column D Date Date

Column E time UTC time

Column F hour local time
Column G to P data sensor number or standard
Columns Q-channel GPS (NMEA) Standard AC

- Merge cells to AC1 Q1 for more consistency. One can possibly hide columns Q to AC but it do not delete them!