

# Formatting Imported Files

*In this tutorial, we will show you how to format your template files.*

## Formatting Data Sets

In many cases, the data sets that you find on the web will need to be reformatted before they can be uploaded to iSENSE. For this reason, it is a good idea to pull your data into a spreadsheet program so that you can inspect and reformat the data before uploading. When formatting data for iSENSE, your objective is to create a single table, whose rows contain only text, time, location, or numerical data. The table's first row must contain text headings for each column, and these headings must correspond to the fields contained in your iSENSE project. If the column headings do not match the field names, you will be prompted to match the column headings to the field names when you upload the file.

### **Example**

Here's an example. Consider this table of data, which shows the numbers of two fish species caught in three consecutive years. The formatting of this table makes it easy for us to see that the catch of both salmon and tuna increased over the three-year period, and that, in each year from 2010 to 2012, the salmon catch exceeded the tuna catch. The righthand column and bottom row also conveniently tabulate the total catch for each species and for each year, respectively. Although the layout of this table seems sensible, it presents problems for iSENSE. Of the three types of data contained in the table, only one data type (Species) has a column header. The Catch and Year data are spread across multiple columns. Moreover, the inclusion of Total values may be unnecessary, since the iSENSE visualization tools can calculate these totals automatically. To upload this data set to iSENSE, the table would have to be reformatted to have each type of data formatted such that an appropriate header can be used for that column, as shown here. In this version, each data type is contained in a single column, with a column heading labeling the data type. Each row contains only one text, time, or numeric data item per column. The cells presenting totals for the three years and two species have been eliminated.

## Formatting Fields

In addition to reformatting tables, it may be necessary to reformat the data contained within the cells of your data table. This will ensure that that data are properly read by iSENSE.

### **Field Type: Timestamp**

Cells containing timestamp data should be formatted using this format:

YYYY-MM-DD hh:mm:ss.sss [AM/PM] [Timezone]

Within the date section, you could use an underscore, hyphen, backslash, or forward slash to separate the year, month, and date.

## ***NOTE: Formatting Dates in Excel***

**In order to get iSENSE to read dates and times correctly, you must format the data in your spreadsheet's timestamp field a specific way.**

**If you simply want the year, no special formatting is needed; the timestamp field may contact a 4-digit year.**

**If you want year, month, and day, it's necessary to format as YYYY/MM/DD.**

**You can specify this format in Google Sheets by going to Format > Number > Custom Number Format... and then entering "yyyy"/"mm"/"dd".**

**If you need hours, minutes, and seconds in addition to the year/month/date, use this format string: "yyyy"/"mm"/"dd" "hh":"mm":"ss".**

**Microsoft Excel has a similar capability. Use the custom format option and enter: yyyy/mm/dd hh:mm:ss.**

Including the time is optional, so dates alone will work. You don't need to specify numbers as small seconds, just minutes or even hours will do.

Including AM or PM is also optional. If left out, it will assume to use a 24-hour time format.

Including the Timezone is also optional. To specify a Timezone, the following format should be used:

+HHMM

This signals a difference of HH hours and MM minutes from Greenwich Meridian Time.

### ***Field Type: Location***

In order to be displayed on the iSENSE map visualization, location data must be expressed as Latitude and Longitude values, each in a separate column. The Latitude and Longitude values should be formatted in units of degrees only. North Latitudes and

East Longitudes should be expressed as positive values, and South Latitudes and West Longitudes should be expressed as negative values. If a data set contains street addresses or city/country pairs, the Latitude and Longitude values can be found by searching for these locations in Google Maps. Once the location has been found, simply right-click on the location on the map and select the “What’s here?” option. Note that categorization of locations by geographic region, such as countries and states, can be accomplished using text fields. Location data in this format will not support mapping, but can be used to group data in other visualization modes, such as the Bar and Scatter charts. For this reason, it may be useful to include these as text fields, even if you also include Latitude and Longitude data.

***Field Type: Number***

Numerical data is easy to import into iSENSE. When inspecting your data in a spreadsheet, it’s a good idea to check to make sure that numerical values are actually formatted as numbers and not text. Make sure not to include any commas in your numbers such as this example here. There may not be any commas in any of the cells in your final spreadsheet.

***Field Type: Text***

Text data also import easily into iSENSE. However, please don’t use commas, slashes, ampersands, or dollar signs.

- ❖ **Commas (,)**
- ❖ **Slashes (/ and \)**
- ❖ **Ampersands (&)**
- ❖ **Currency Signs (\$)**