

Transferring data from decimal degrees to degrees, minutes and seconds

Version: 1

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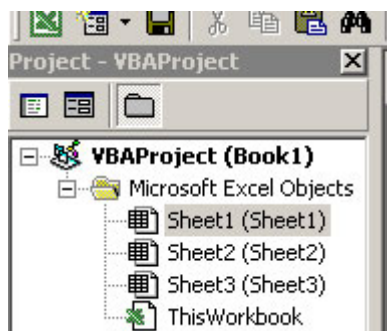
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Sometimes you got geographic coordinates, which are in decimal degrees (DD) instead of degrees, minutes and seconds (DMS). You have to transfer it before using them.

1. Open Excel

Import the Data

2. Open the Visual Basic Editor (Alt + F11) and double-click on the working sheet



3. You can find the code and a description at <http://support.microsoft.com/default.aspx?scid=kb;en-us;121944> or in the word file DD_DMS. The location of the file is G:/Geodatabases/docs/wordfiles
4. Import the code by copy and paste

```

(General) Convert_Decimal
Function Convert_Degree(Decimal_Deg) As Variant
  With Application
    'Set degree to Integer of Argument Passed
    degrees = Int(Decimal_Deg)
    'Set minutes to 60 times the number to the right
    'of the decimal for the variable Decimal_Deg
    minutes = (Decimal_Deg - degrees) * 60
    'Set seconds to 60 times the number to the right of the
    'decimal for the variable Minute
    seconds = Format((minutes - Int(minutes)) * 60, "0")
    'Returns the Result of degree conversion
    '(for example, 10.46 = 10~ 27 ' 36")
    Convert_Degree = " " & degrees & "° " & Int(minutes) & "' " & _
    & seconds + Chr(34)
  End With
End Function

Function Convert_Decimal(Degree_Deg As String) As Double
  ' Declare the variables to be double precision floating-point.
  Dim degrees As Double
  Dim minutes As Double
  Dim seconds As Double
  ' Set degree to value before "°" of Argument Passed.
  degrees = Val(Left(Degree_Deg, InStr(1, Degree_Deg, "°") - 1))
  ' Set minutes to the value between the "°" and the "'"
  ' of the text string for the variable Degree_Deg divided by
  ' 60. The Val function converts the text string to a number.
  minutes = Val(Mid(Degree_Deg, InStr(1, Degree_Deg, "°") + 2, _
    InStr(1, Degree_Deg, "'") - InStr(1, Degree_Deg, _
    "°") - 2)) / 60
  ' Set seconds to the number to the right of "'" that is
  ' converted to a value and then divided by 3600.
  seconds = Val(Mid(Degree_Deg, InStr(1, Degree_Deg, "'") + _
    2, Len(Degree_Deg) - InStr(1, Degree_Deg, "'") - 2)) _
    / 3600
  Convert_Decimal = degrees + minutes + seconds
End Function

```

5. To use this function, create a conversion formula like this:

=Convert_Degree(10.46)

This formula will return 10~ 27' 36" (that is, 10 degrees, 27 minutes, 36 seconds).

=Convert_Degree("10~ 27' 36'")

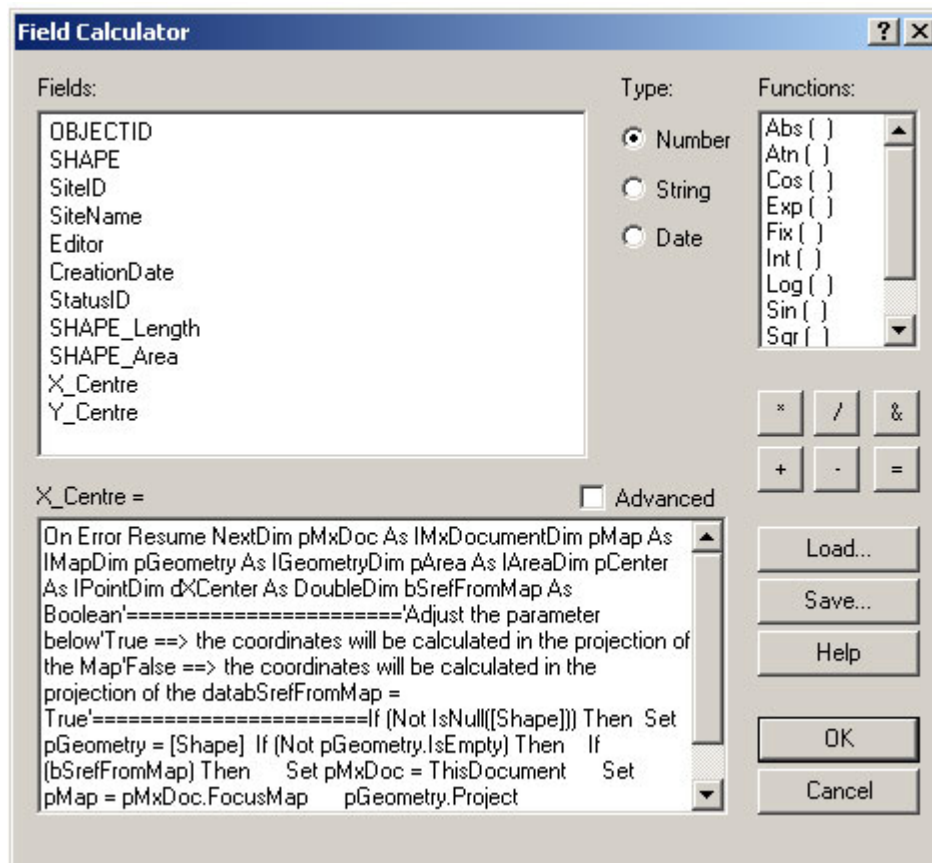
This formula will return 10.46 (that is, 10.46 degrees).

6. For converting geographic coordinates to the New Zealand map grid you need coordinates in Degree, Minutes and Seconds

Working with the Field Calculator in ArcGIS

Every restoration area got a centre point. You can calculate this centre point from the area.

1. First you have to calculate the X-, than the Y-Coordinates of the centre point
2. Starting Editing
3. Open the Attribute Table
4. Create a new column. Right-Click on the column name you will calculate and choose *calculate*
5. Copy the code to the code box.
You can find the codes in the word file *Get_Centre_of_a_Polygon*.
The location of the file is G:/Geodatabases/docs/wordfiles



6. You can find a description and other calculations at <http://www.ian-ko.com/>. Go to Free ArcGIS tools and download Easy Calculate 5.0.

You can find it also in
Software/ESRI/Extensions/ET/EasyCalculate50 in the Repository-
Folder. There is also a help file which explain the calculations