Exercise 4 - Manually Calculating UTM Coordinates

Session Objectives - At the conclusion of this session you will be able to:

- ❑ Use a UTM Grid Reader to manually calculate Easting and Northing coordinates from a USGS topological map.
- ❑ Create a new waypoint and manually edit the coordinates in a Garmin Map 76CSx GPS unit.

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SECTION 1 – How to Calculate UTM Coordinates from a Topological Map

Use the UTM Grid Reader to calculate the coordinates for the Mt. Wesley Church from the USGS topological map. We'll do this together as a classroom exercise.

1. Enter the UTM coordinate of the Mt. Wesley Church.

   _____ Easting (X)

   _____ Northing (Y)

2. What is the Datum and Projection_____?

   Where do you look for this information?_____?

SECTION 2 – Manually Entering Coordinates into the Garmin Map76CSx

TASK 1 - Changing Garmin GPS Settings

Since the datum is different than what we have been using in the field, you will first need change settings in the GPS unit to ensure that the new coordinates you are about to enter match those on the topological map.

1. Turn on your Garmin GPS unit and wait until the **Satellite Page** appears.

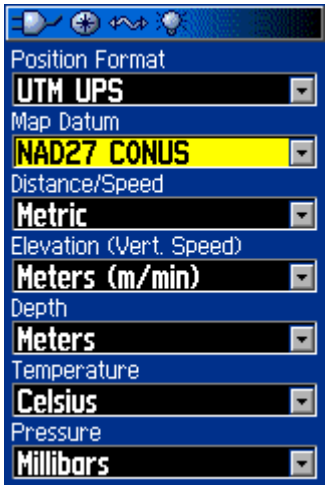
2. To view the setup parameters press the **MENU** button twice. The **Main Menu Page** will appear.

3. Select the **Setup** icon and press **ENTER**.

4. Next, select the **Units** icon and press **ENTER**.

5. Change the **Position Format** (i.e. coordinate system) and **Map Datum** fields to what is shown to the right. Use your **ROCKER** keypad to select and highlight the field you need to change. Press the **ENTER** button once on highlighted field to view an extensive list of coordinate systems or datums. Use the **ROCKER** keypad again to scroll through the list. Once you find the new coordinate system or datum from the list, press the **ENTER** button to accept the change.

6. Hit the **PAGE** or **QUIT** button to exit out of the Units page and save your changes.



TASK 2 – Creating and Editing a New Waypoint

1. Create a new waypoint by firmly pressing down and holding the **ENTER/MARK** button for about 1 second, then release. The **Mark Waypoint page** will appear.

2. Use the **ROCKER** keypad to highlight the **Location** field and press **ENTER**. A numeric keypad will appear.

3. With the right arrow key highlighted, press the **ENTER** button to scroll through each coordinate value until you highlight the first value you wish to change.

4. Use the **ROCKER** to select the number you want on the numeric keypad, press **ENTER** to add the number to the coordinate in the **Location** field.

5. Enter the UTM coordinate of the Mt. Wesley Church. When finished, select OK on the keypad and press **ENTER**.

6. Press the **PAGE** or **QUIT** button to accept the coordinate changes and exit the **Waypoint** page.

7. Use the **PAGE** button to scroll to the **Map Page** and view the location of the Mt. Wesley Church.