Gathering Data to include Coriolis Effect on your card:

Coriolis Effect is often ignored unless ranges will exceed 800-1000 yards. Coriolis includes both a vertical and a horizontal component, each can be easily included in your correction using the Dope Disc. The magnitude of Coriolis is affected by the latitude of the earth the shot is fired. Make sure to use a valid latitude in your ballistics program when gathering data.

The horizontal component is easy for northern hemisphere shooters. Unlike the vertical component, its magnitude does not change with azimuth (direction of fire as it relates to a compass). It is a right hand drift so it can be lumped together in one column with spin drift on your card. Turn on both Coriolis and spin drift in your ballistics program when gathering this data for your card. Most ballistics programs will show this value in the windage column with the wind set to 0 or turned off. Gather this value for each range on your card.

The vertical component of Coriolis is affected by azimuth and angle of fire. You will need a set of elevation corrections at each range for all firing angles on your card gathered with Coriolis turned off. This is the base elevation correction.

You will also need the value of Coriolis by itself for each range on your card. To find the value of Coriolis, run the program with Coriolis turned on with the azimuth set to 90 (directly East) for a 0 degree angle of fire and gather the elevation correction for each range. Subtract the elevation corrections that include Coriolis from the base elevation correction at a 0 degree angle of fire for every range on your card.

For the Coriolis column for all the other firing angles on your card, we can simply multiply the Coriolis correction for each range that we gathered for a 0 degree angle of fire by the following:

15 degrees: 0.96  40 degrees: 0.77
20 degrees: 0.94  45 degrees: 0.71
25 degrees: 0.90  50 degrees: 0.64
30 degrees: 0.87  55 degrees: 0.57
35 degrees: 0.82  60 degrees: 0.50

Unlike base elevations, the difference in Coriolis between uphill and downhill angles of fire is small. Including only the Coriolis value on your card for the positive angle of fire and using it for both uphill and downhill shots will provide accurate solutions. Firing angles less than 15 degrees will use the same Coriolis value as a 0 degree angle of fire. There is a card template for shooters who want to apply Coriolis on www.dopedisc.com as an example.

A note on Latitude:

A precise latitude is not necessary for your solutions to be within the practical limits of the accuracy of your rifle. Traveling 5 degrees of latitude North or South of the latitude your data was gathered at produces only a small error in correcting for Coriolis. This is equal to approximately 345 miles. Most shooters will not notice error in Coriolis values unless moving more than 10 degrees of latitude North or South from the latitude their data was gathered for. Setting your latitude to 40 degrees will provide usable Coriolis corrections when shooting over most of the continental U.S. within the limits of most rifles.

Using the Dope Disc to apply Coriolis to your elevation corrections:

Use the Direction side of the Dope Disc to solve for Coriolis. The procedure will work much like it does when solving for windage solution.
1. Calibrate the disc to the data on your card
   A. Using the "Full" scale, turn the disc so that the indicator line falls on the Coriolis value from the column on your card at the chosen firing angle and range.
2. Find the Coriolis value for your chosen azimuth
   A. Orient the "T" on the clock diagram toward North. The center hub of the disc represents the position of the shooter. Choose the factor that matches azimuth (direction the bullet will be fired). B. Read the value on the scale that corresponds to the chosen factor. This is the Coriolis value at your chosen azimuth.
3. Add or Subtract Coriolis to your base elevation
   A. For shots on the Eastern half of the compass subtract this value from the base elevation correction for the chosen firing angle and range from your card. For shots on the Western half of the compass it should be added. The result is the new total elevation correction. Be sure to download the reference sheet from www.dopedisc.com to add to your notes.