This compilation provides updates and corrections to the ArcGIS Pro Lab Manual pdf that is available at the Waveland Press website.

The following labs have entries in this document:

Lab 4

Lab 6

Lab 8

Lab 9

Lab 10

The YouTube videos that summarize the 12 exercises in the lab manual include these updates and corrections.

The updates and corrections .pdf shown in this YouTube video "*ArcGIS Pro Lab_Manual_v2.pdf*" is available at:

http://www.ellis-geospatial.com/home/arcgispromanualupdates.html

Lab 4

Page 8, *modify* the Attribute list under "Points" and the **Type** field
   Delete "Text" entry (under "Ticket Box")

Lab 6

Page 2, *Insert* new section for student to sequentially look at the highly redundant, six Landsat bands as grayscale images prior to looking at the six PC grayscale images generated later in the lab.

   Delete lines 11 – 17
   ~~*Right-click* on the 6-band Landsat layer > Symbology menu~~
   ~~*Change* the Red-Green-Blue to Bands 3-2-1~~

   ~~*Click-on* the Stretch Type drop-down menu > select "Percent Clip"~~
   ~~An enhanced natural color Landsat image should appear in the View~~
   ~~*Save* your project~~

   Insert new text as shown below:
   "Let's evaluate the six Landsat bands as grayscale images.
   Right-click on the 6-band Landsat layer > Symbology menu
      Change from "RGB" to "Stretch"
      Select "Band_1" to view the band generated by reflected blue light.
      Click-on the <u>Stretch Type</u> drop-down menu > select "Percent Clip"

   Sequentially *load* and *evaluate* bands 2, 3, 4, 5, and 6 (green, red, NIR and two SWIR bands).

   Are the six bands highly redundant (display similar brightness patterns)?
   What band is the most different?
   Appreciate that informative color composites can be generated from any three of these six grayscale images – as demonstrated in Lab 3.

   In the Symbology menu,
      Change from "Stretch" to "RGB"
      Change the Red-Green-Blue to bands 3-2-1"
      The <u>Stretch Type</u> should remain "Percent Clip"
      An enhanced natural color Landsat image should appear in the View

   Save your project"

Lab 8

Page 7, 8th sentence, 2nd line:
   Change "5000" to "6051"

Page 18, **5) DSM:**
   Add after "*Swipe* the DSM…" sentence
      "Hillshade the DSM as explained on page 7. Use the Geoprocessing menu to create a permanent hillshade image. Hillshade with illumination azimuth = 315 with illumination elevation above horizon = 25.

      Fade the hillshade image on the color-coded DSM with 50% transparency."

Page 19, **6) DTM:**
   Add after "*Color-code* the DTM…" sentence
      "Hillshade the DTM as explained on page 7. Use the Geoprocessing menu to create a permanent hillshade image. Hillshade with illumination azimuth = 315 with illumination elevation above horizon = 25.

      Fade the hillshade image on the color-coded DTM with 50% transparency."

   Add the hillshade images to the list after "*Arrange* the checked layers….:"
      Faded DTM hillshade
      Color-coded DTM
      Faded DSM hillshade
      Color-coded DSM
      Color Aerial image

   Add after the "*Swipe* or *flicker* between the DTM, DSM, and aerial image."
      "You can save the faded hillshade DTM image over the color-coded DTM as one GeoTiff image by filling the Map view with the image (to eliminate extraneous background and surround pixels) and *clicking on* the **Share** tab > *Export* Map > choose File type as "TIFF" with TIFF Settings "Write world file" and Write GeoTIFF tags" *checked* > Export

      The same process can be used to combine the two DSM layers.

      The combined GeoTIFF images will be easier to understand as you *swipe* and *flicker* the DTM, DSM, and aerial image. In addition, you can load the color-coded/hillshade GeoTIFF DSM and DTM into other GIS, image-processing, GoogleEarth and ArcGIS Earth systems for further analysis and integration."

Lab 9

Page 1, second paragraph from bottom of page.

Change the second sentence as follows:

"This is not appropriate for our dataset, so we'll ~~use the Geoprocessing menu's unsupervised classification method that we used in Lab 4.~~ develop our own schema."

Page 3, *Change* the process from Band Combination > Custom to Symbology > Stretch.

~~We will use the "Band Combination>Custom" tool to *display* and *name* three bands.~~

We will use the Symbology "Stretch" function to display the grayscale bands 4, 5, and 6.
Highlight the 6-band Landsat data in the Contents list.

~~*Display* the NIR band 4 (Appearance tab > Band Combination > Custom~~
~~   *select* bands Band 4 - Band 4 - Band 4 as R-G-B channels > Name "NIR"~~

In the Symbology menu *select* "Stretch" and "Band_4" (the NIR band) and the Stretch type as "Percent Clip"

Question 1: Do the glaciers and snow have bright tones in the NIR band?
            YES   NO
~~*Display* the Landsat SWIR1 band 5~~
~~   *select* bands Band 5 - Band 5 - Band 5 as R-G-B channels > Name "SWIR1"~~

In the Symbology menu *select* "Band_5" (the SWIR1 band) (the Stretch type will remain "Percent Clip")

Question 2: Do the glaciers and snow have bright tones in the SWIR1 band?
            YES   NO

~~*Display* the Landsat SWIR2 band 7 (in ArcGIS this is band "6")~~
~~   *select* bands Band 6 - Band 6 - Band 6 as R-G-B channels > Name "SWIR2"~~

In the Symbology menu *select* "Band_6" (the SWIR2 band) (the Stretch type will remain "Percent Clip")

Question 3: Do the glaciers and snow have bright tones in the SWIR2 band?
            YES   NO

Page 4, **1) Unsupervised Classification**

Delete the statement in parenthesis that follows the heading above:

~~(We used the Geoprocessing unsupervised classification algorithm in Lab 4).~~

Page 9,   *Replace* the **NOTE:** at the bottom of the page as follows:

~~**NOTE:** ArcGIS Pro automatically calculates the perimeter around each polygon and the area within each polygon ("Shape area") when generating the new shapefile from the raster thematic map (see table above). ArcGIS Desktop did not automatically generate two new Fields for perimeter and area with values in the cells when this lab was done.~~

NOTE: ArcGIS Pro automatically calculated the perimeter around each polygon and the area within each polygon ("Shape area") *the first time* the author generated a shapefile from a raster thematic map (see table on page 8 above). However, subsequent "raster to polygon" applications did not generate these two fields. The author does not know why these fields were generated the first time – and why they are no longer being generated - as he continues to use ArcGIS Pro's "raster to polygon" application. ArcGIS Desktop did not automatically generate two new Fields for perimeter and area with values in the cells when this lab was done.

Lab 10
Page 20, Insert new text after the Table graphic at bottom of page and the line "Save the edits….Pro's ribbon."

"After this lab exercise was completed, ArcGIS Pro would not allow the author to add a new field to a classification attribute table that contained the eight categories. An **Error** message would appear (Error 000464: Cannot get exclusive schema lock. Either being edited or in use by another application or service…."). Students or instructors may encounter the same problem. The author has no idea why this glitch was - and continues to be - encountered.

You will be unable to use the "Calculate Field" tool and write a Python expression to answer Question 9 because you cannot create a new field. However, you could use a simple calculator calculate the area and answer Question 9…"