Annotation Procedure

Software: GIMP 2.10

Image preparation (`code/data_preparation/extract.ipynb`)

-   Clip TIR temperature range to 273 - 276 Kelvin to increase contrast
-   Use matplotlib's 'cividis' colormap for better visibility

Edge map preparation

(`code/data_preparation/edge_detection_annotation.ipynb`)

-   Resize image to 2345 x 3210 for better visibility
-   Show different thresholding methods from skimage applied to the image and select the best by manual inspection (in our case mostly 'mean' and 'otsu')
-   Binarize the image using the selected filter
-   Apply Scharr operator from skimage and convert all non-zero values in the image to 255 to create a clearer mask

Annotation

-   Load the image into GIMP
-   Add mask as extra layer
-   Make edge map background transparent with Colors > Color to Alpha
-   Manually correct edges with pencil and eraser tool and fill object with class-specific color (black - melt pond, gray - sea ice, white - ocean)
-   Export mask as PNG file