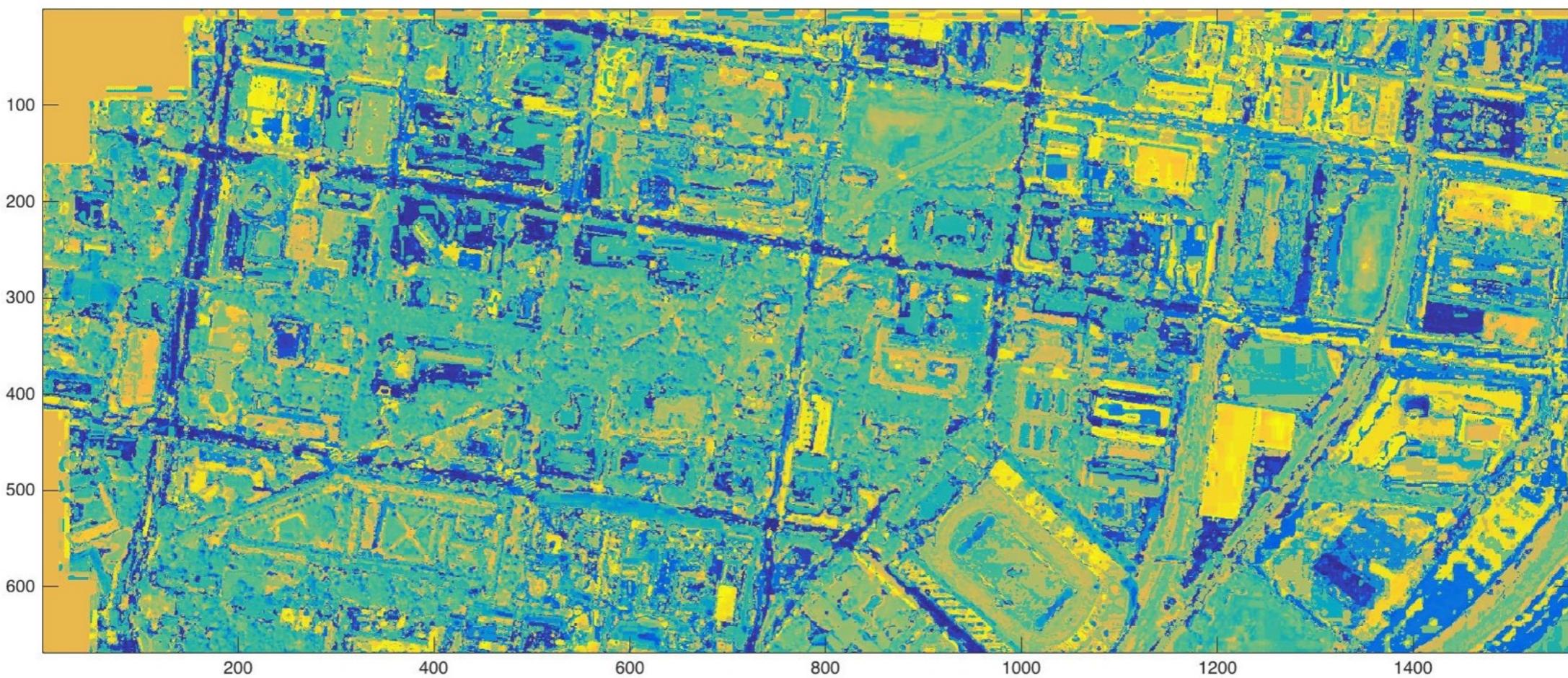


MAX LU 04/05/2016

PATH PLANNING WITH IMITATION LEARNING

LEARNING

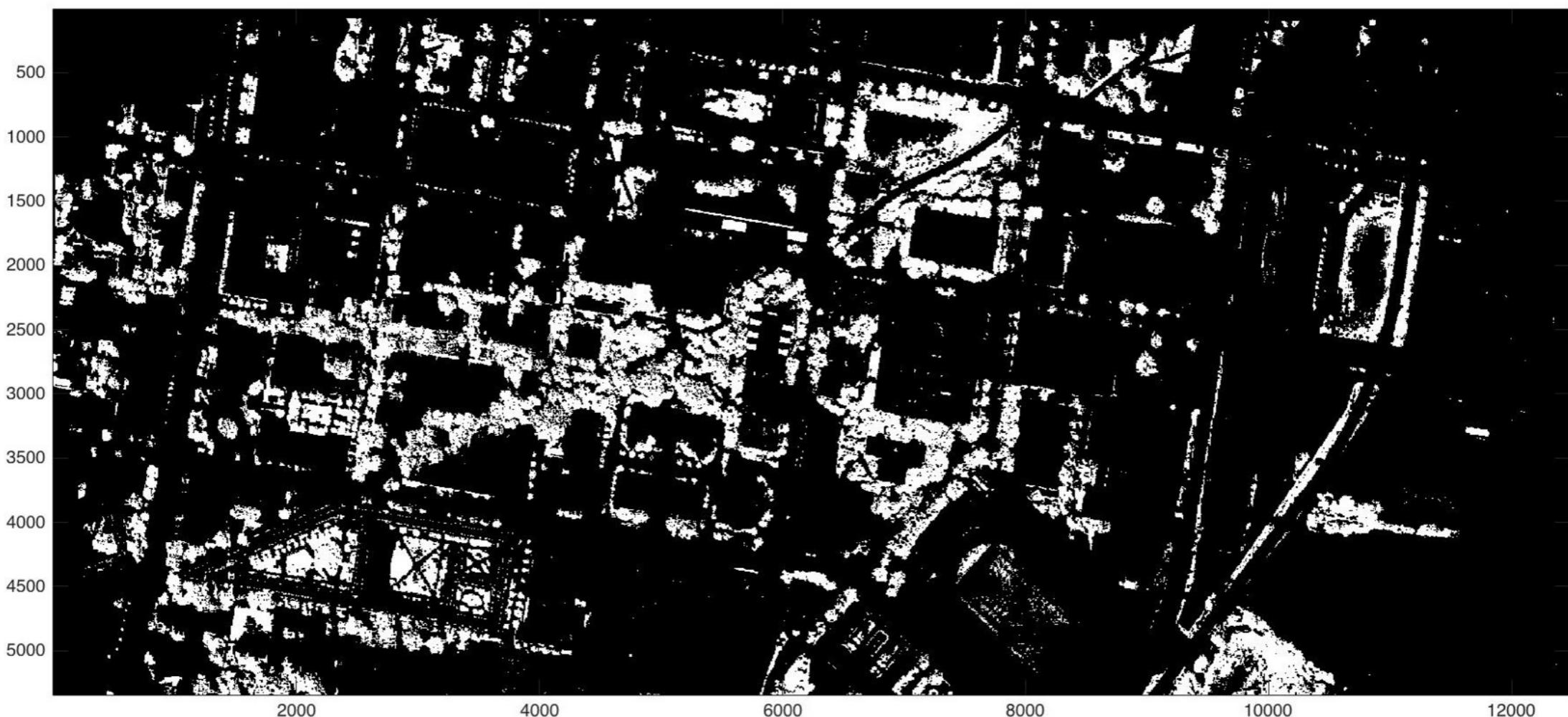


FEATURES!!!

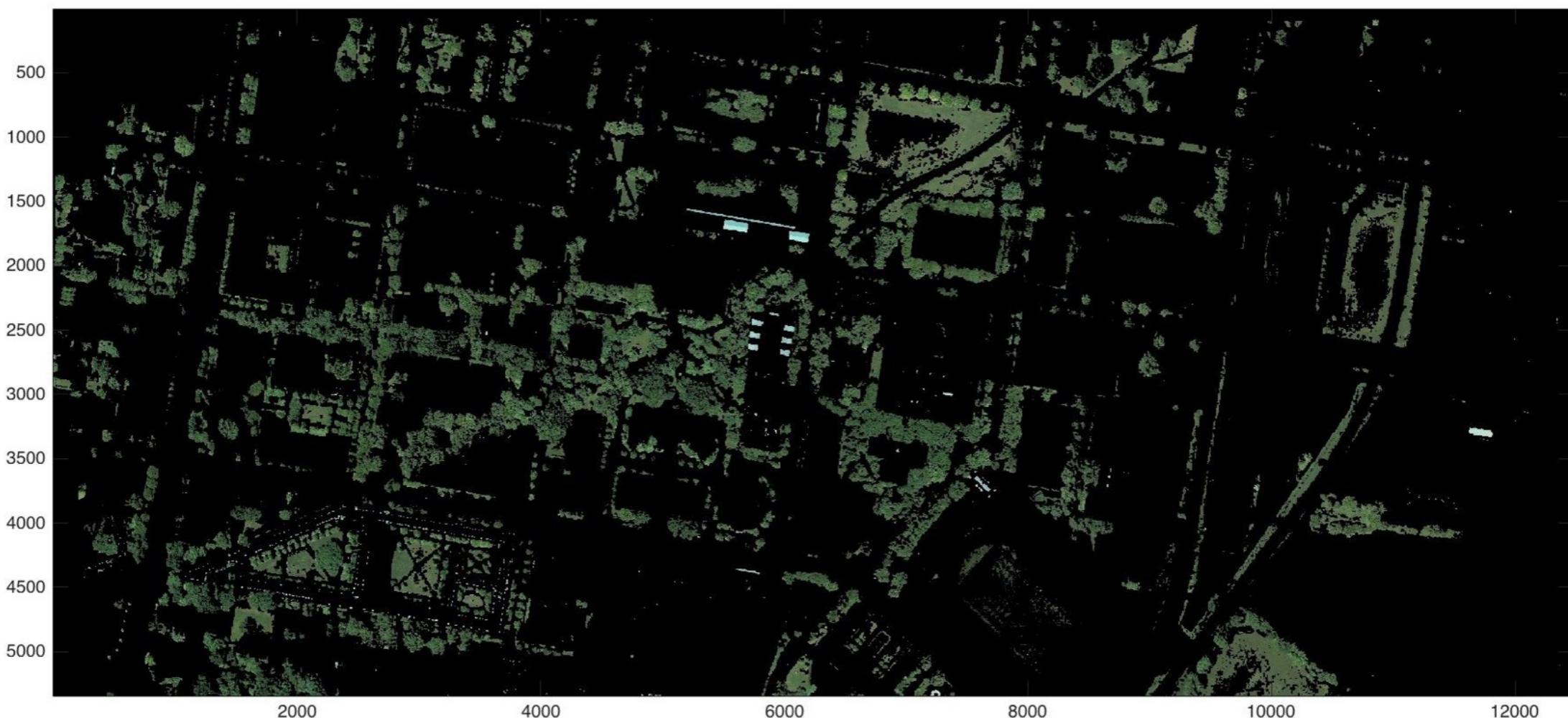
IMAGE PROCESSING

- ▶ 1/8 down sampling
- ▶ L*A*B/YCBCR/HSV Colorsaces
- ▶ medfilt2()
- ▶ imdilate() / imerode()
- ▶ Thresholding
- ▶ GMM pixels classification

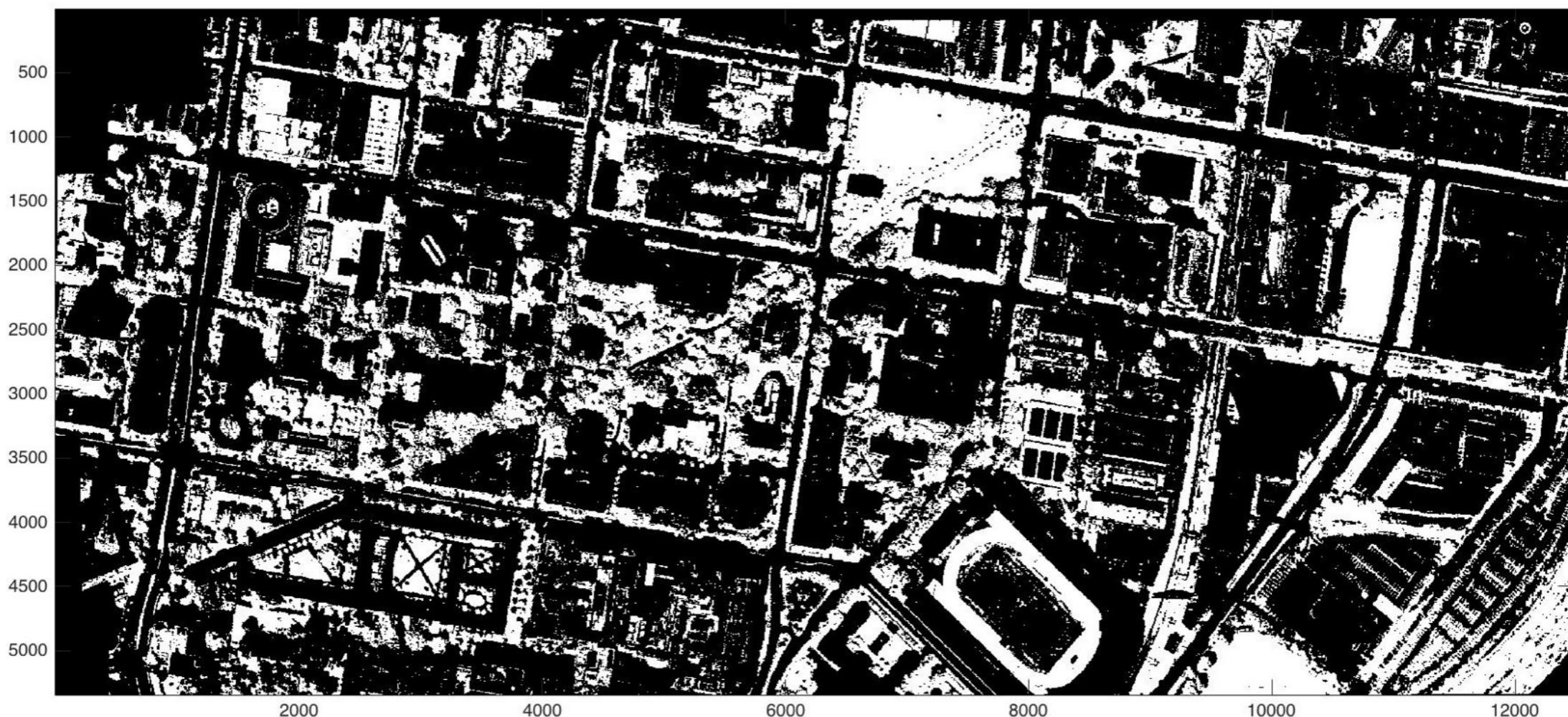
GREENS (L*A*B CHANNEL 2)



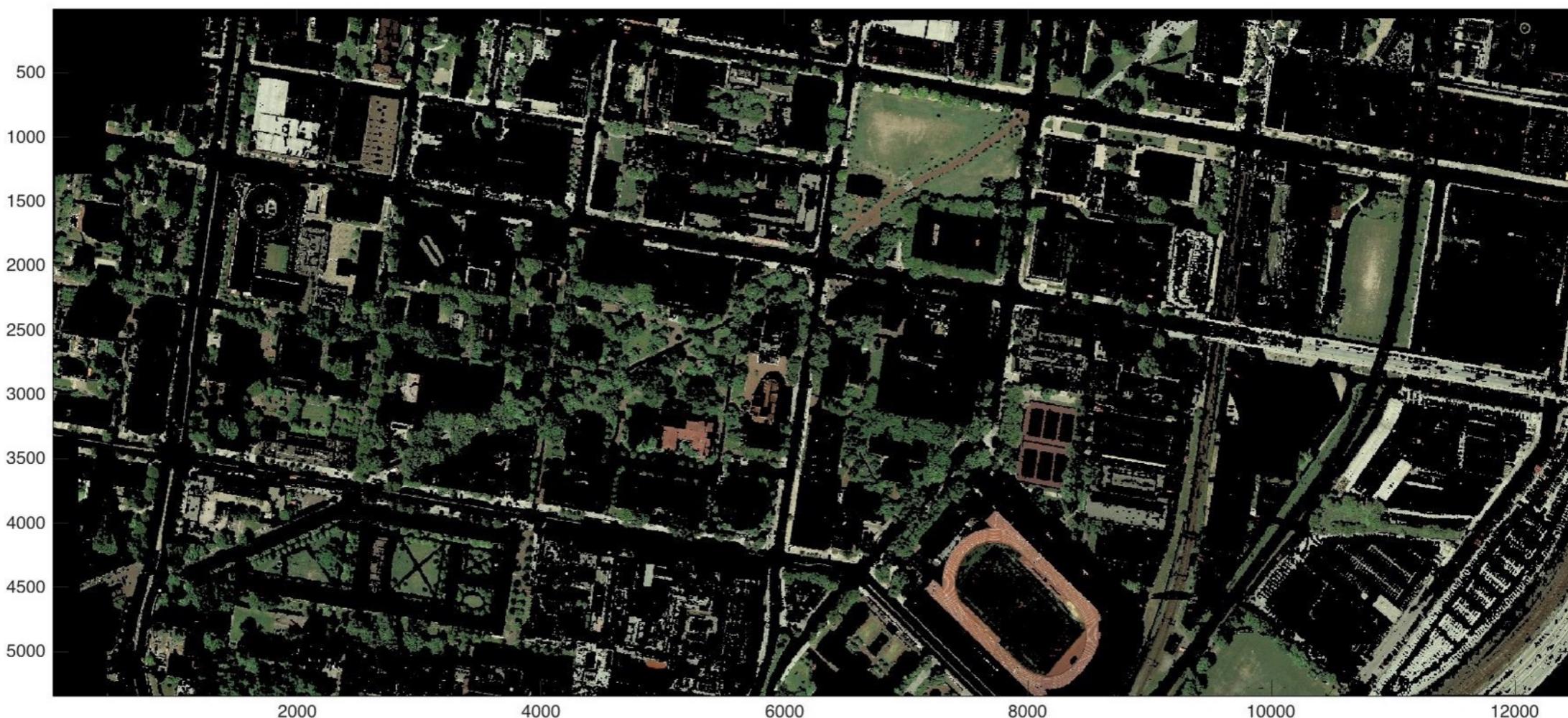
GREENS (L*A*B CHANNEL 2)



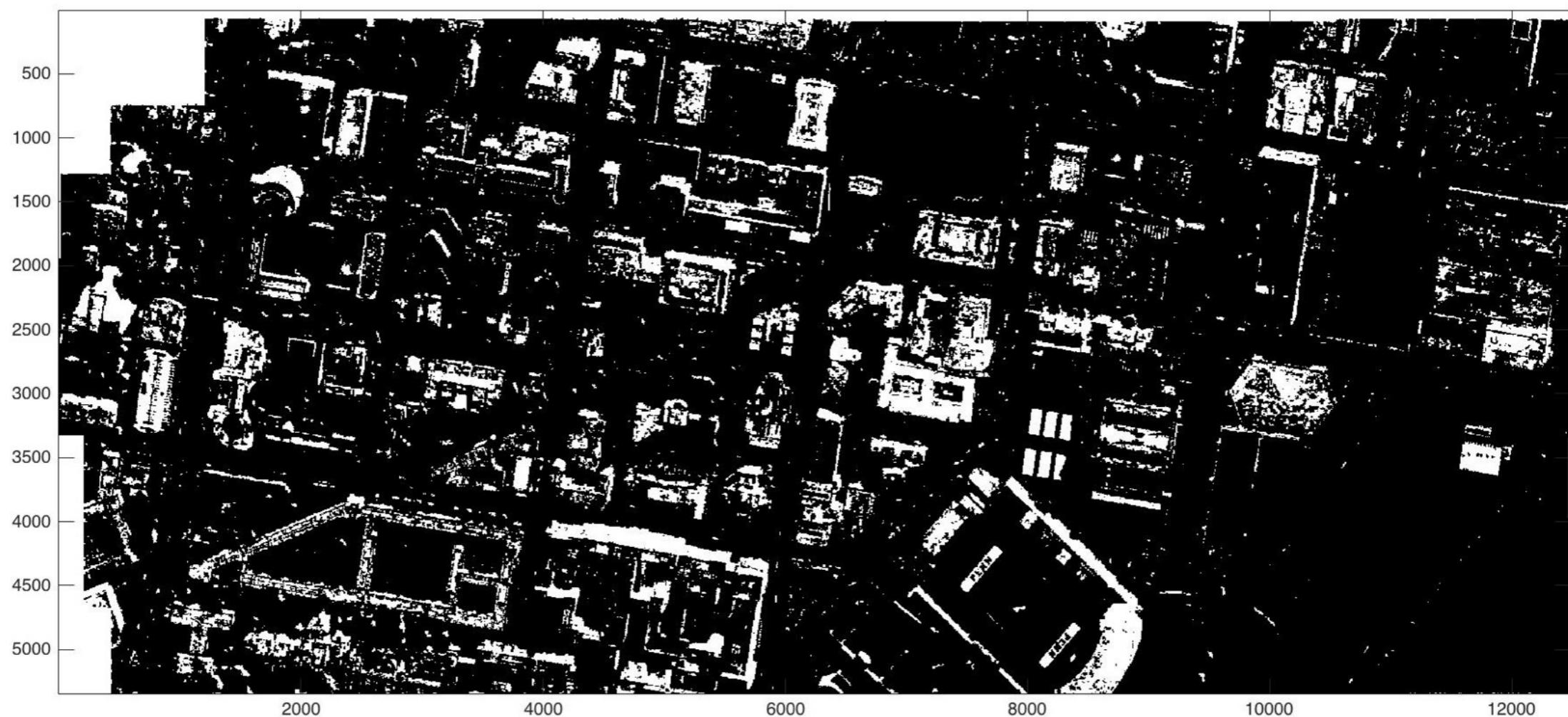
GREENS (YCBCR CHANNEL 2)



GREENS (YCBCR CHANNEL 2)



ROOF TOPS (YCB-CR2)



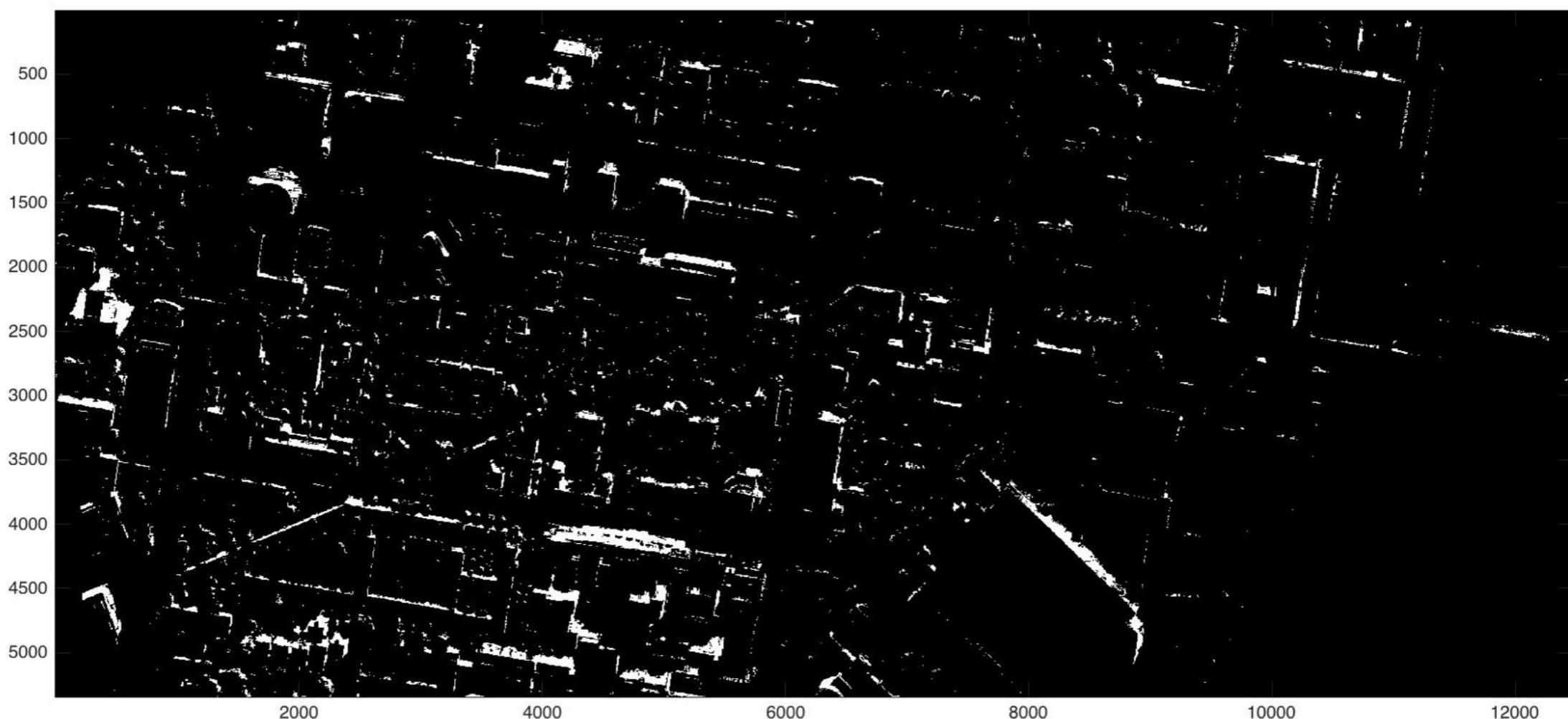
ROOF TOPS (HSV1)



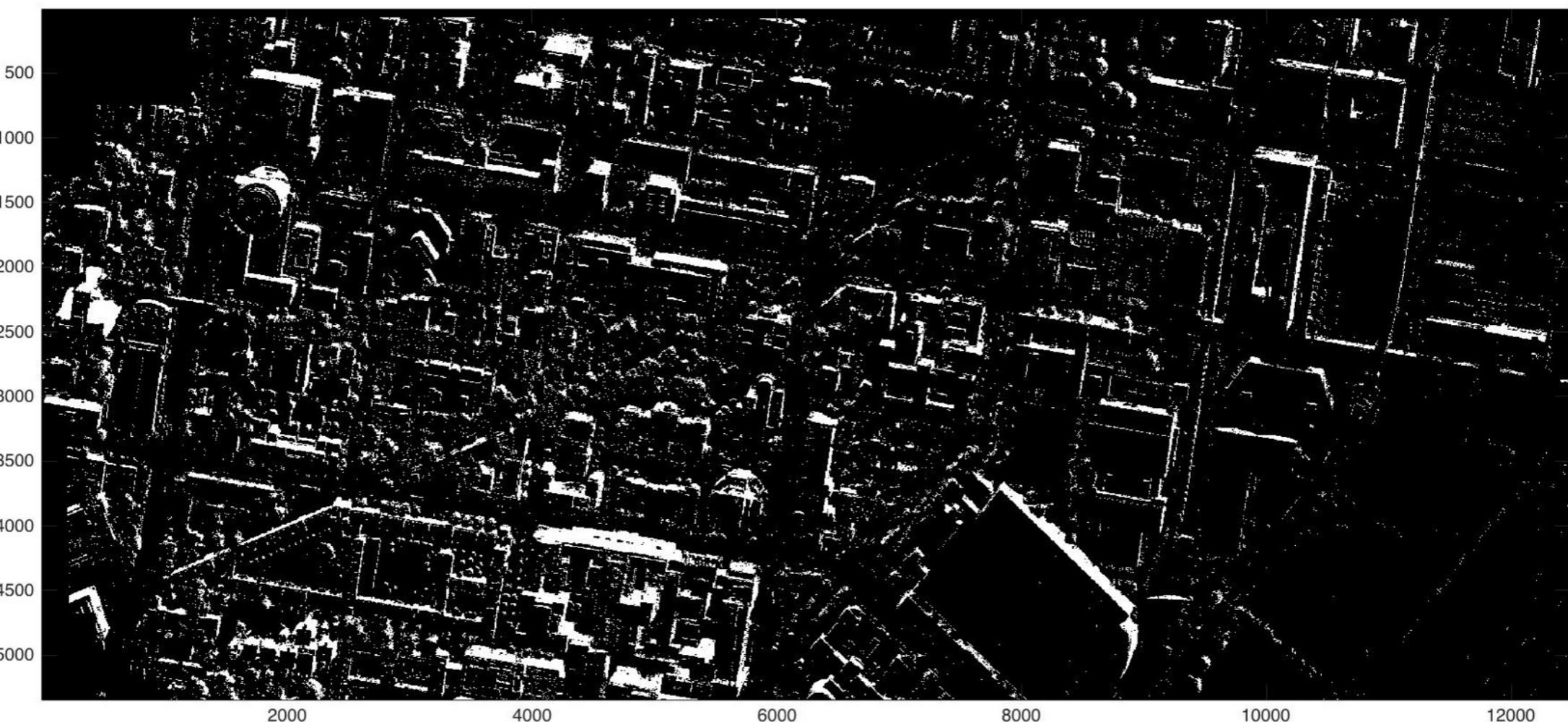
ROOF TOPS (L*A*B3)



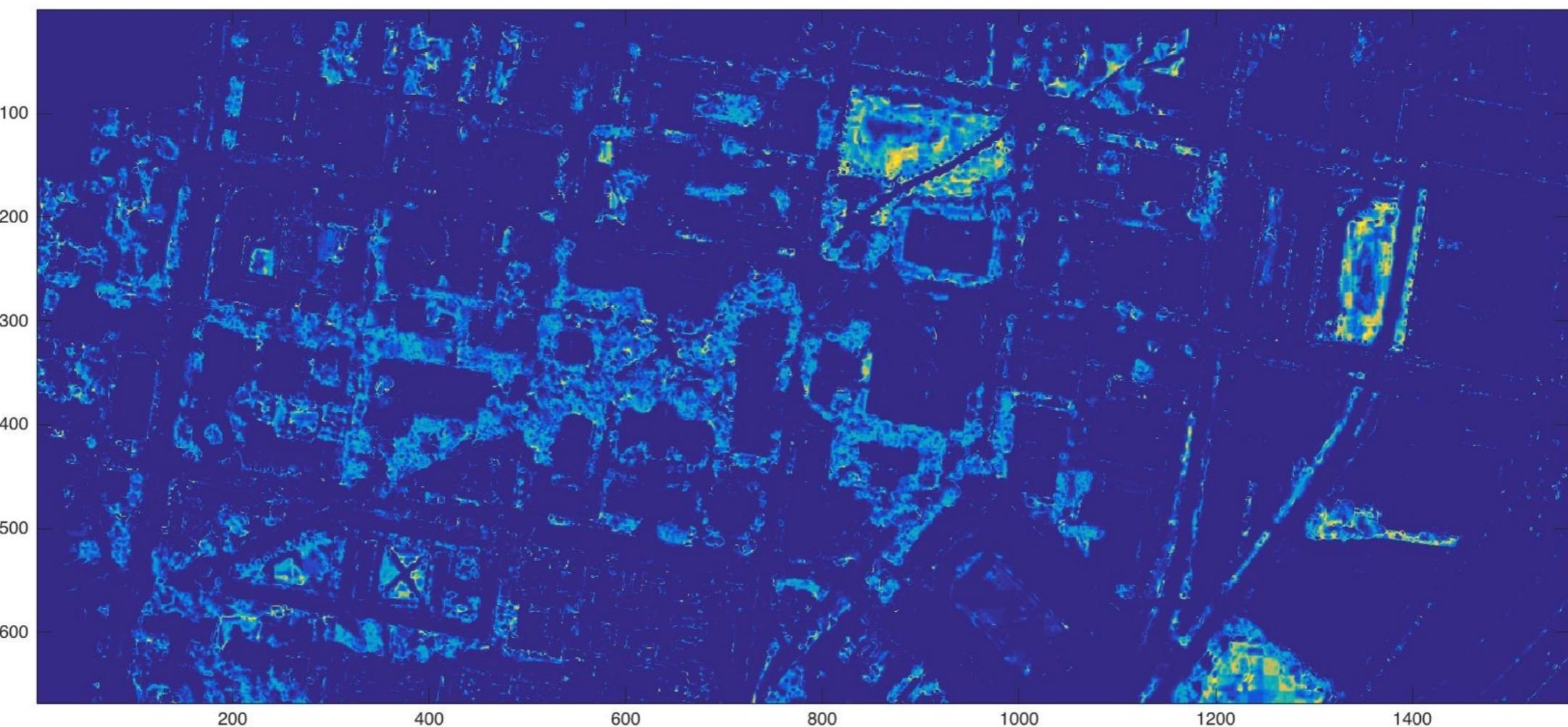
SHADOWS (L^*A^*B1)



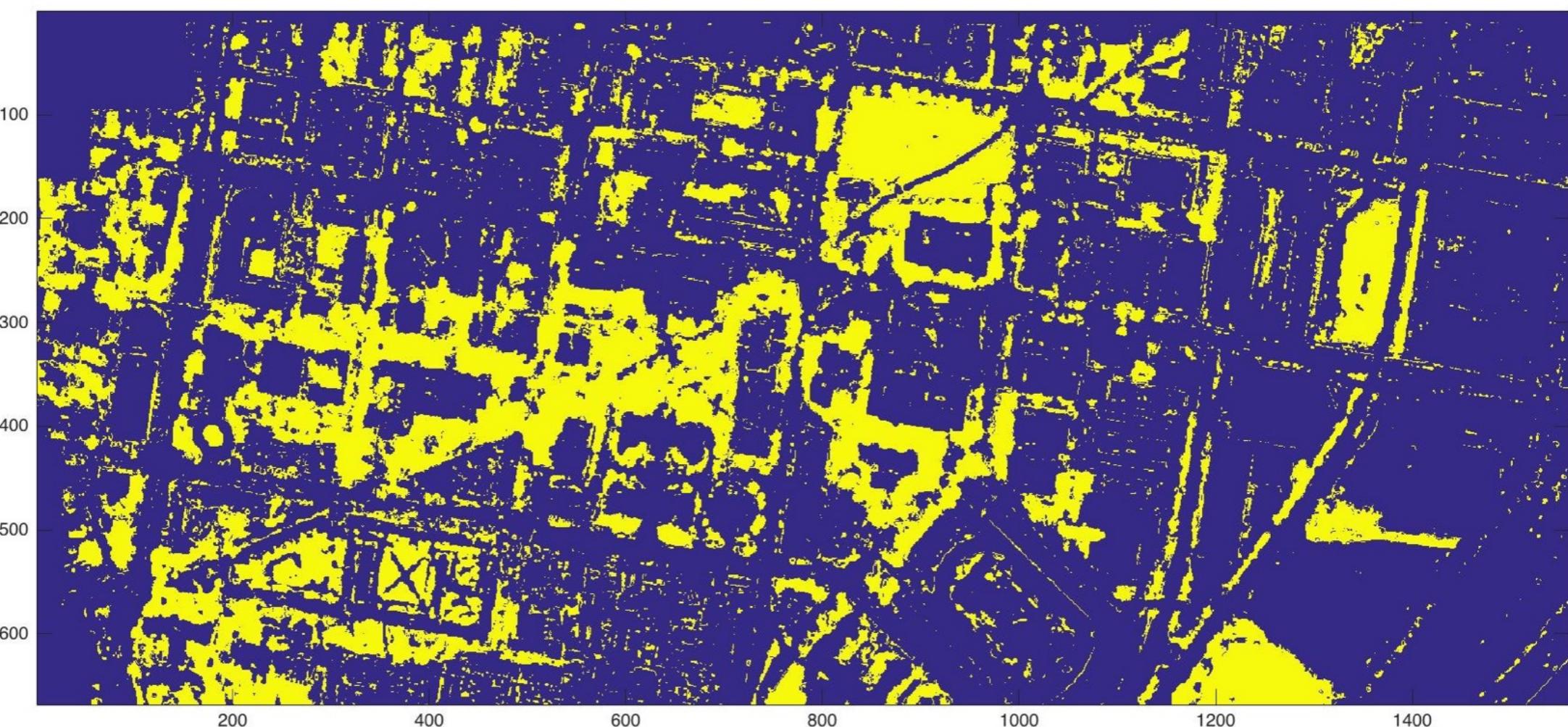
SHADOWS (HSV3)



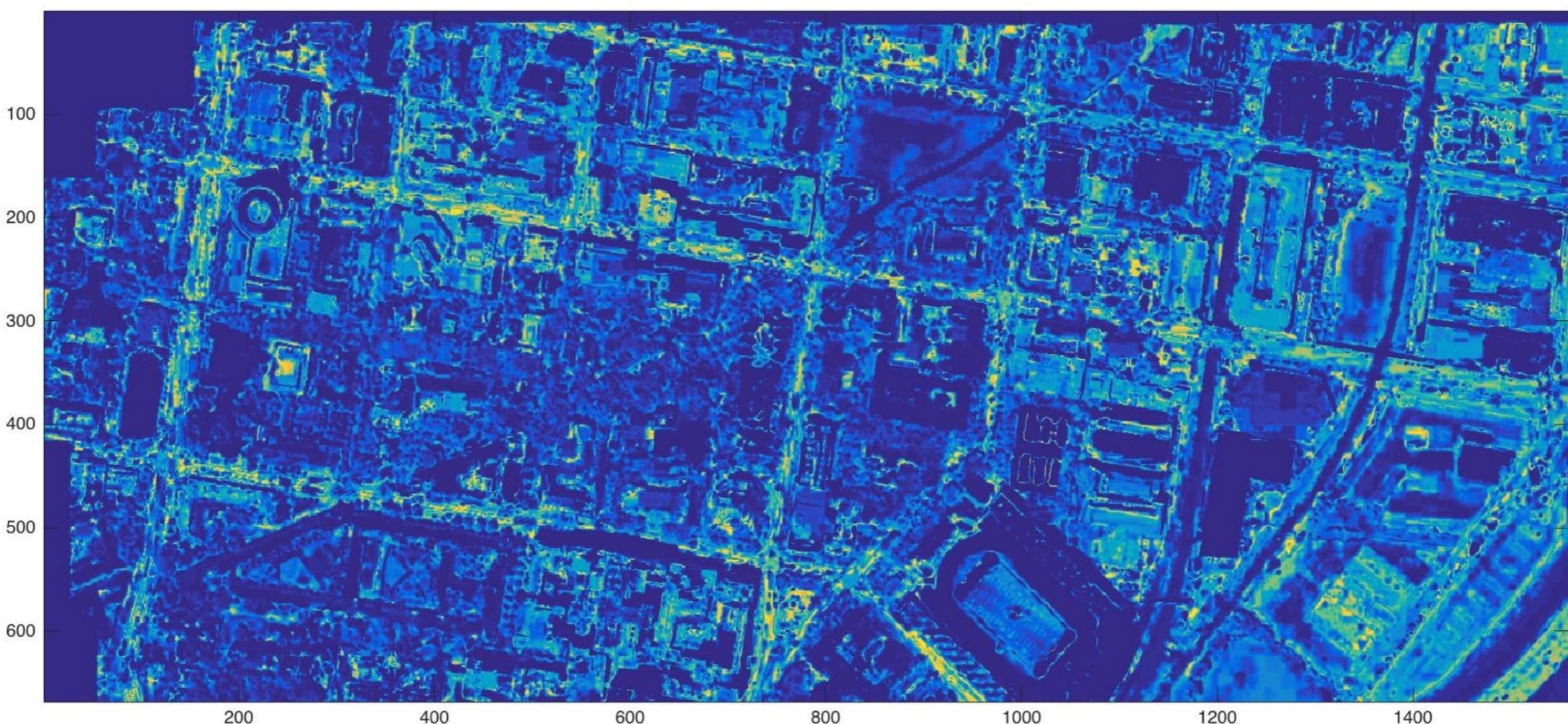
GREENS (GMM - HSV)



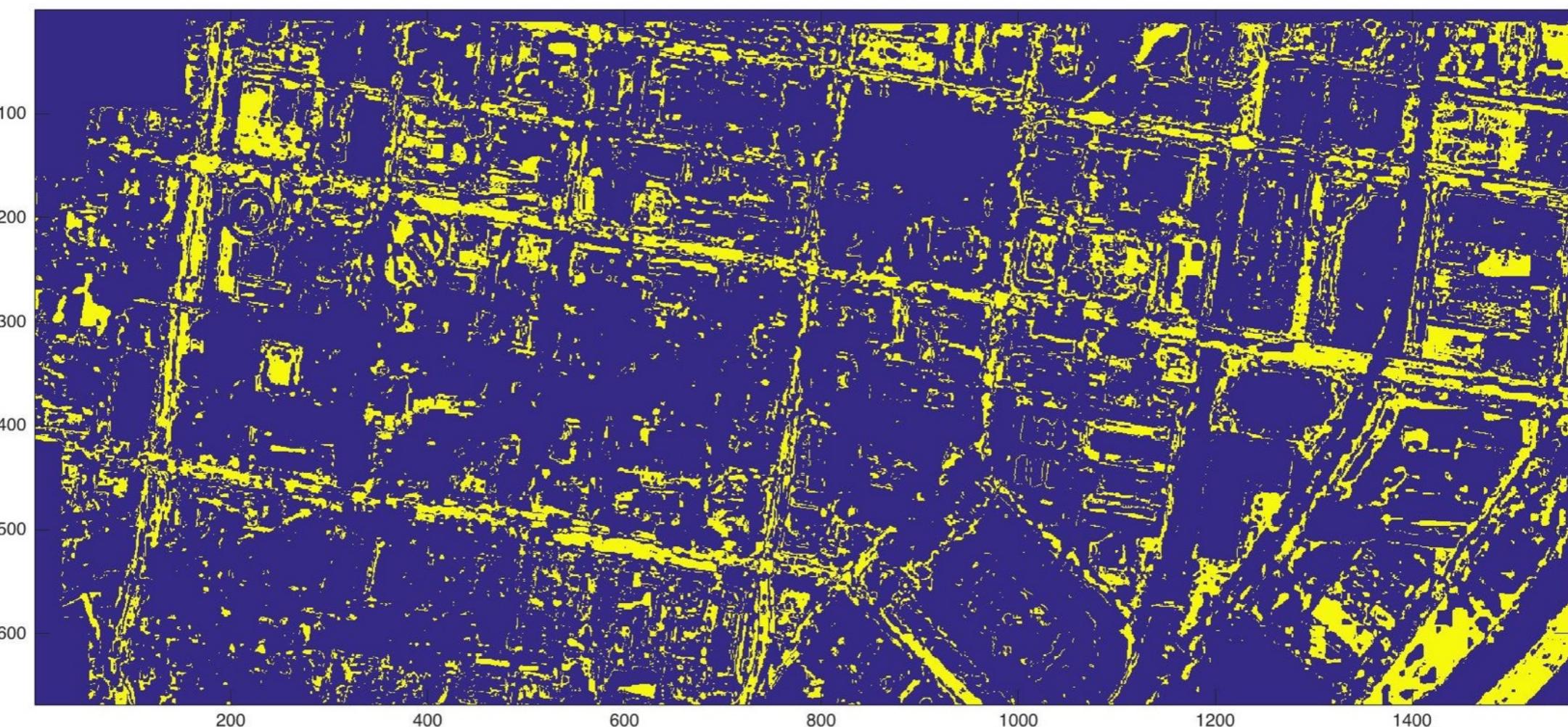
GREENS (GMM - HSV)



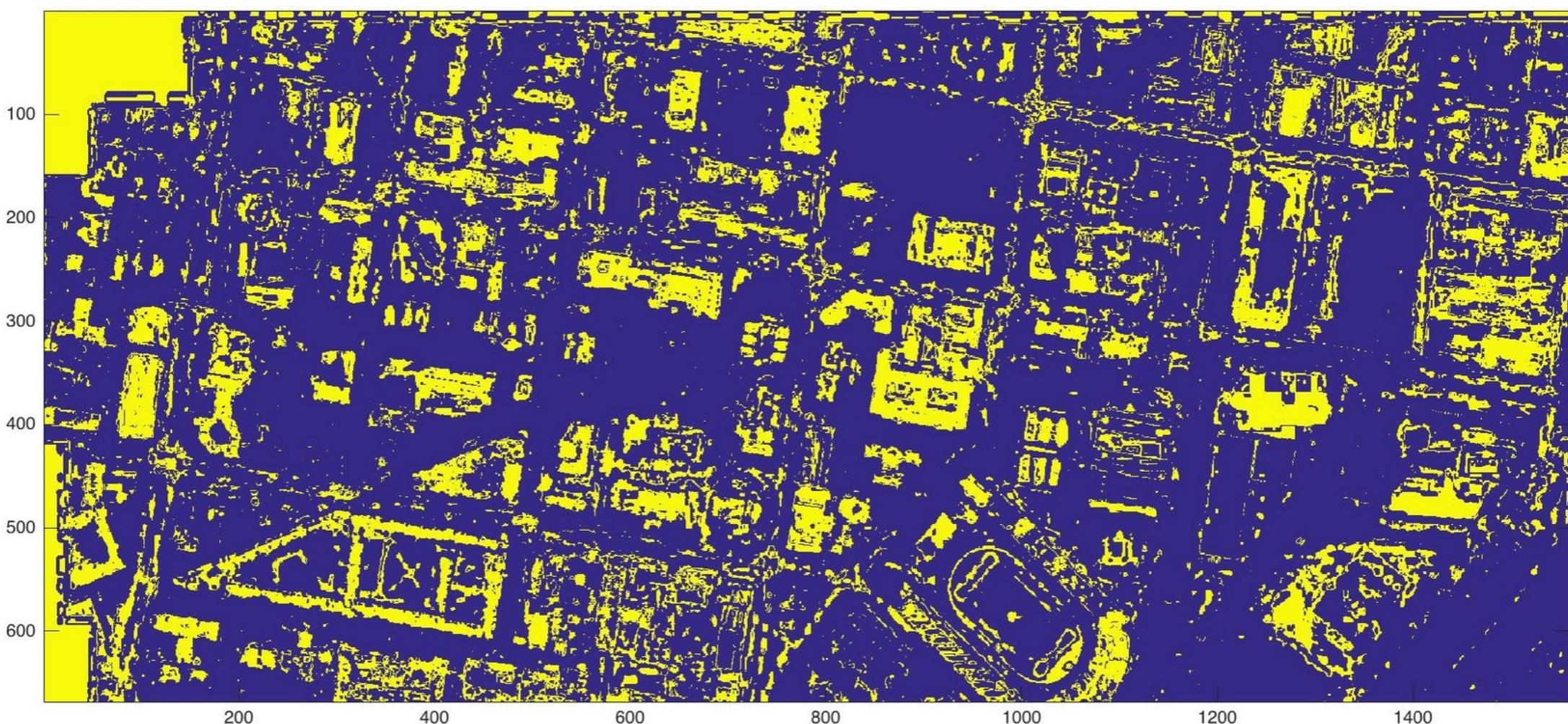
ROAD (GMM - HSV)



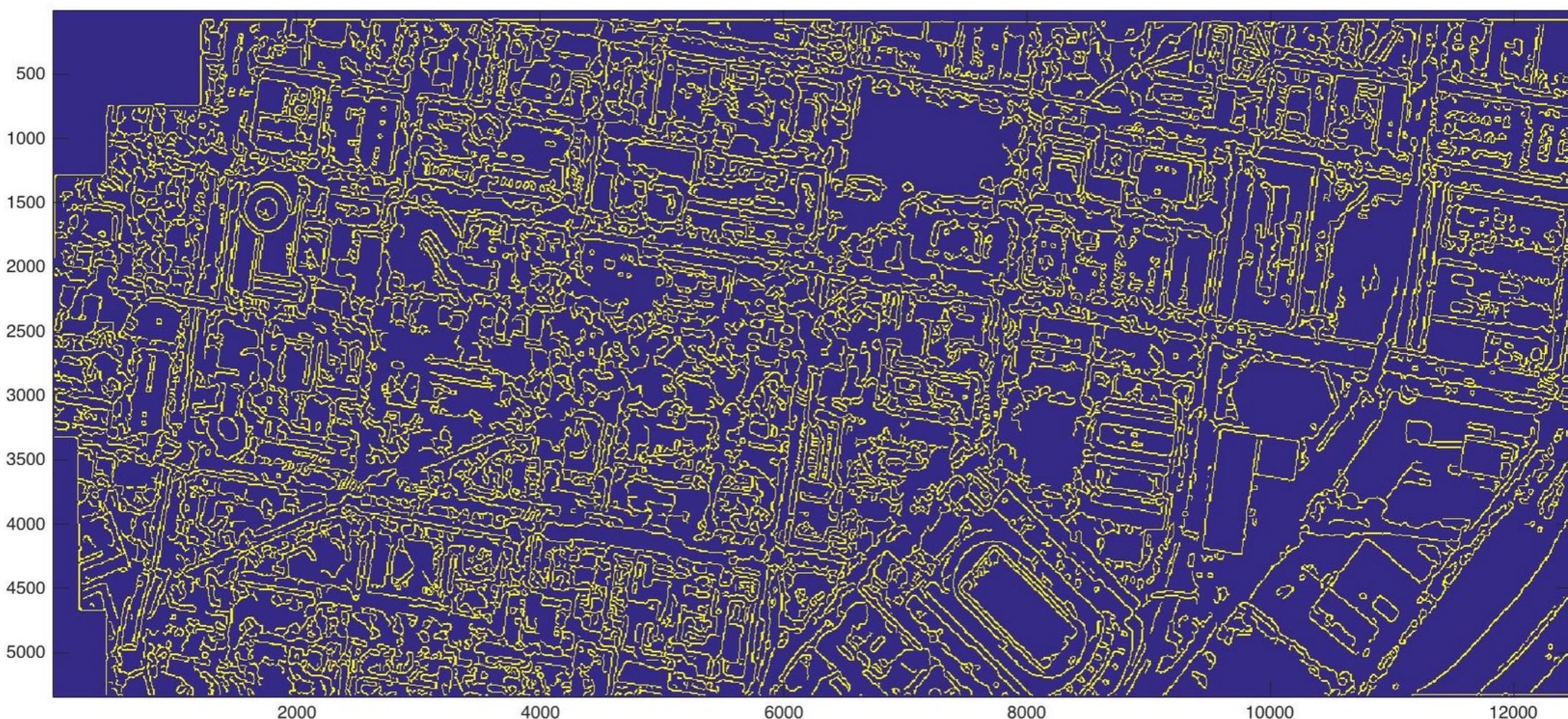
ROAD (GMM - HSV)



BUILDINGS (GMM - HSV)

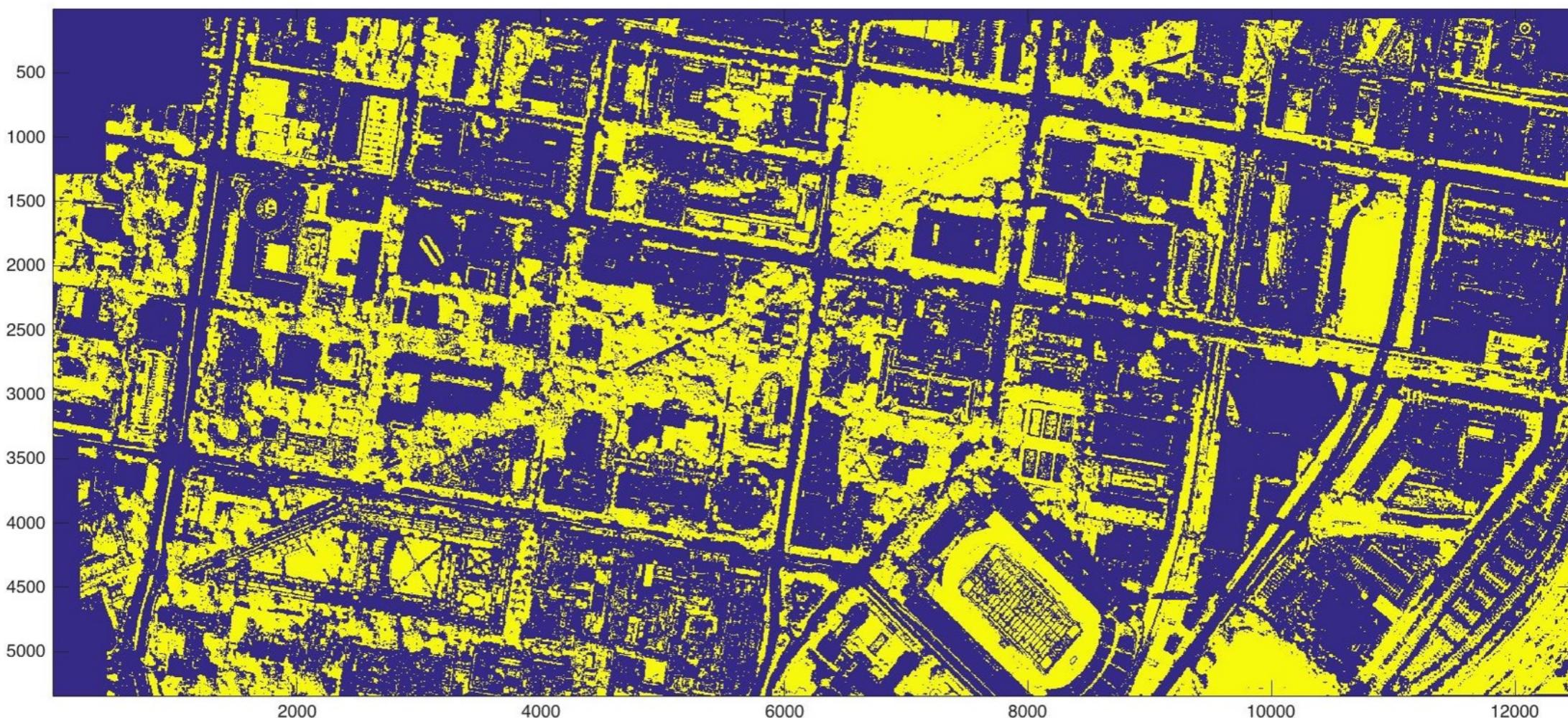


EDGES (CANNY)

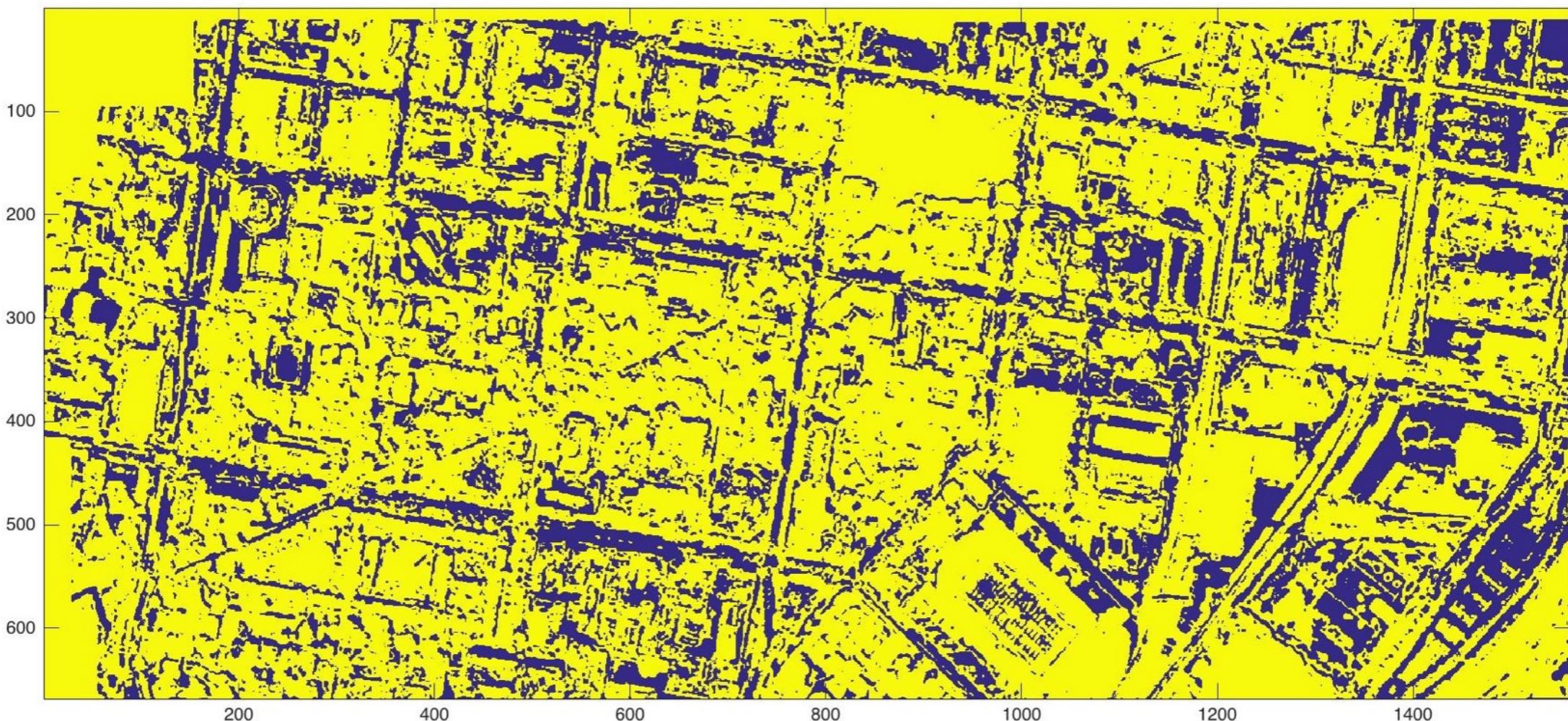


**PUT THEM ALL
TOGETHER!**

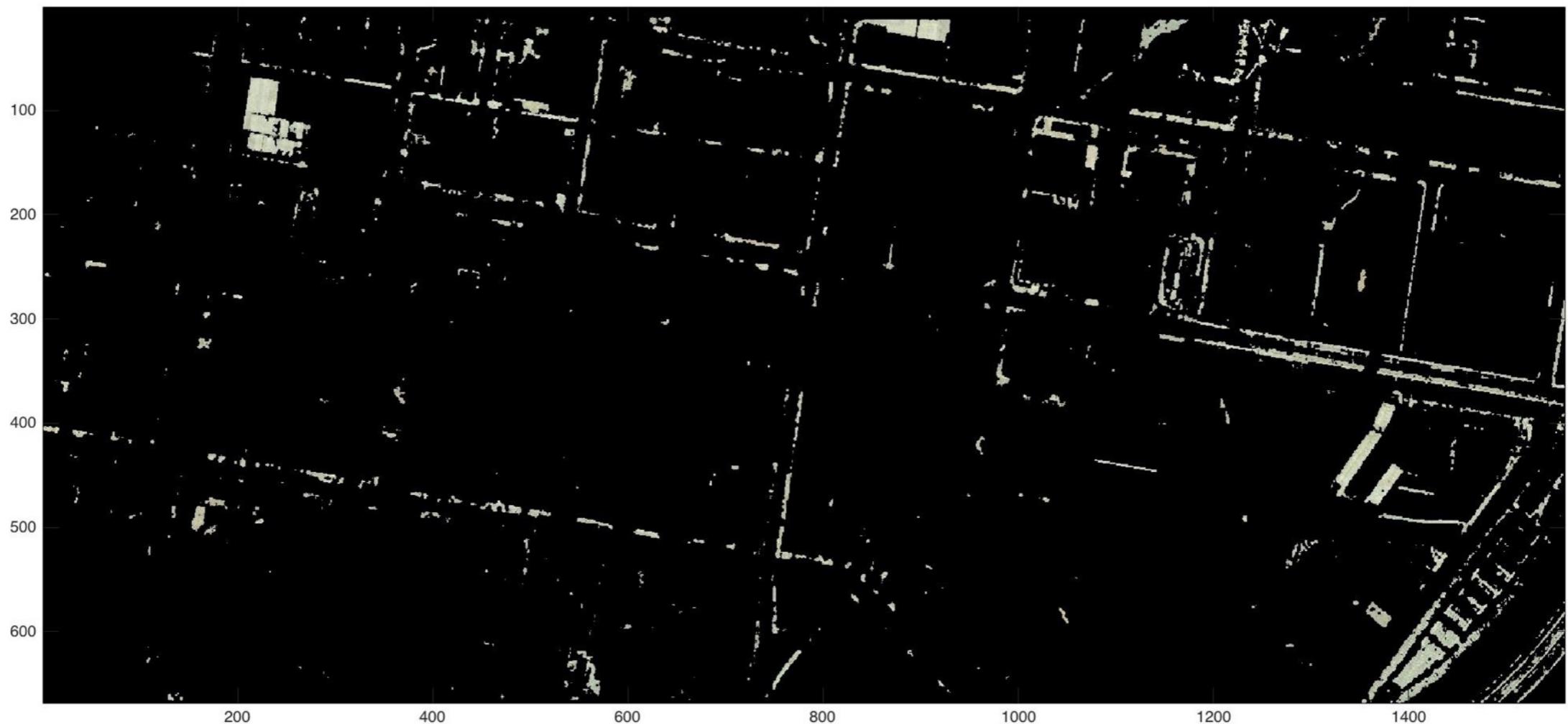
GREENS_UNION



DRIVING MAP (ROOFTOP_UNION | BUILDING_MAP | GREENS_UNION & ~SHADOWS_UNION | EDGE_C)

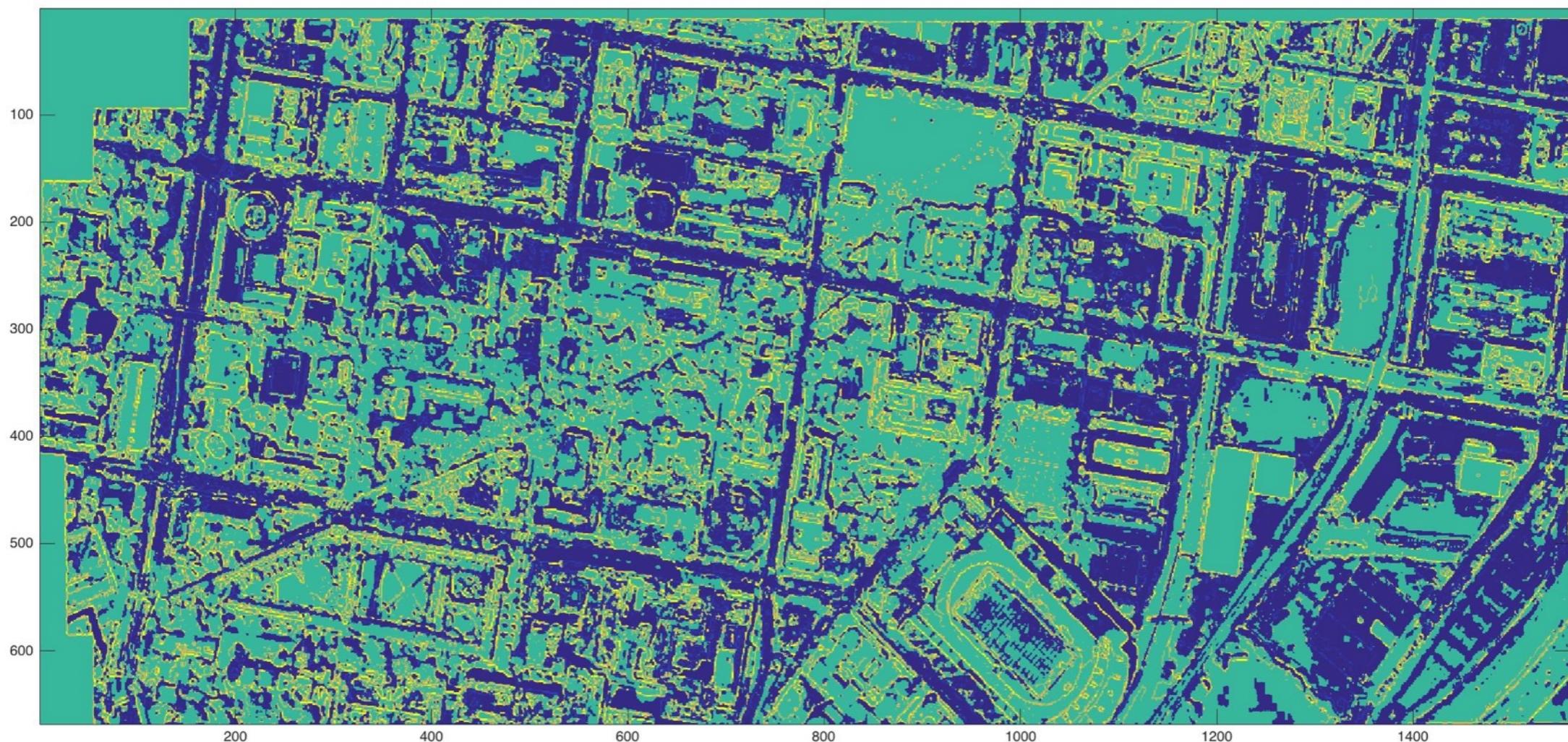


SIDEWALKS BY K-MEANS



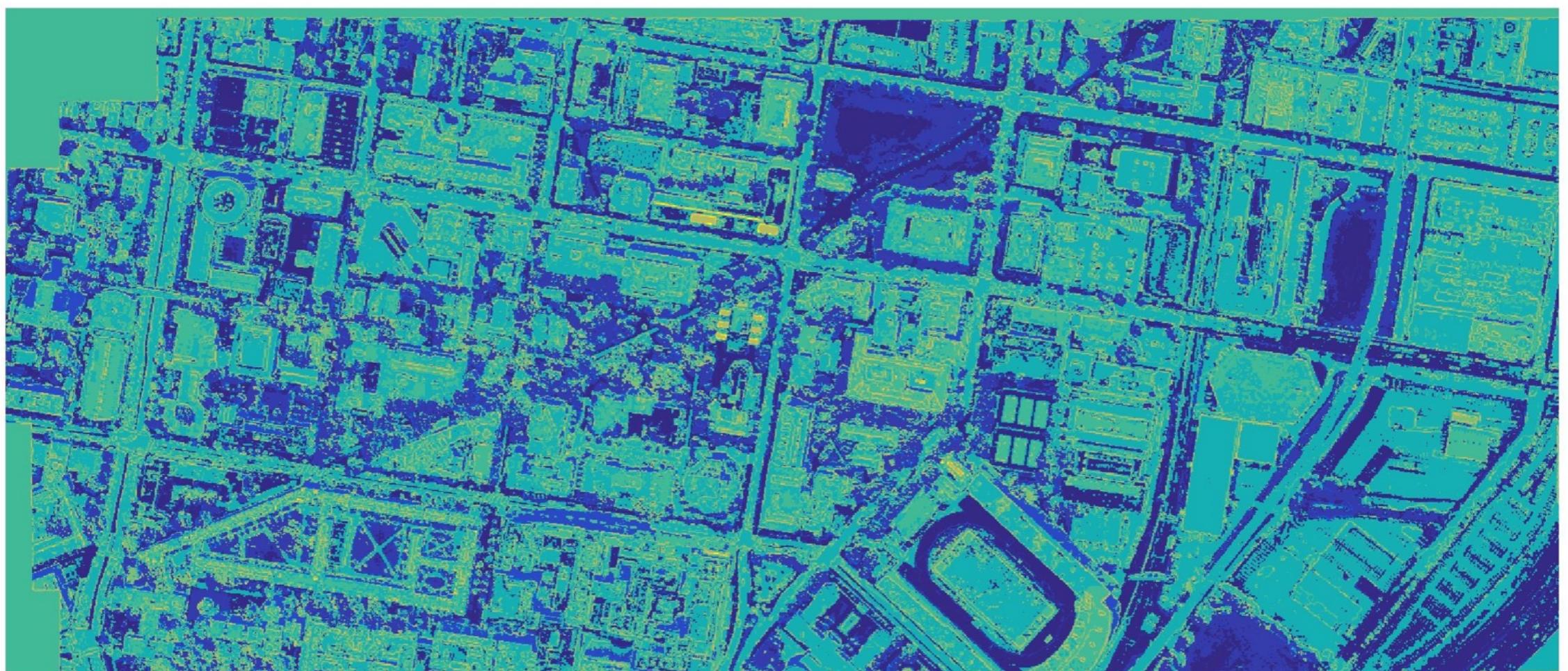
DRIVING FEATURE MAPS

- ▶ Driving map + 3 edge(Canny/ Prewitt/ Sobel)

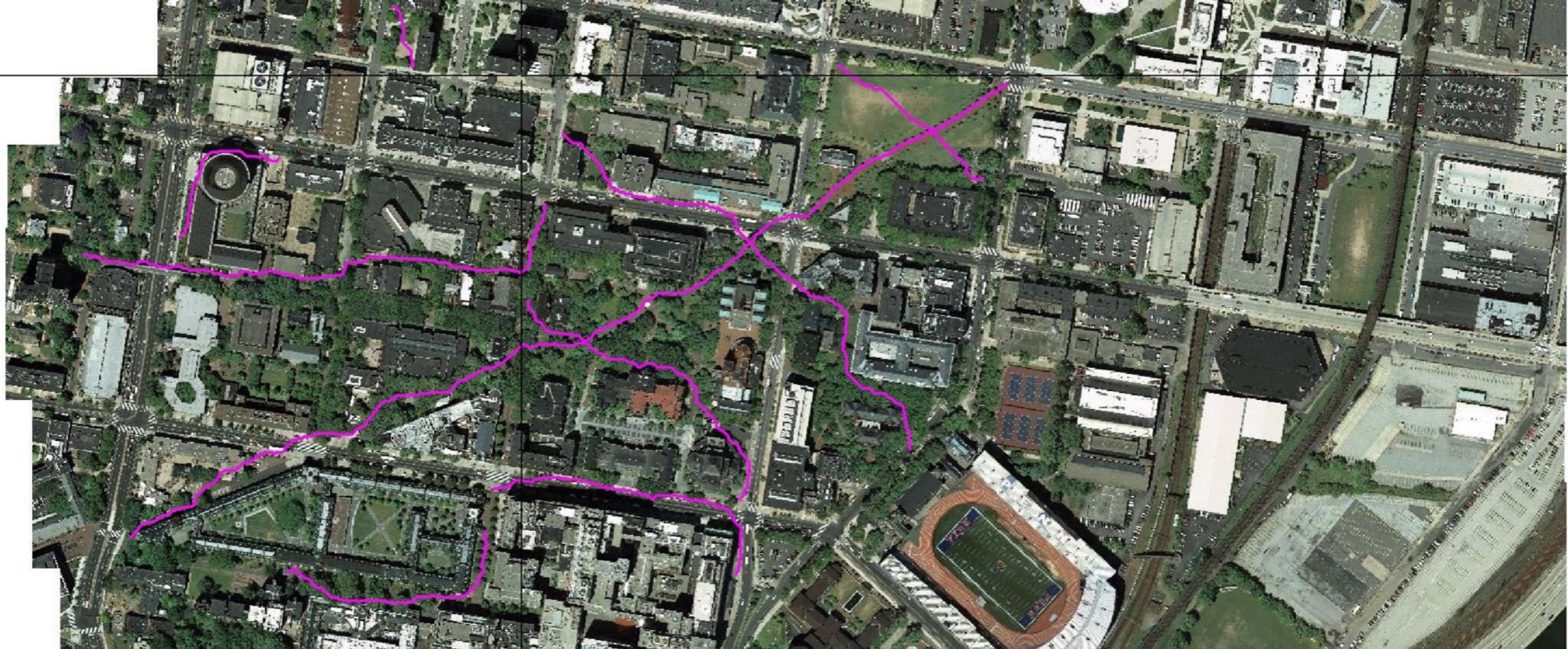


WALKING FEATURE MAPS

- ▶ greens(L*A*B),greens(YCBCR),shadows,rooftops(YCBCR),edges *3 (Canny/ Prewitt/ Sobel)



WALKING EXAMPLES



DRIVING EXAMPLES

