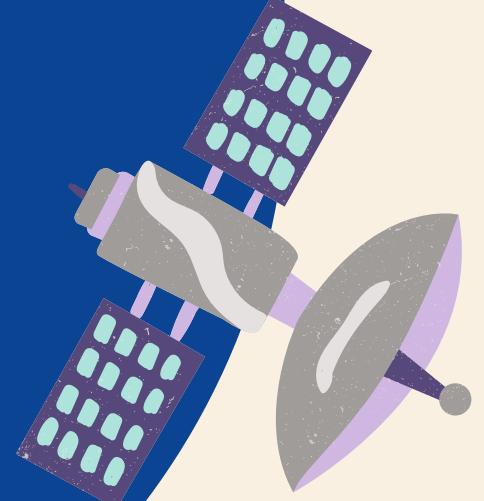


# File de traitement d'images satellitaires

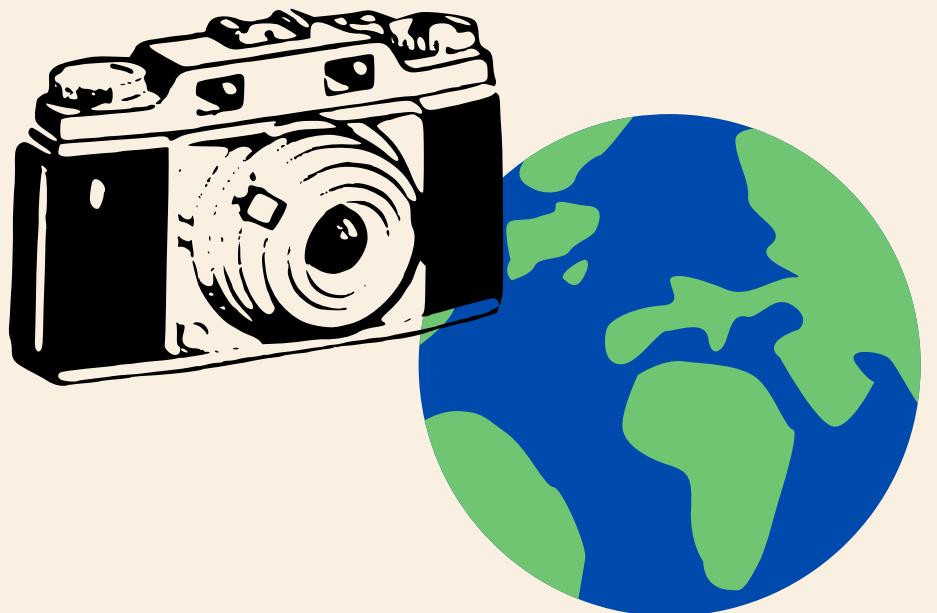
Combinaison de bandes, pansharpening  
& mosaicing



# Pour quoi faire ?



Bands combination



Pansharpening



landsat 8

- lancé en 2013
- 15, 30 ou  
100m/pixel

Mosaicing

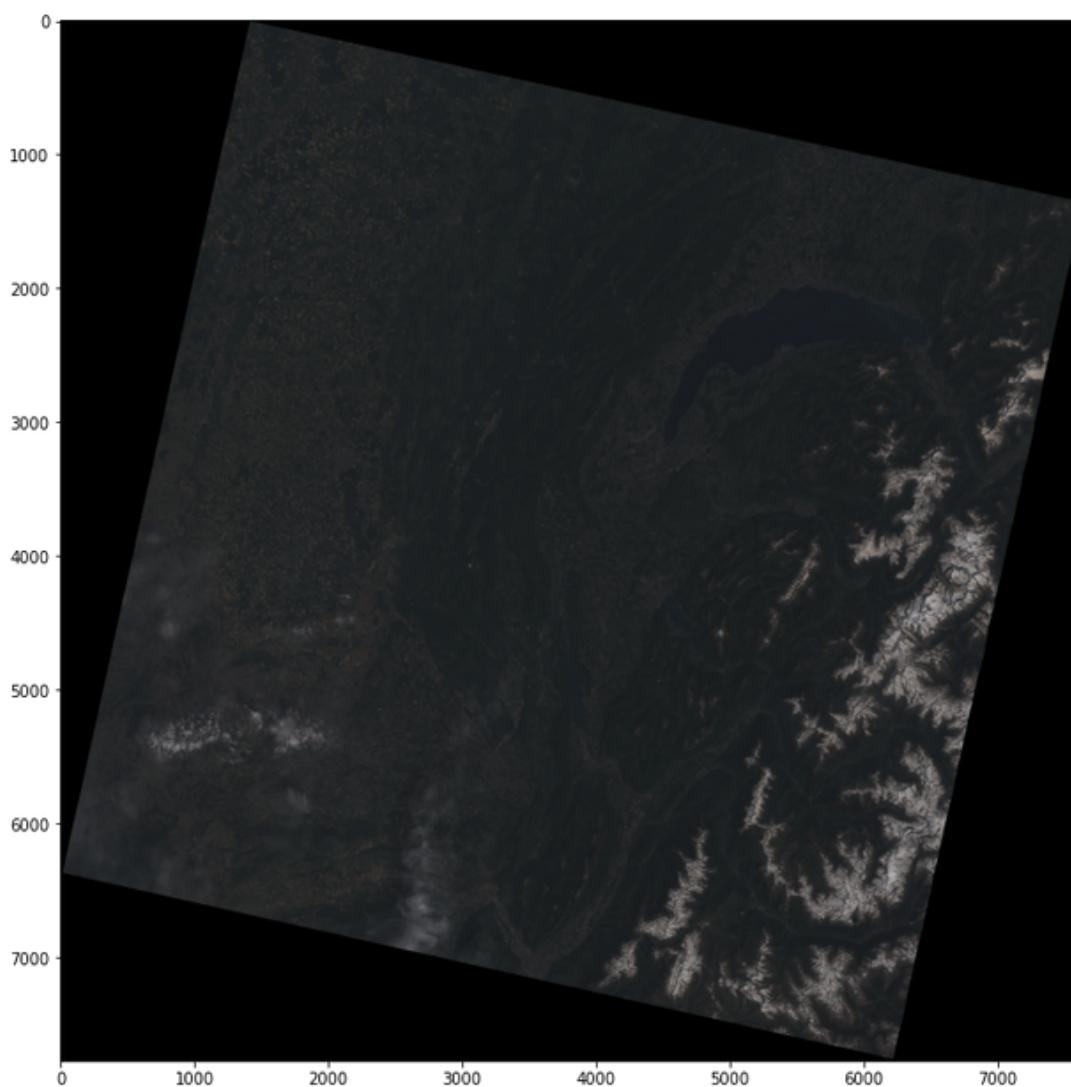
# 1

# Combinaison de bandes

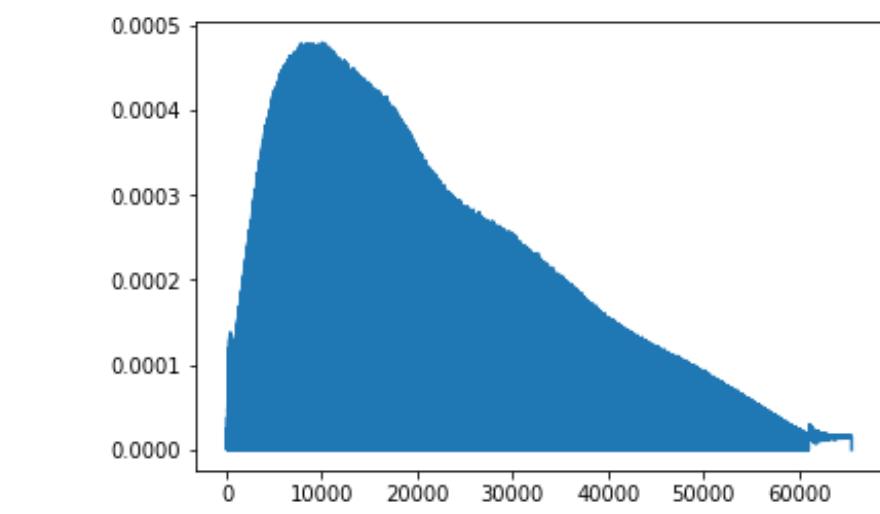
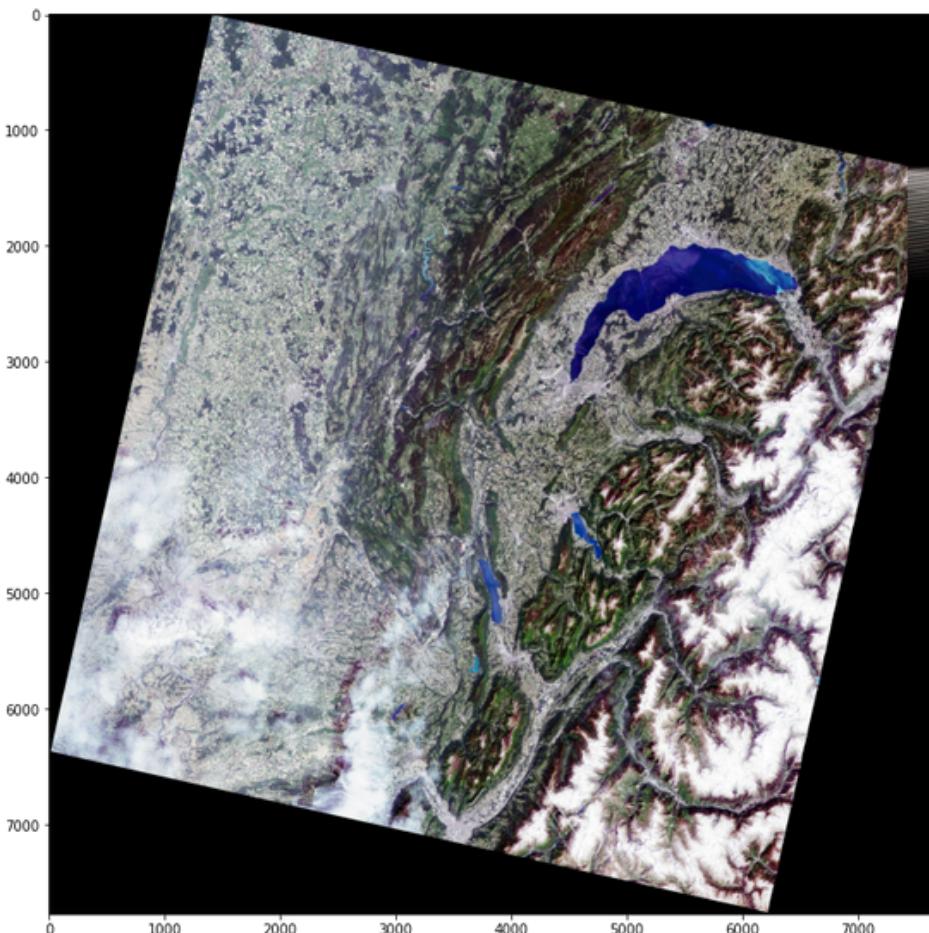
	Bands	Wavelength (micrometers)	Resolution (meters)
Landsat 8 Operational Land Imager (OLI) and Thermal Infrared Sensor (TIRS)  Launched February 11, 2013	Band 1 - Coastal aerosol	0.43 - 0.45	30
	Band 2 - Blue	0.45 - 0.51	30
	Band 3 - Green	0.53 - 0.59	30
	Band 4 - Red	0.64 - 0.67	30
	Band 5 - Near Infrared (NIR)	0.85 - 0.88	30
	Band 6 - SWIR 1	1.57 - 1.65	30
	Band 7 - SWIR 2	2.11 - 2.29	30
	Band 8 - Panchromatic	0.50 - 0.68	15
	Band 9 - Cirrus	1.36 - 1.38	30
	Band 10 - Thermal Infrared (TIRS) 1	10.60 - 11.19	100
	Band 11 - Thermal Infrared (TIRS) 2	11.50 - 12.51	100

# Combinaison de bandes

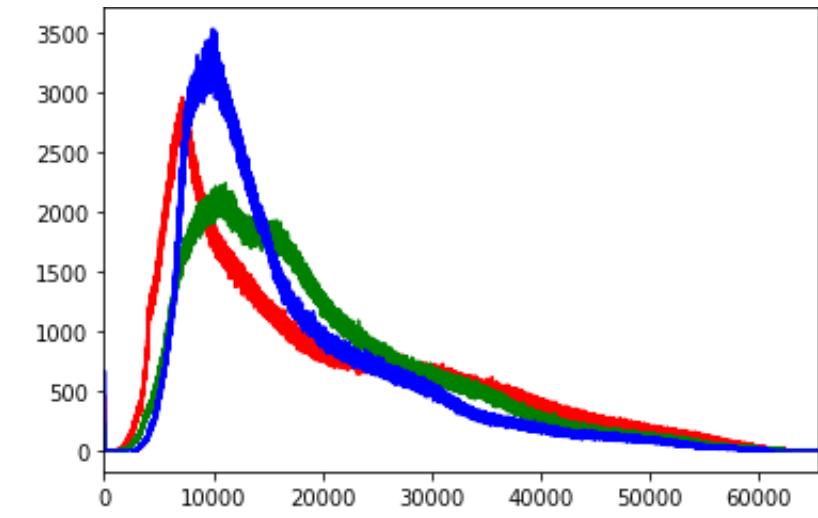
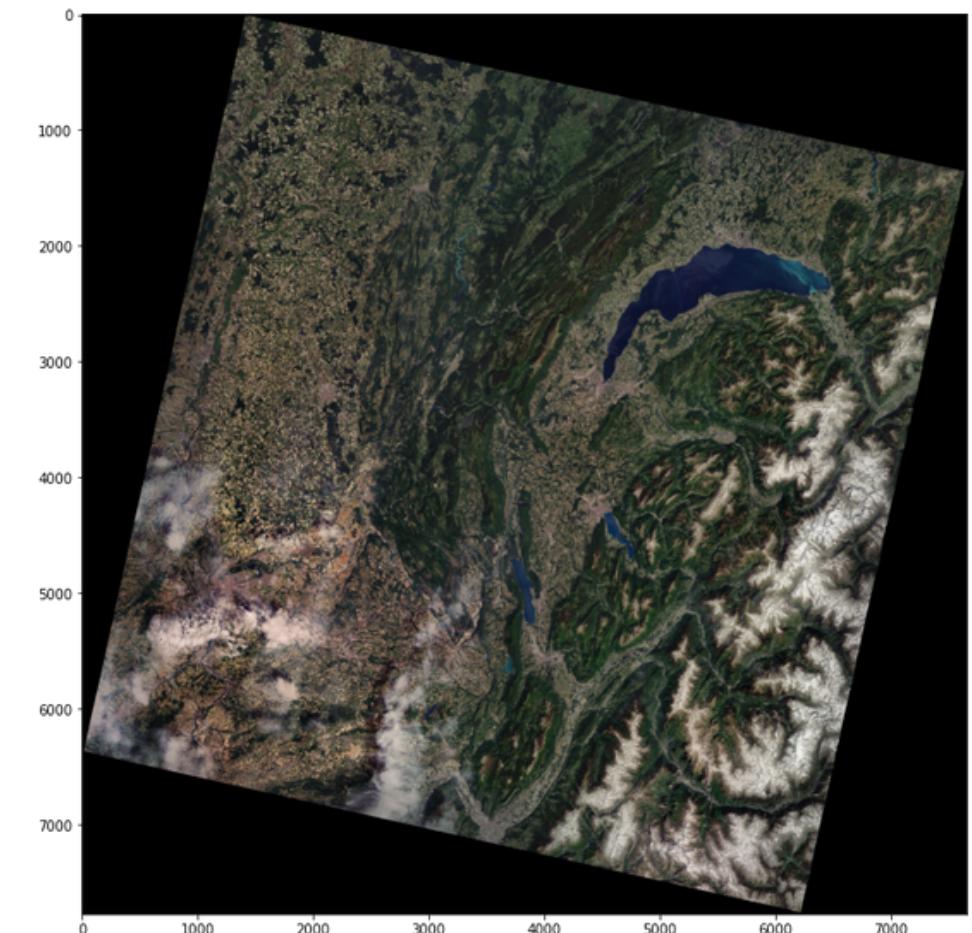
1



Sans égalisation



Égalisation classique



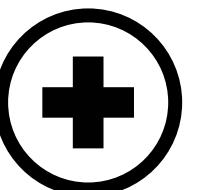
CLAHE

2

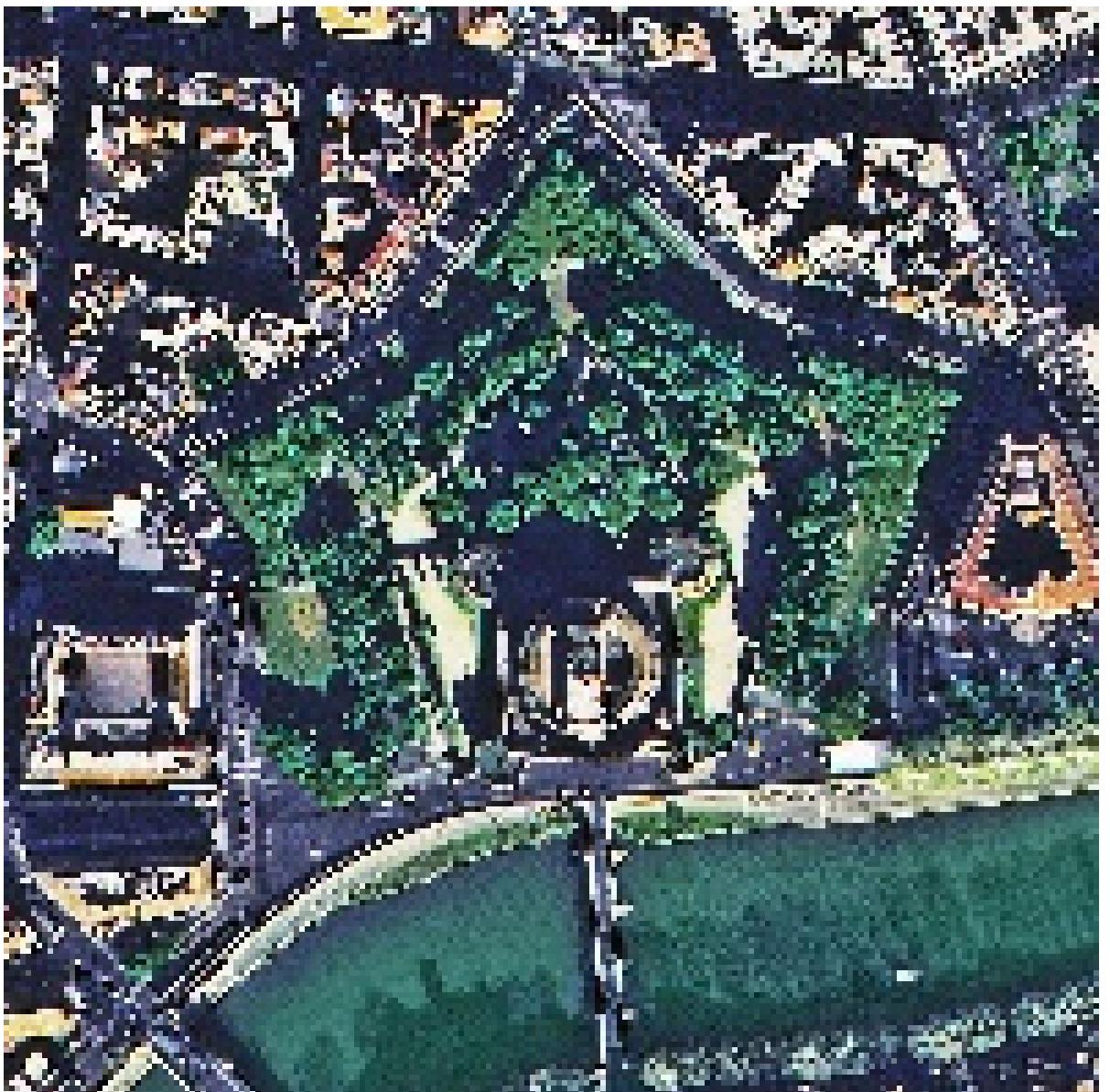
# Pansharpening



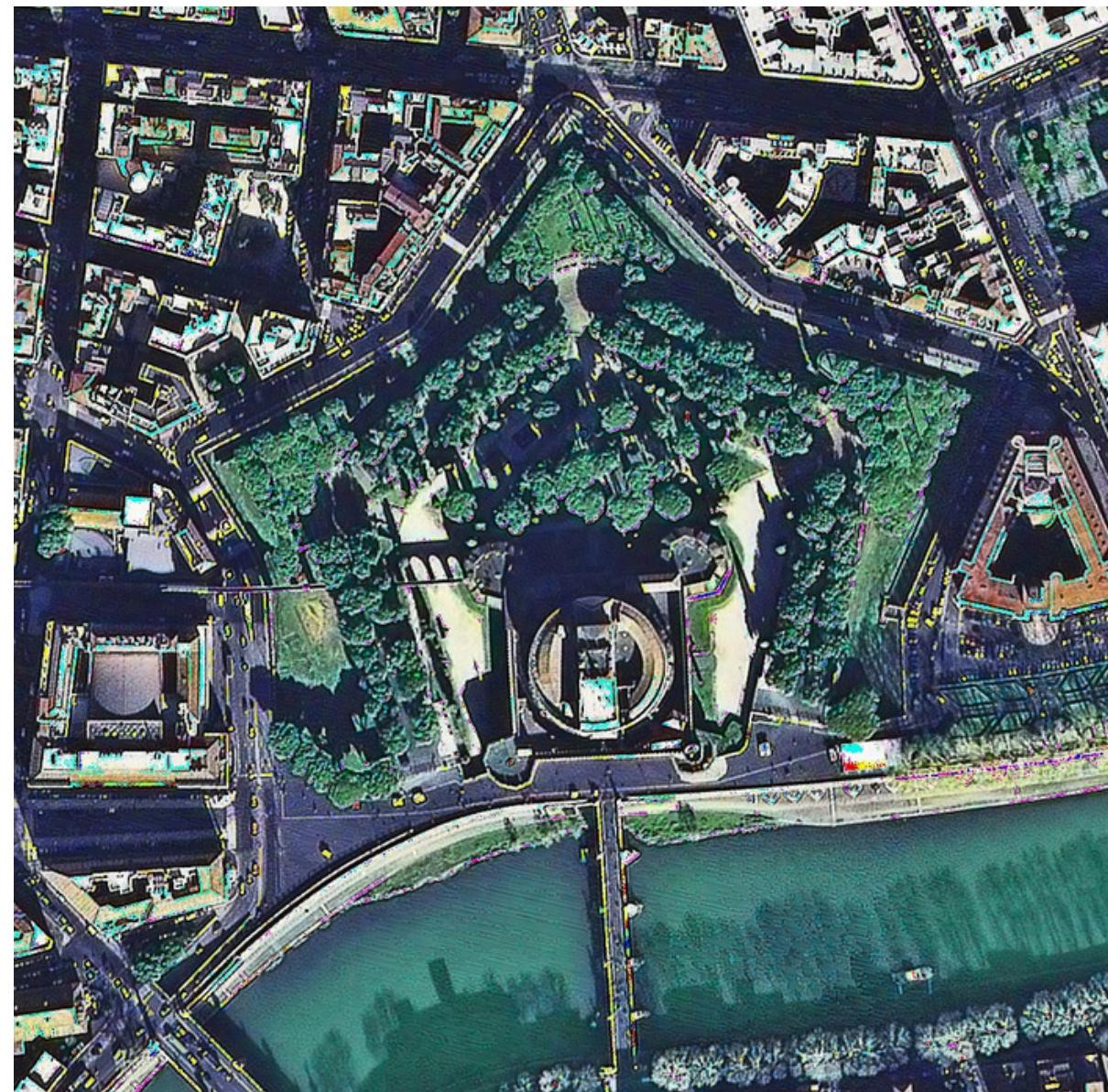
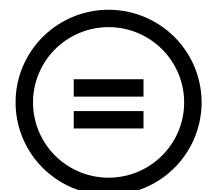
Haute  
résolution N&B



Basse résolution  
couleurs

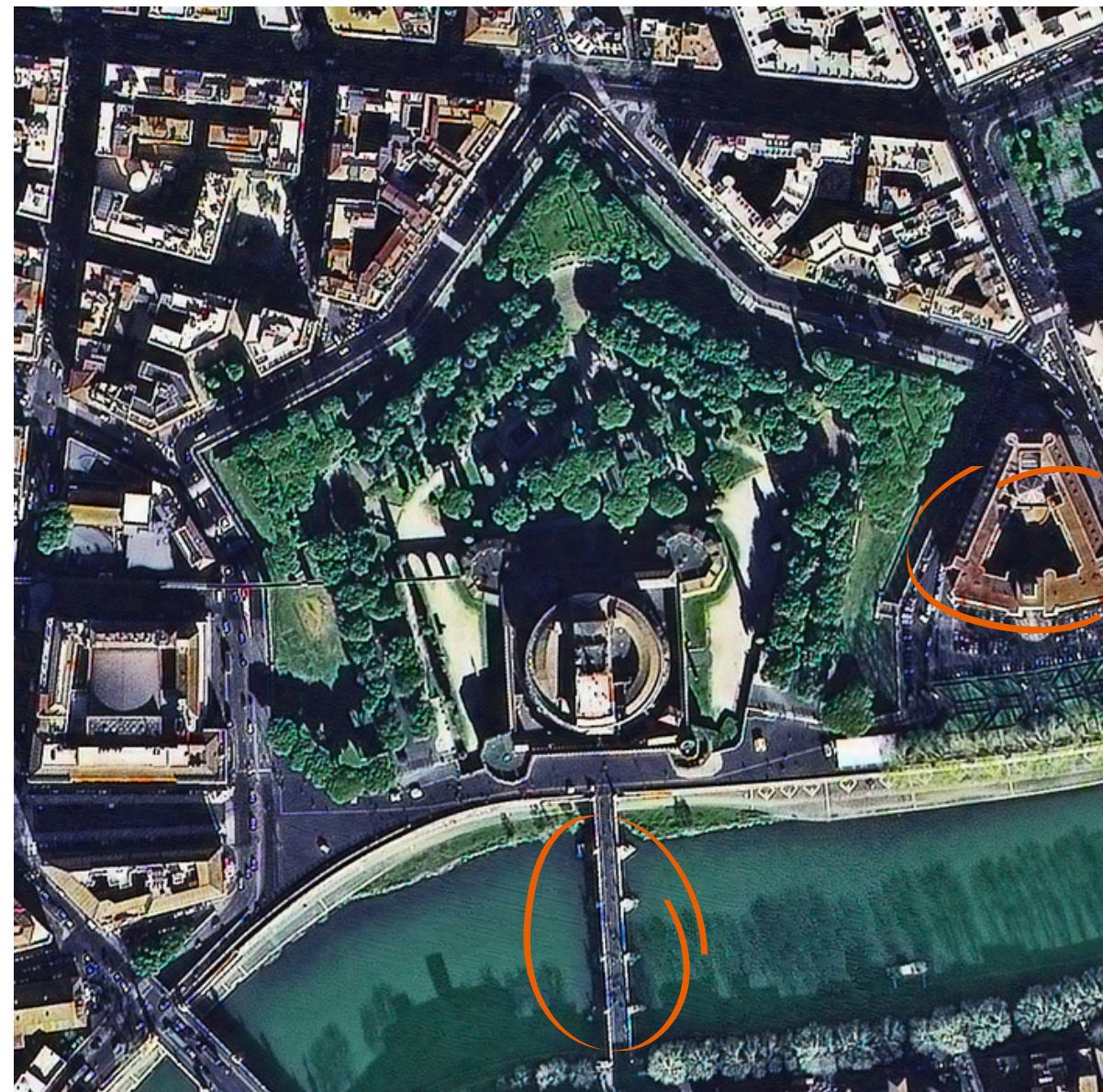


Haute résolution  
couleurs



# 2

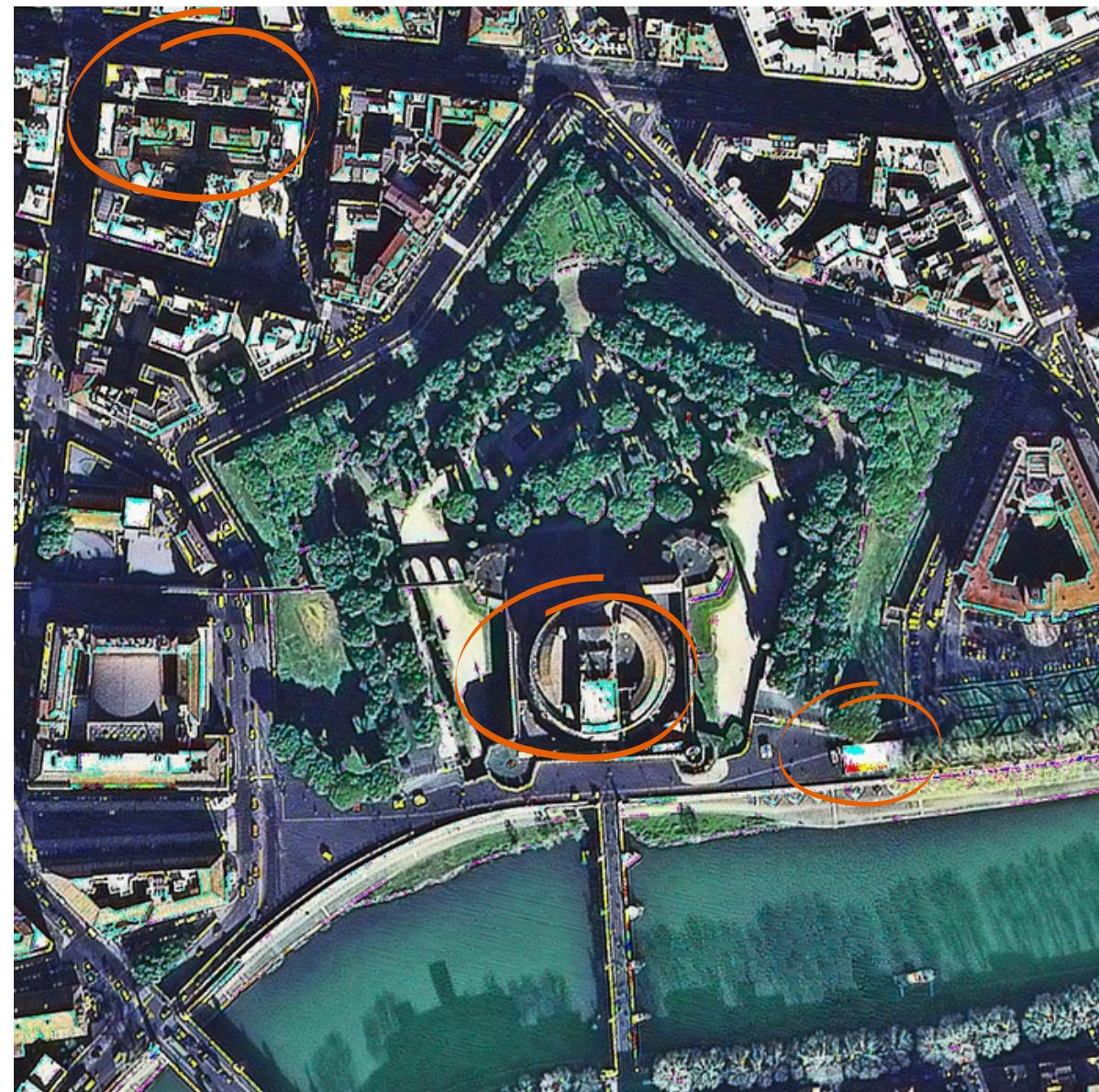
# Pansharpening



HSV  
Hue Saturation Value



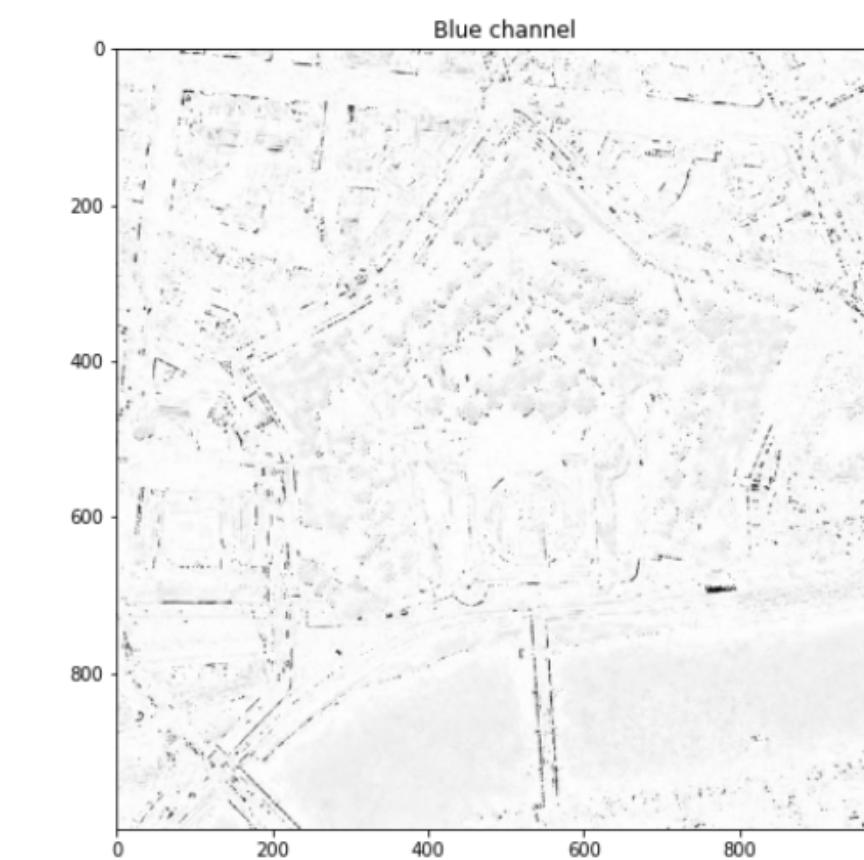
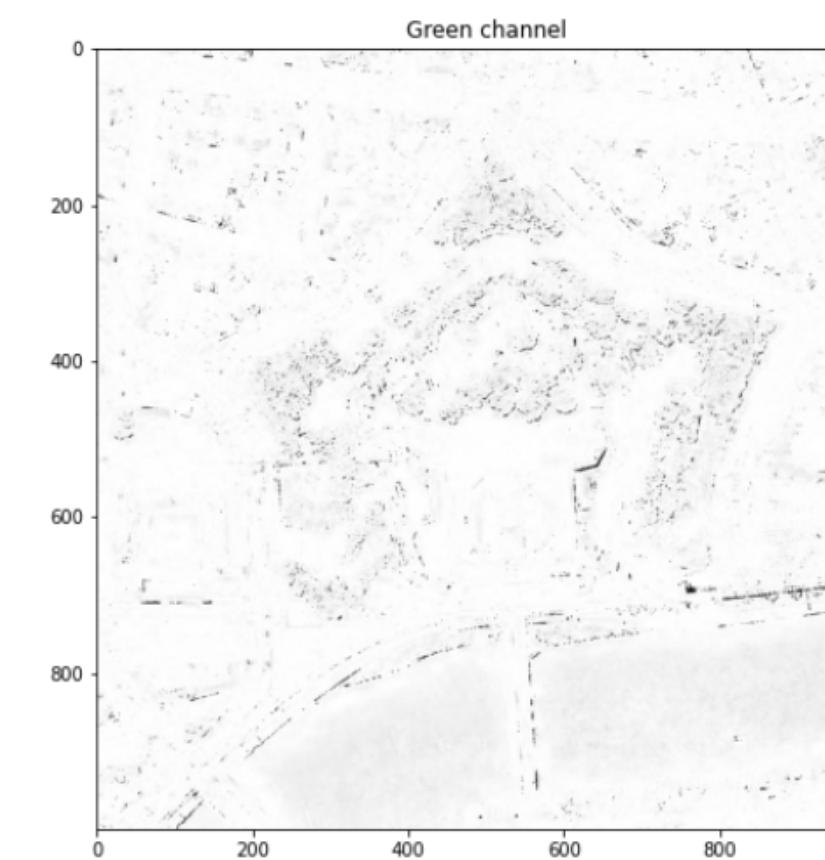
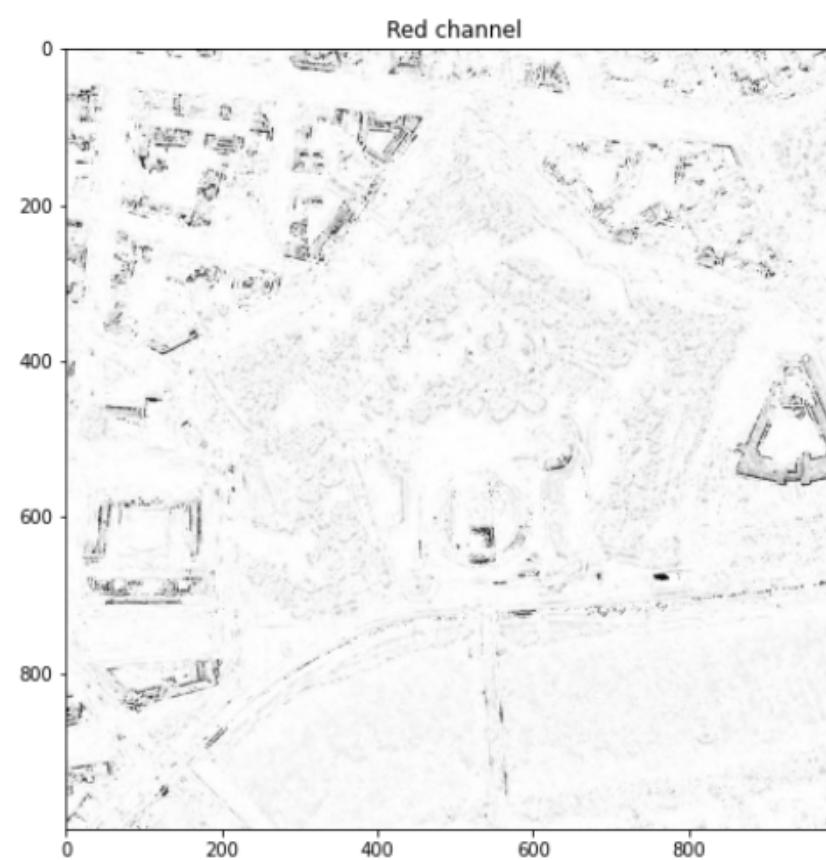
Image de base



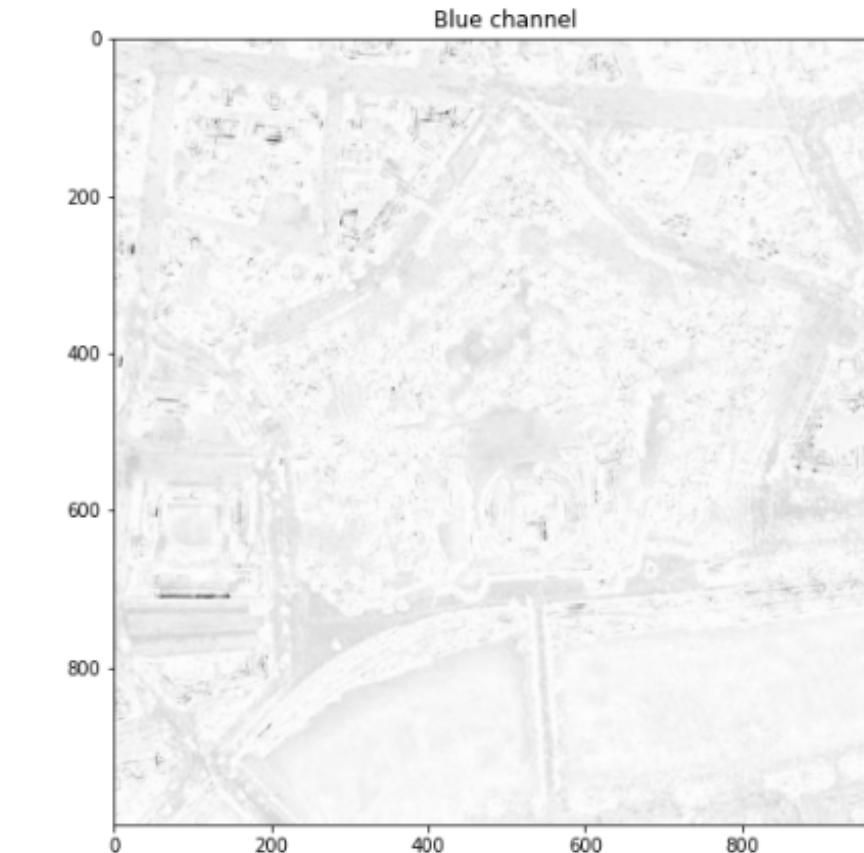
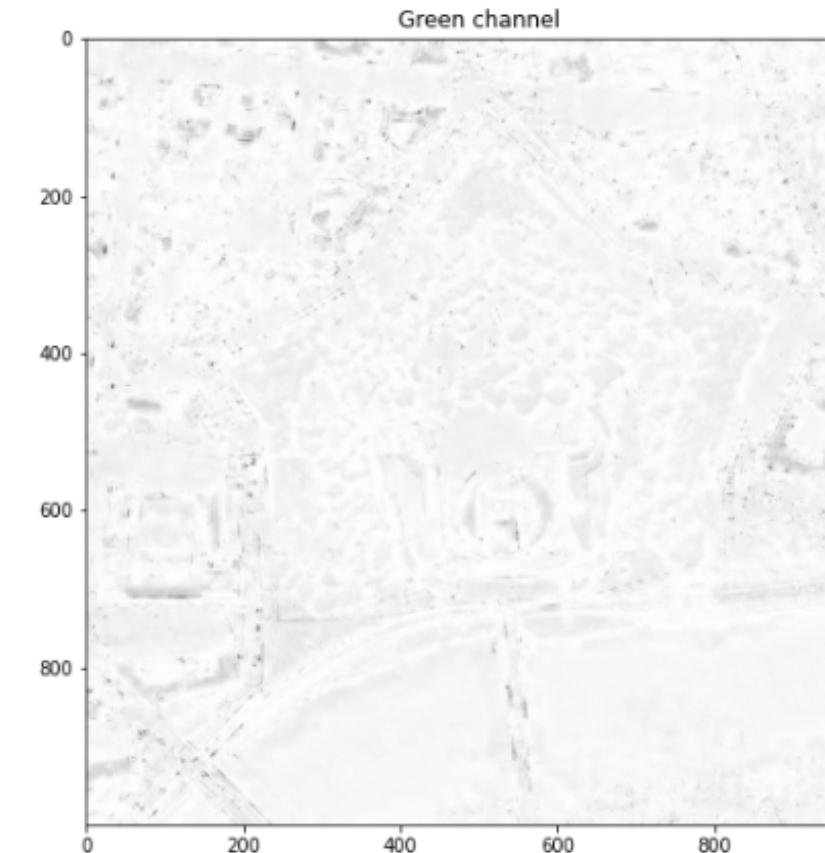
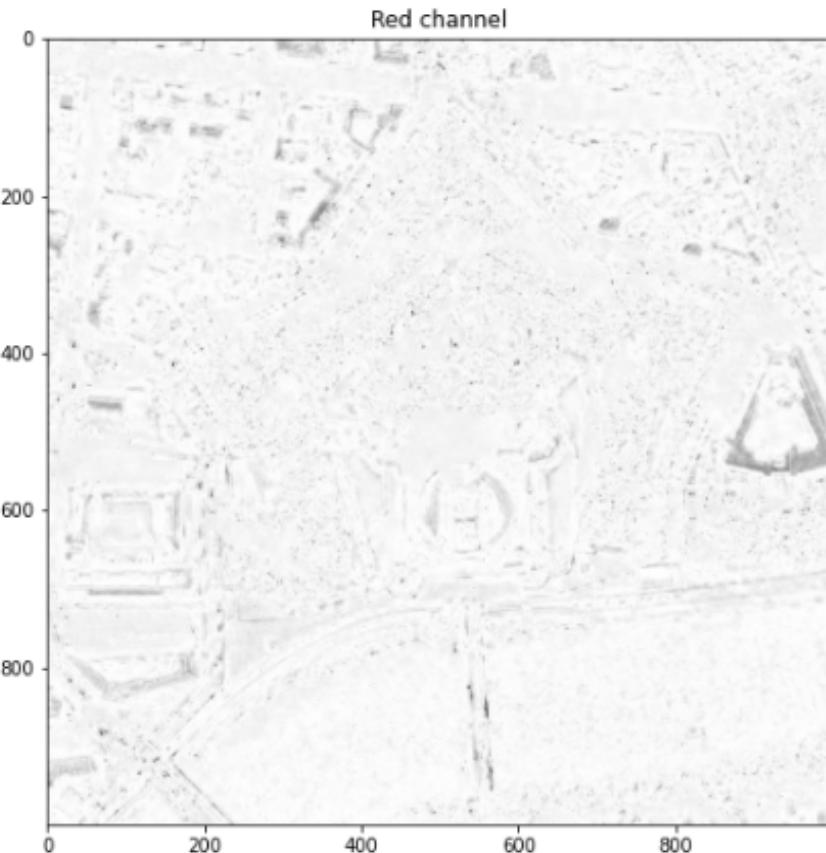
Brovey  $\frac{r * Pan}{\frac{1}{3} * (r + g + b)} \quad 4$

# Pansharpening Comparaison

Brovey

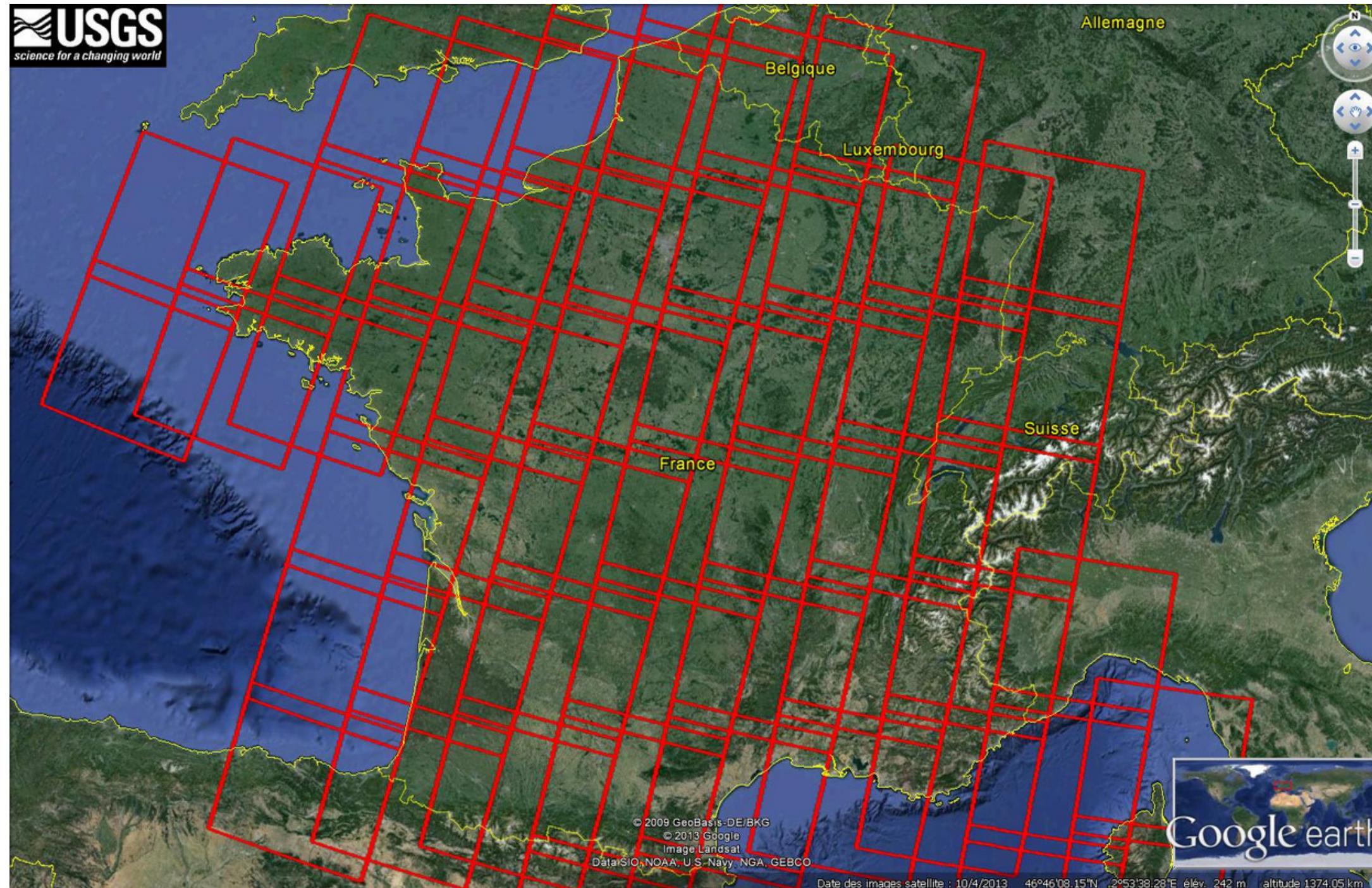


HSV



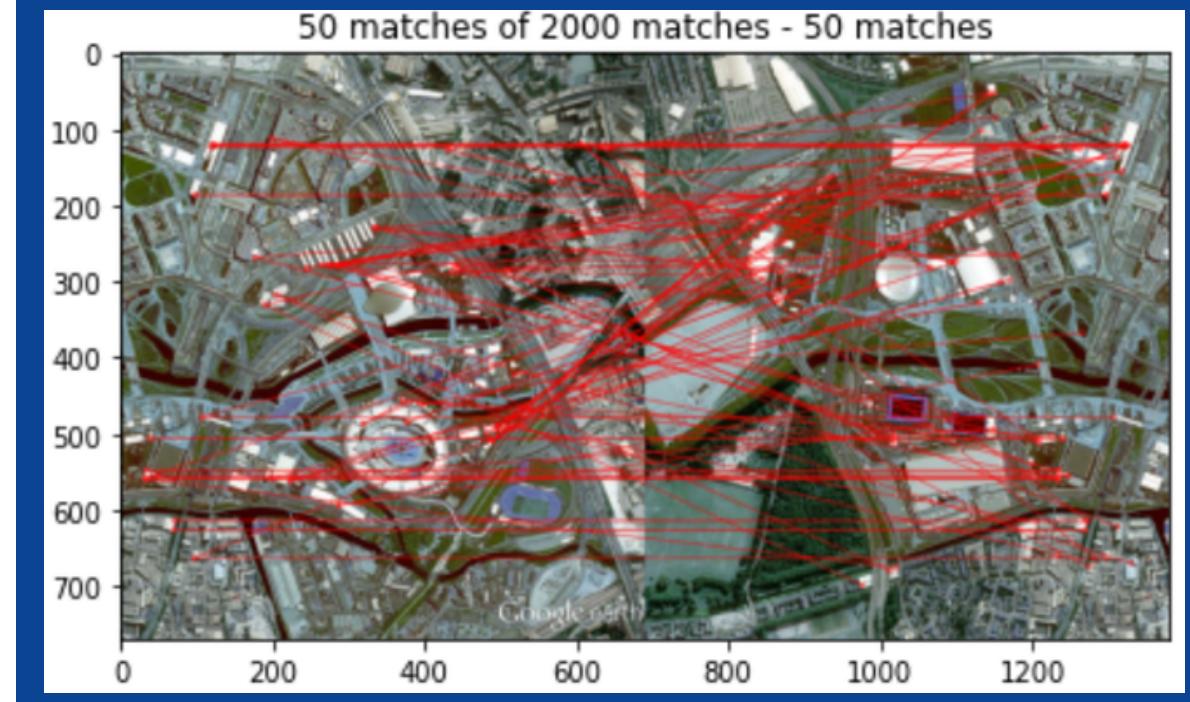
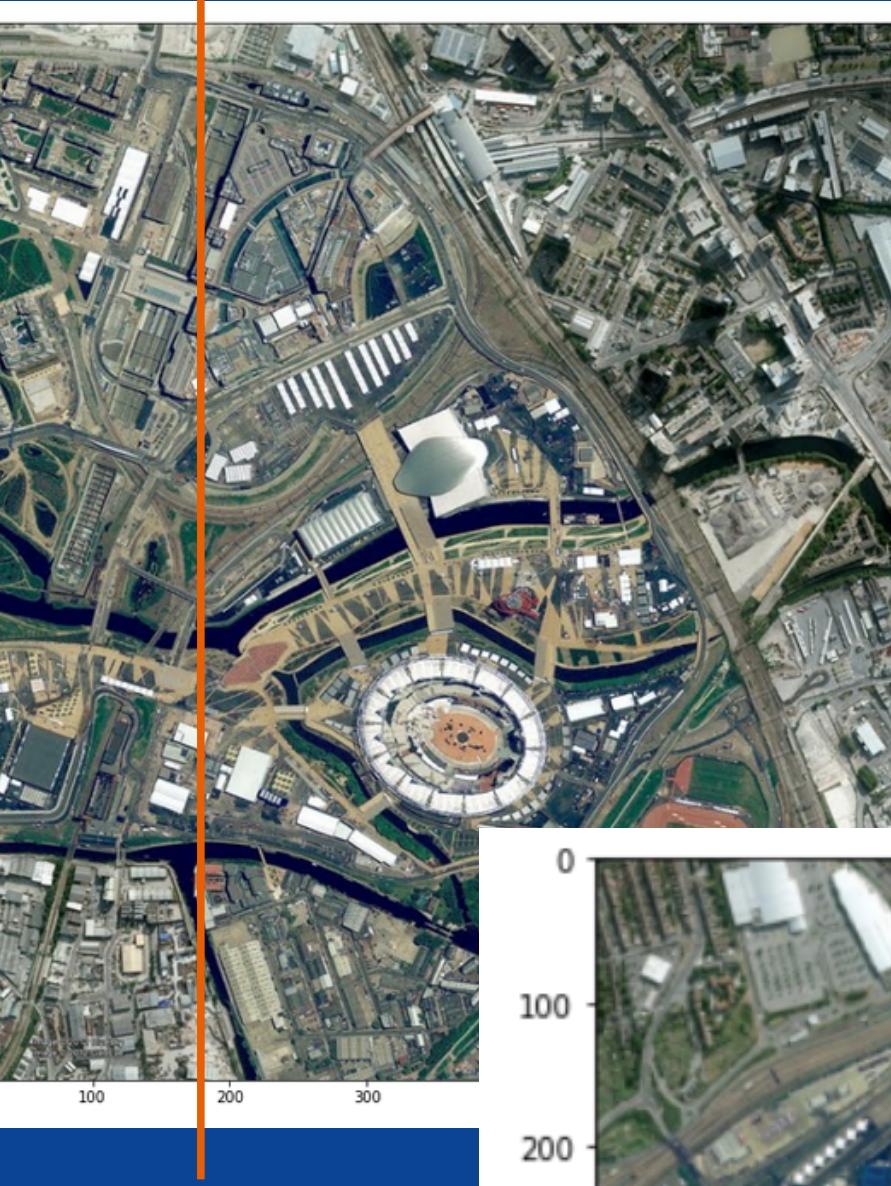
# 3

# Mosaicing

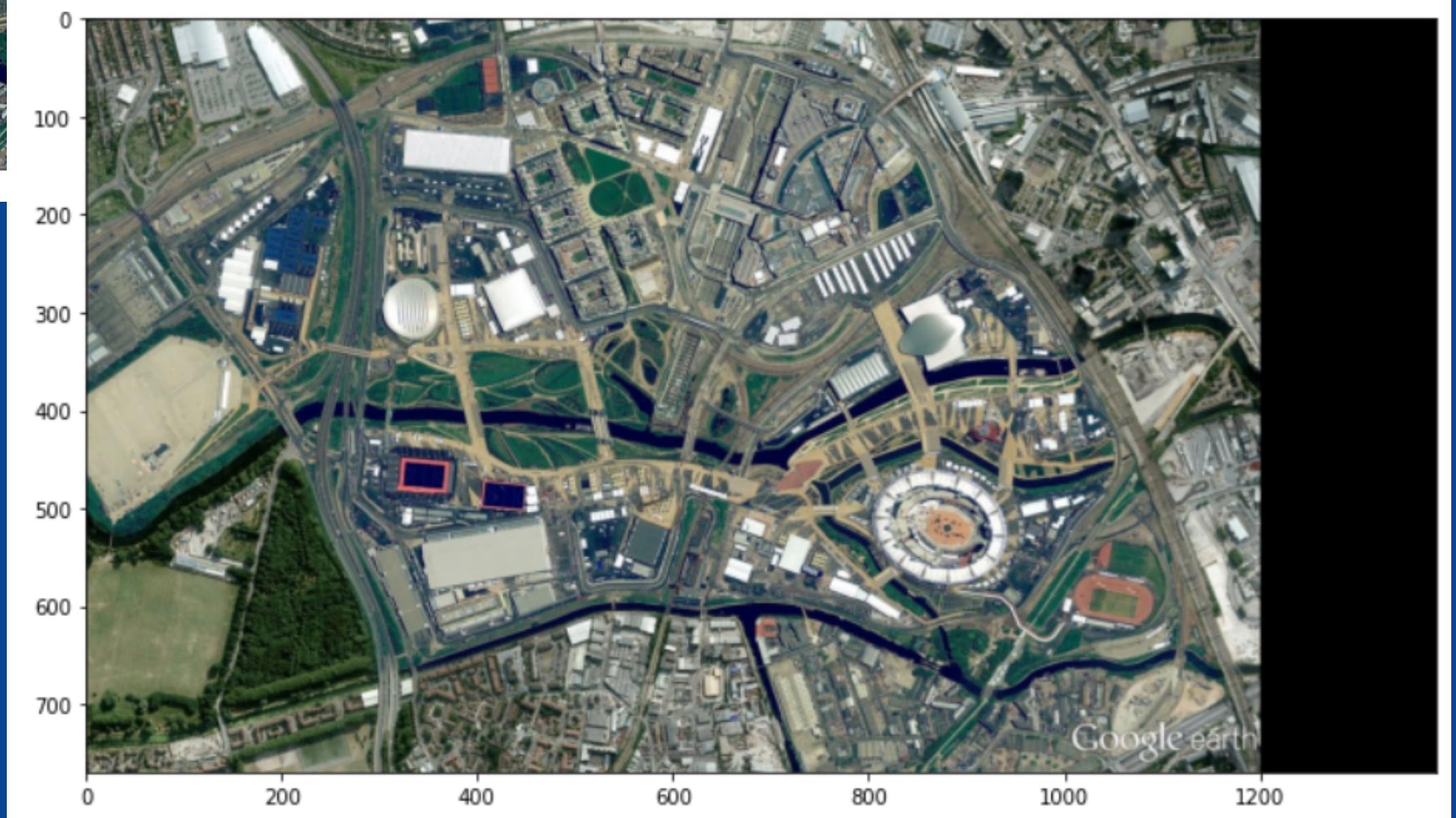
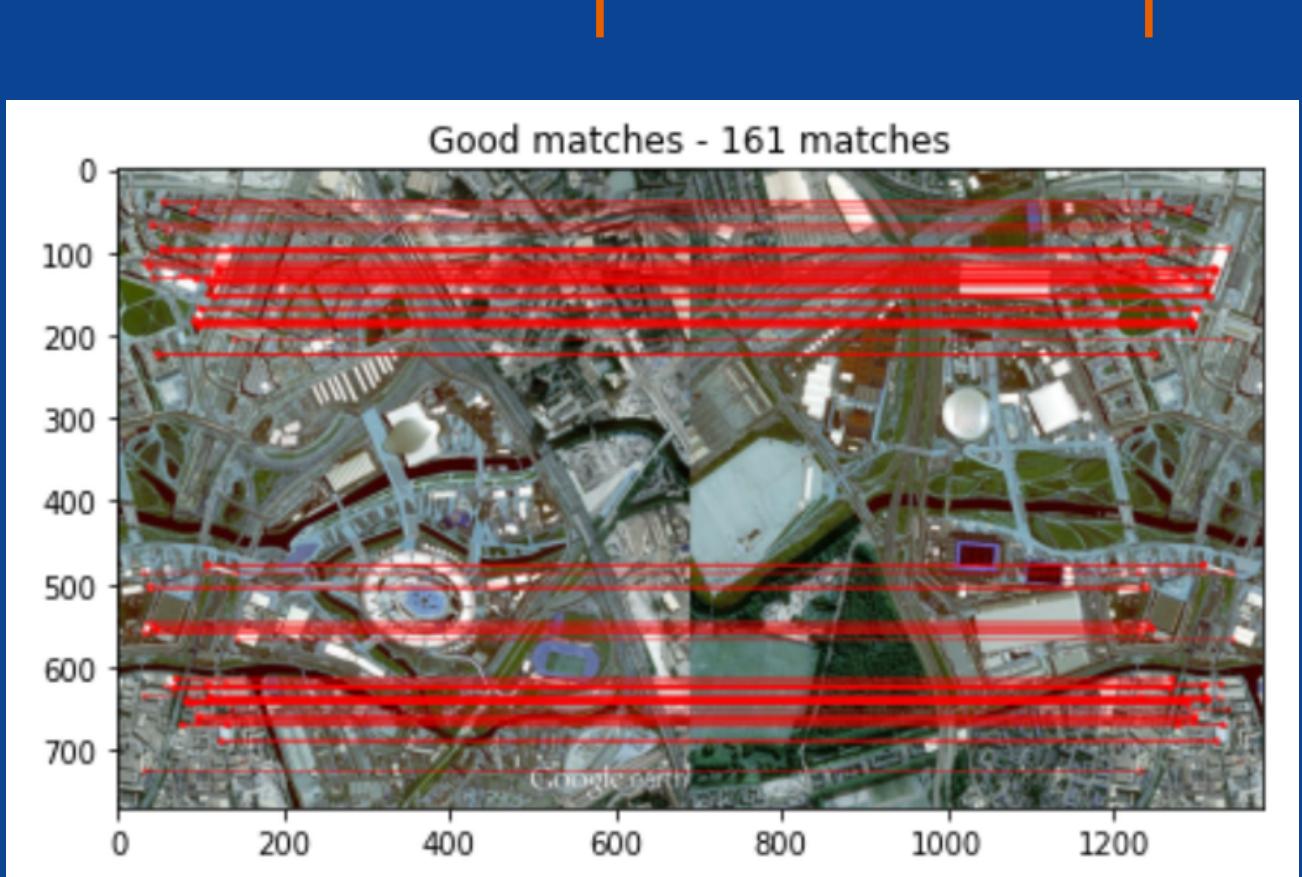


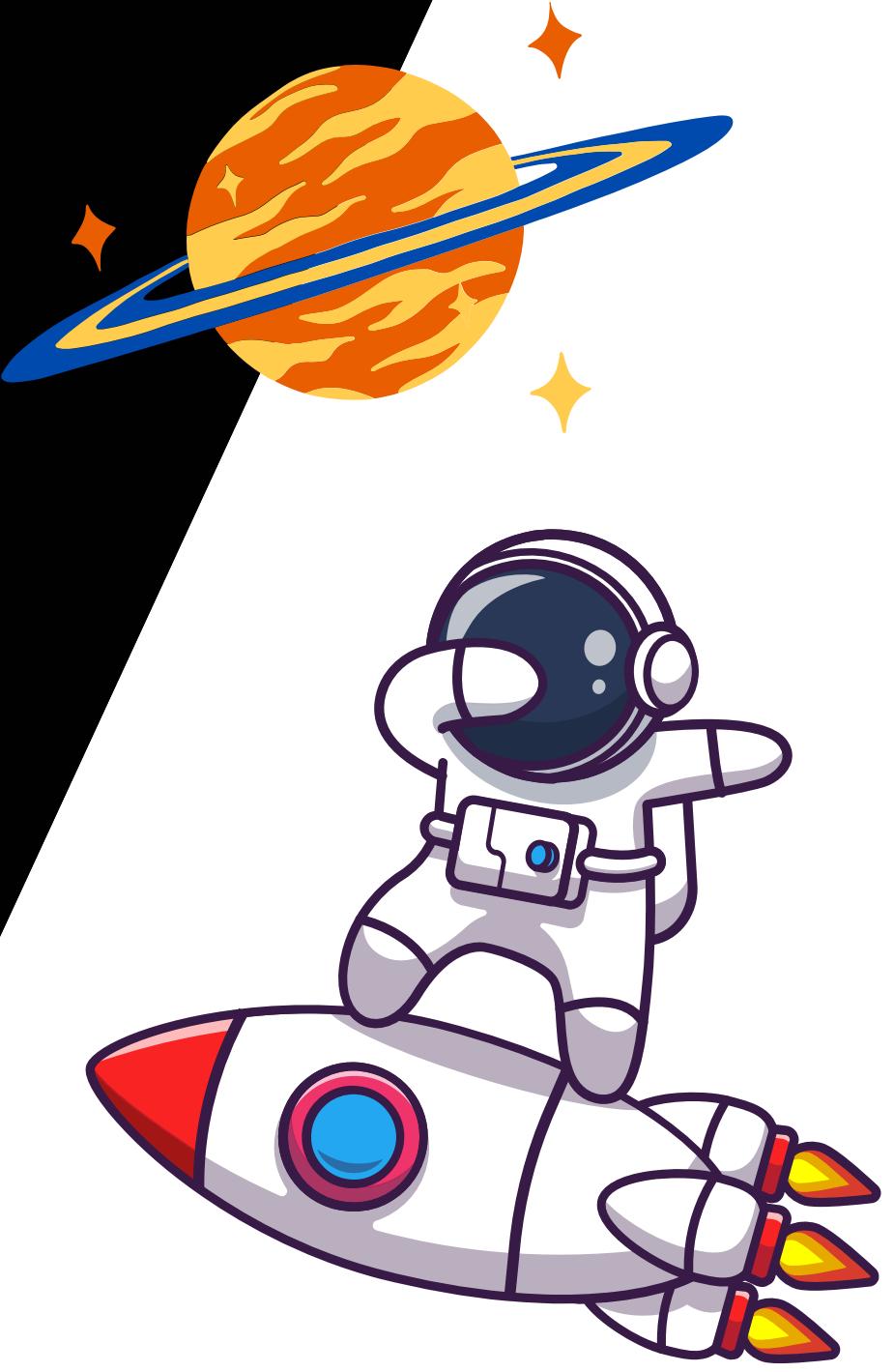
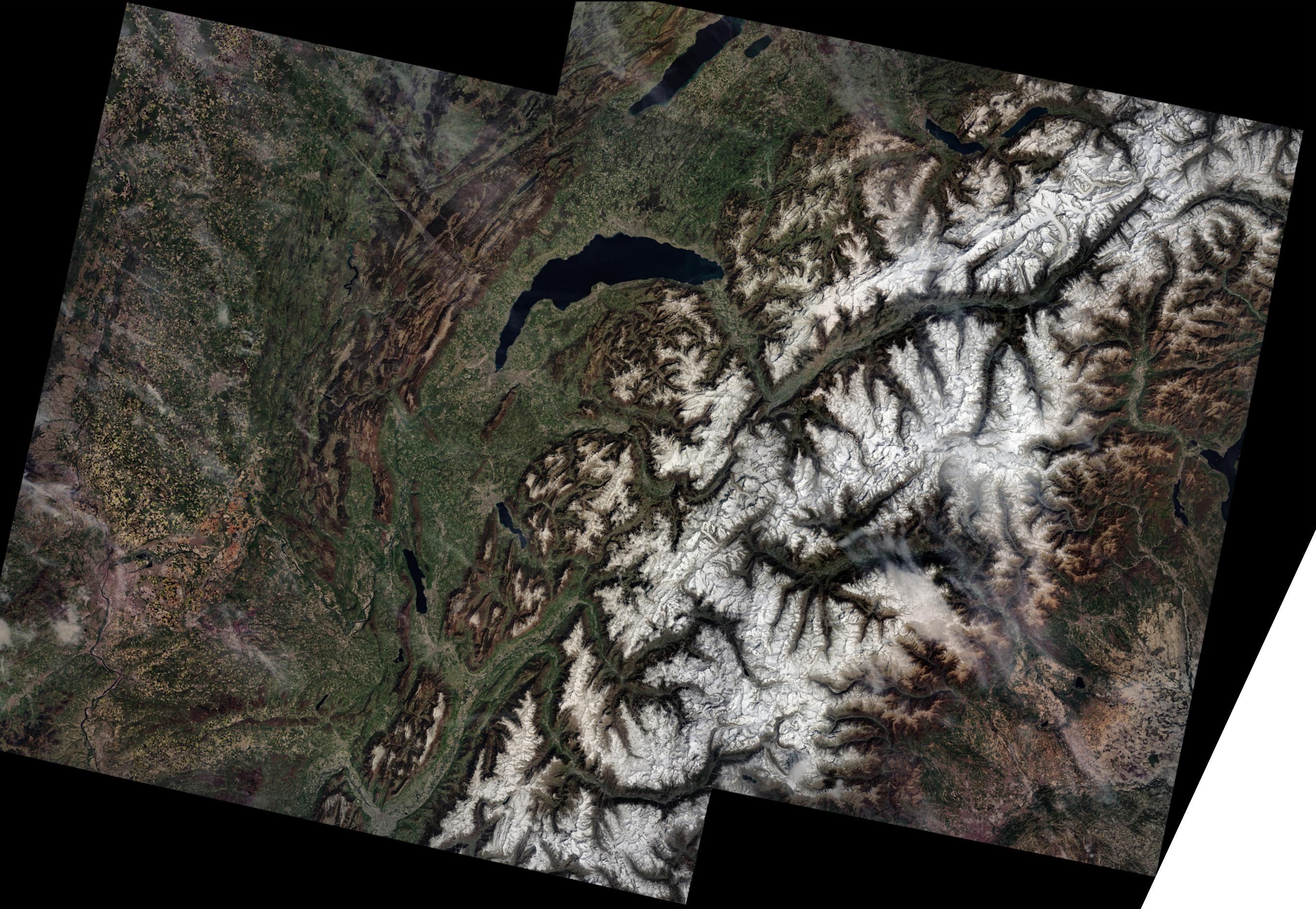
- Détection de 2000 Keypoints (ORB)
- Matching des points
- Tri des points (David Lowe's test de ratio)
- Matrice homographique
- Fusion des deux images

# Mosaicing



3





merci !