

Surface soil moisture (SSM) in terms of backscatter intensity can be expressed as follows:

$$SSM = \frac{\sigma^0 - dry_{ref}}{wet_{ref} - dry_{ref}}$$

where,

σ^0 is backscatter intensity of pixel,

dry_{ref} is historical minimum back scatter intensity of same pixel

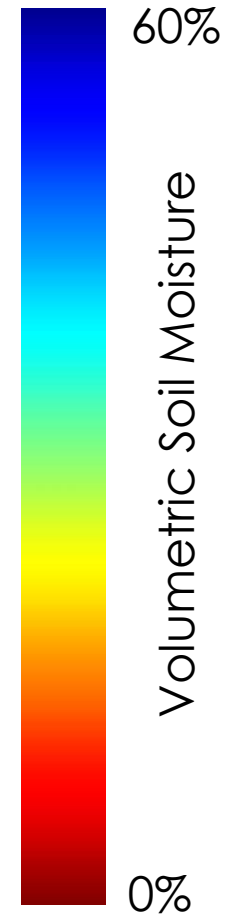
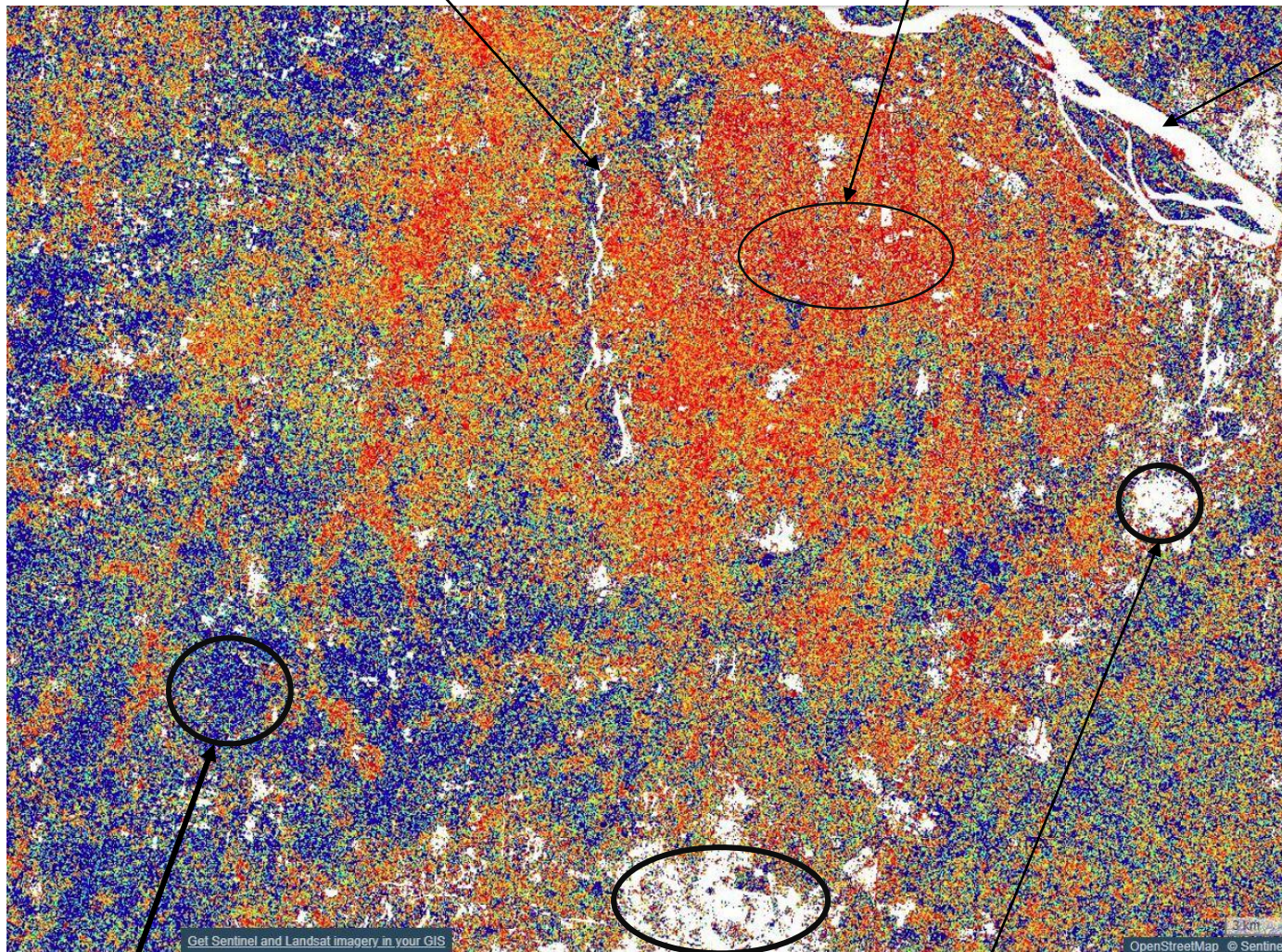
wet_{ref} is historical maximum back scatter intensity of same pixel

Interpreting the results

Lay over effect
(white-masked)

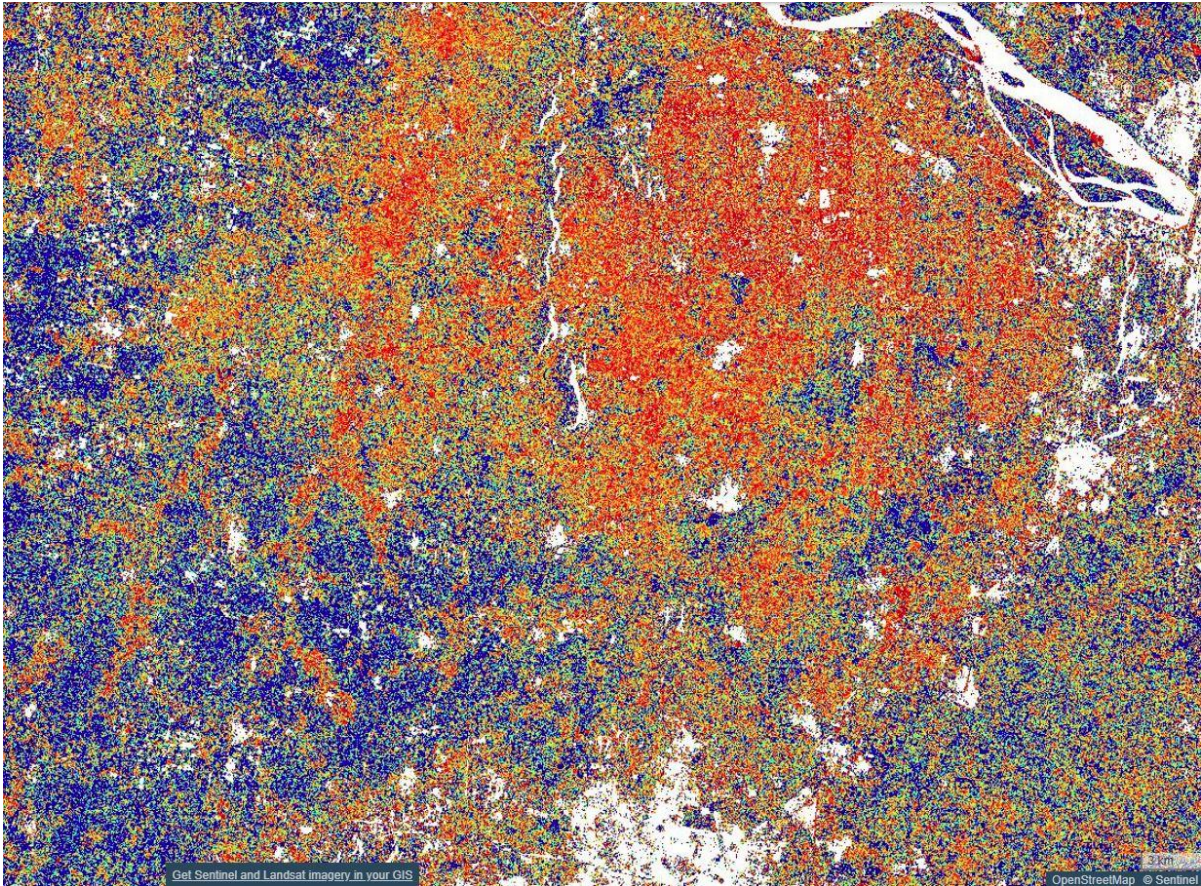
Dry soil

Permanent Water body
-River(white-masked)



Wet soil

Built-up Area (white-masked)

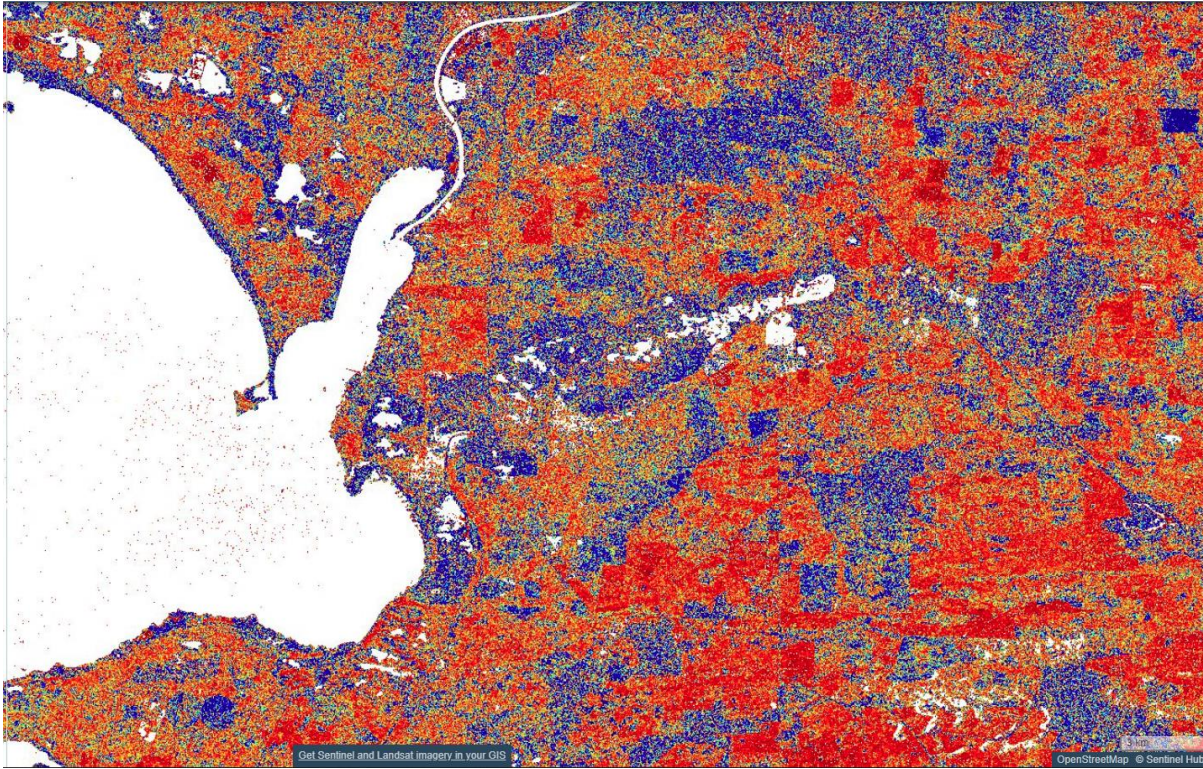


Soil moisture map



True color composite
(Google earth image)

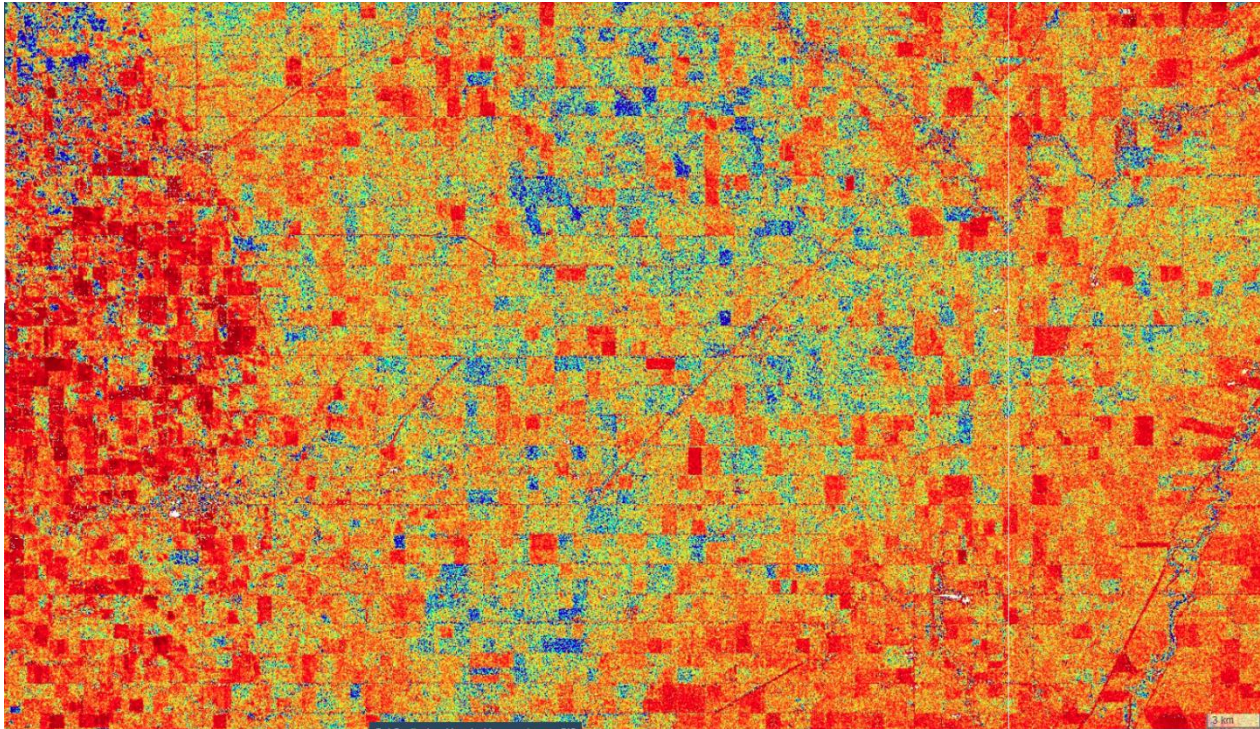
Malinong, Australia



Soil moisture map



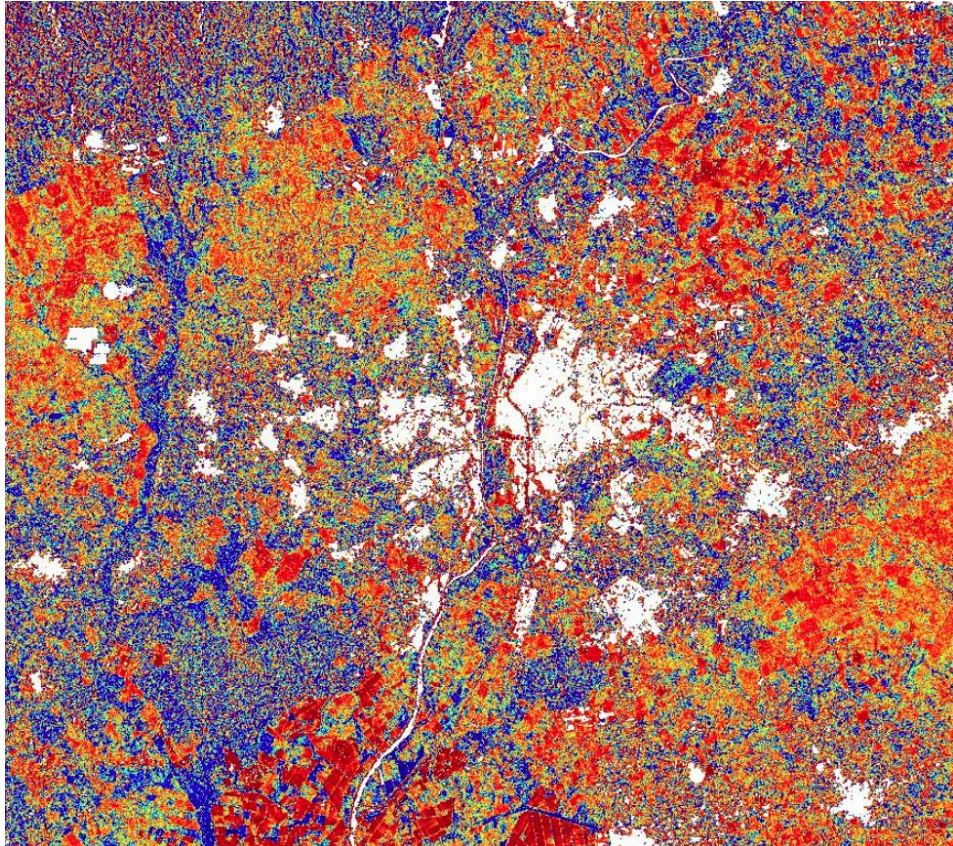
True color composite
(Google earth image)



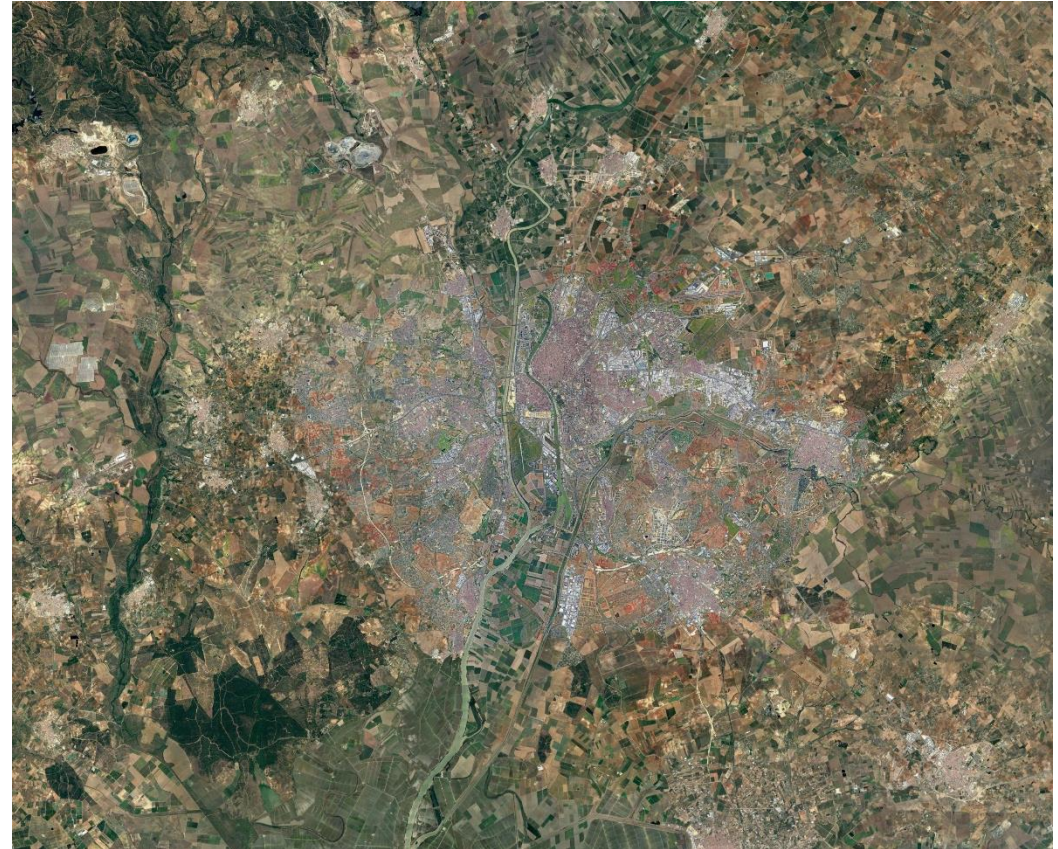
Soil moisture map



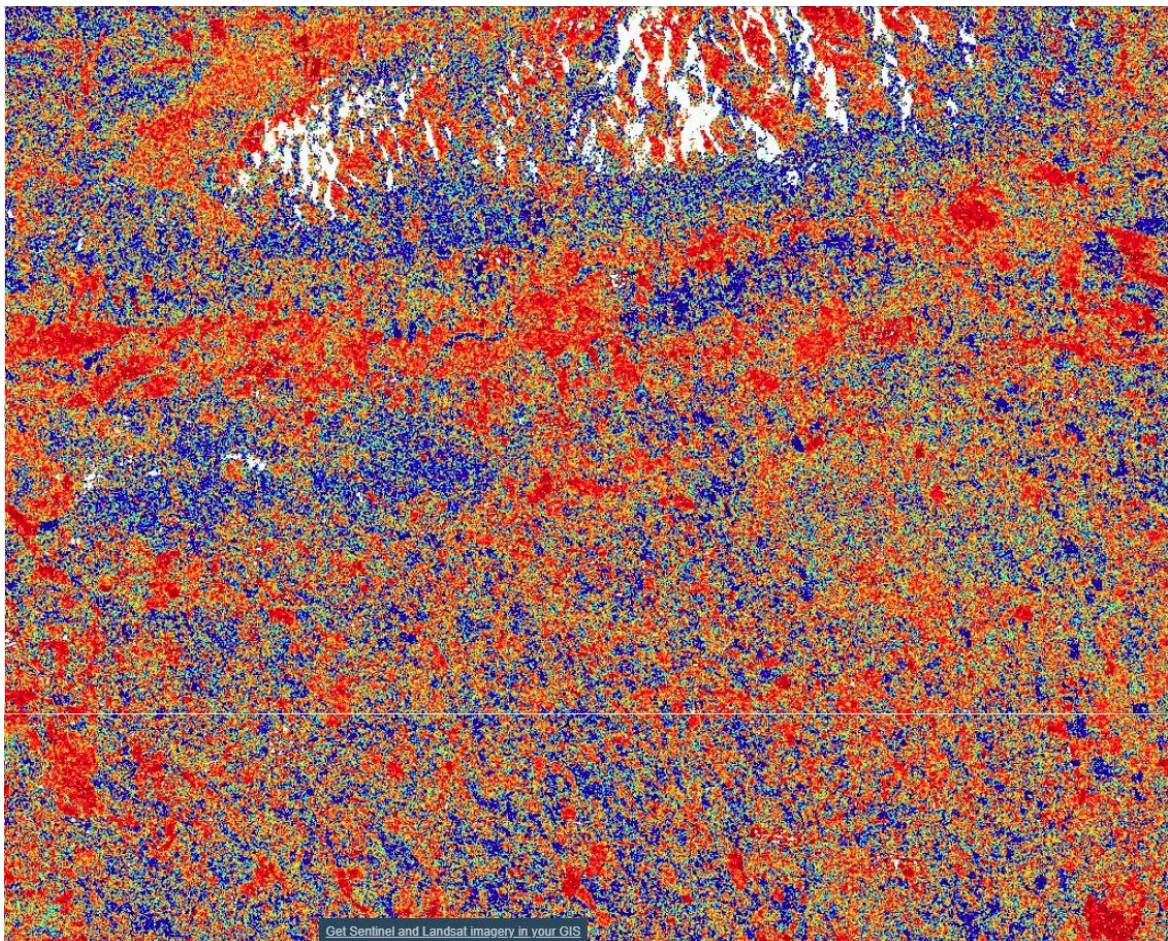
True color composite
(Google earth image)



Soil moisture map



True color composite
(Google earth image)



Soil moisture map



True color composite
(Google earth image)