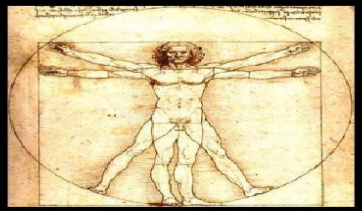
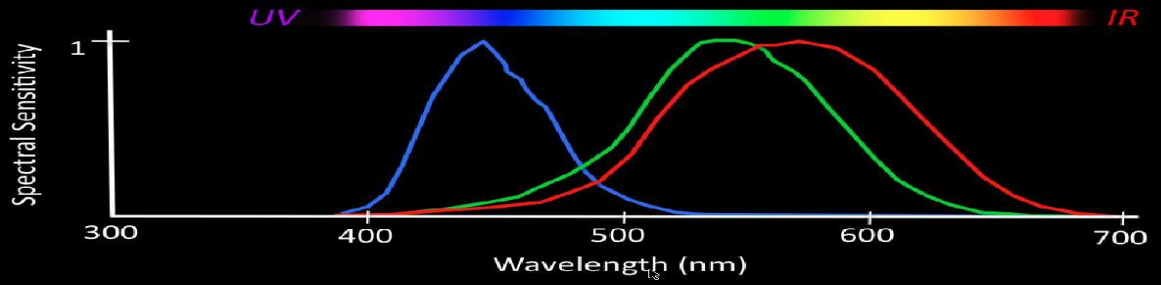
Fig. 1.2.3D

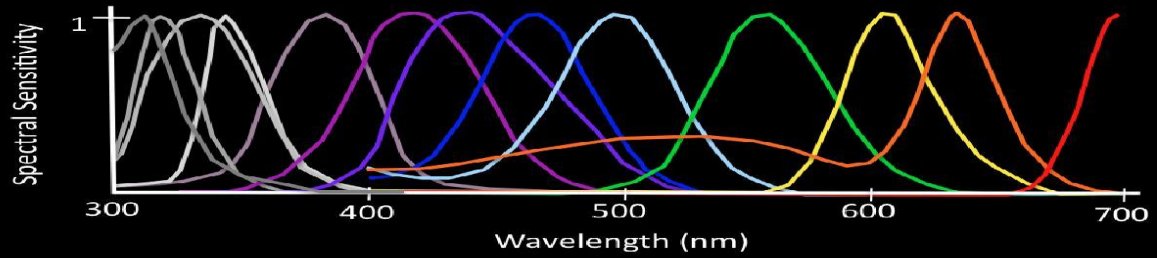
Mantis Shrimp: Extraordinary Eyes

Homo sapiens





Neogonodactylus oestedii



Marshall *et al.*, 2007; Marshall and Oberwinkler, 1999

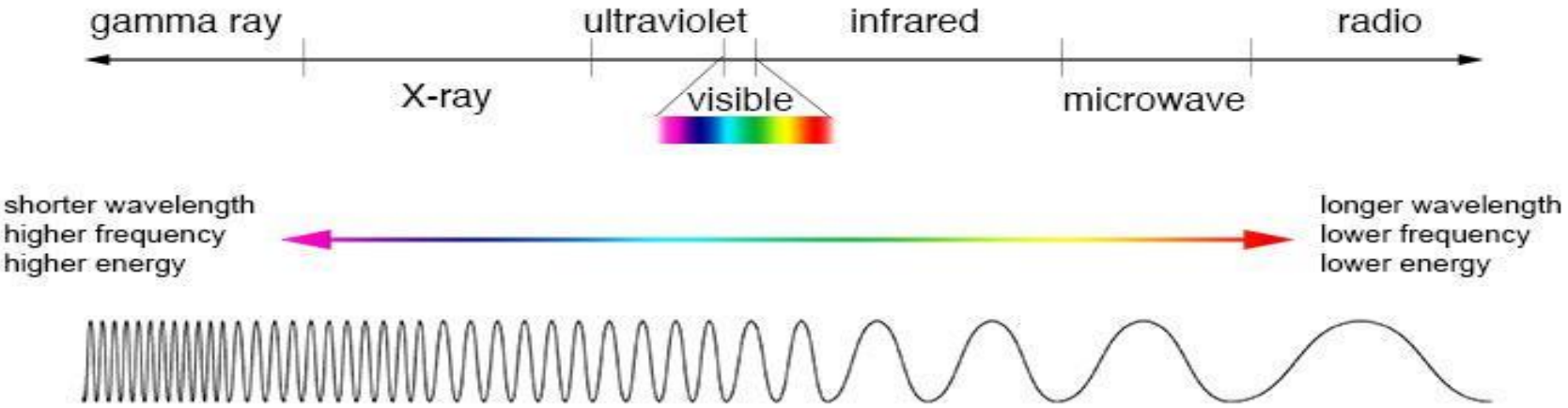
EXPERT MINER

Team biteCode
Gihan Chanaka Jayatilaka
Harshana Sumedha Weligampola
Suren Sritharan

DISCOVERING EARTH RESOURCES IN SRI LANKA USING HYPERSPECTRAL IMAGERY (HSI)

Objective : To pinpoint the earth resource locations in the country

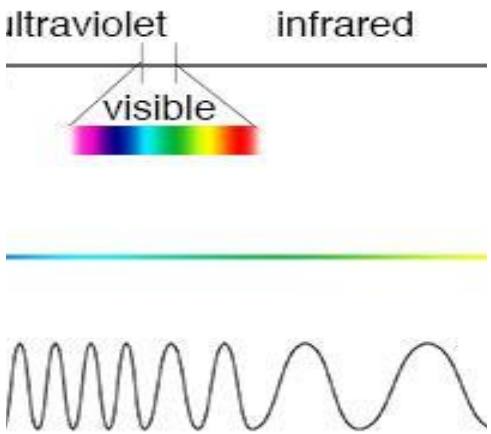
The Electromagnetic Spectrum



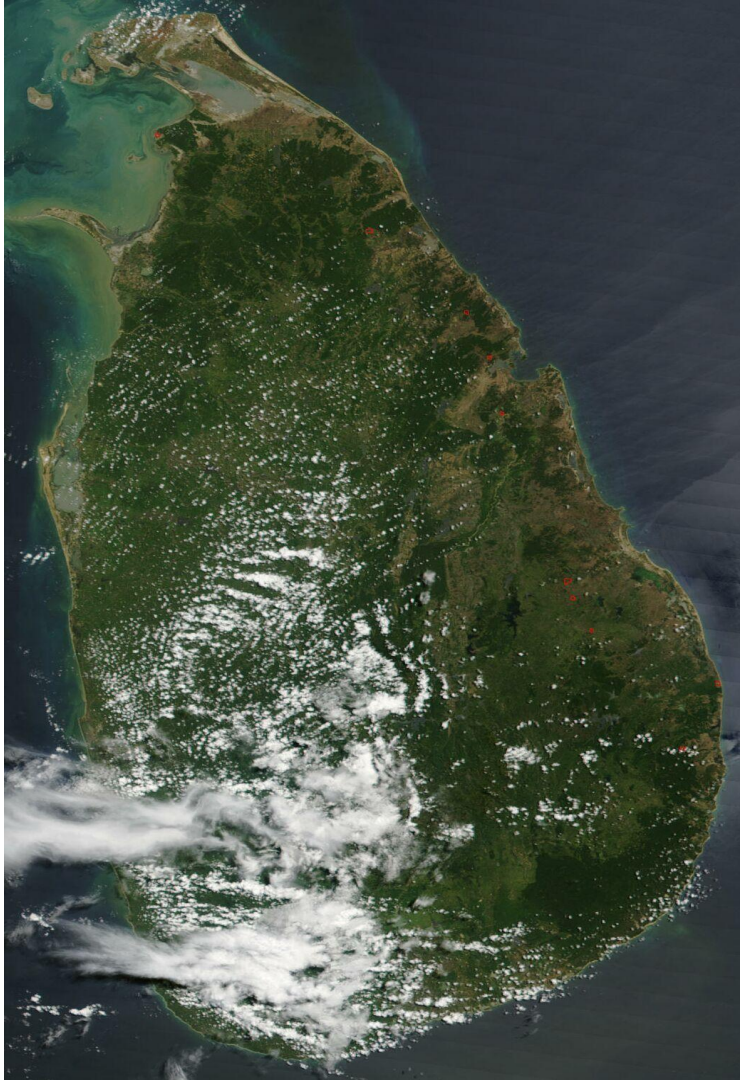
Normal RGB Cameras

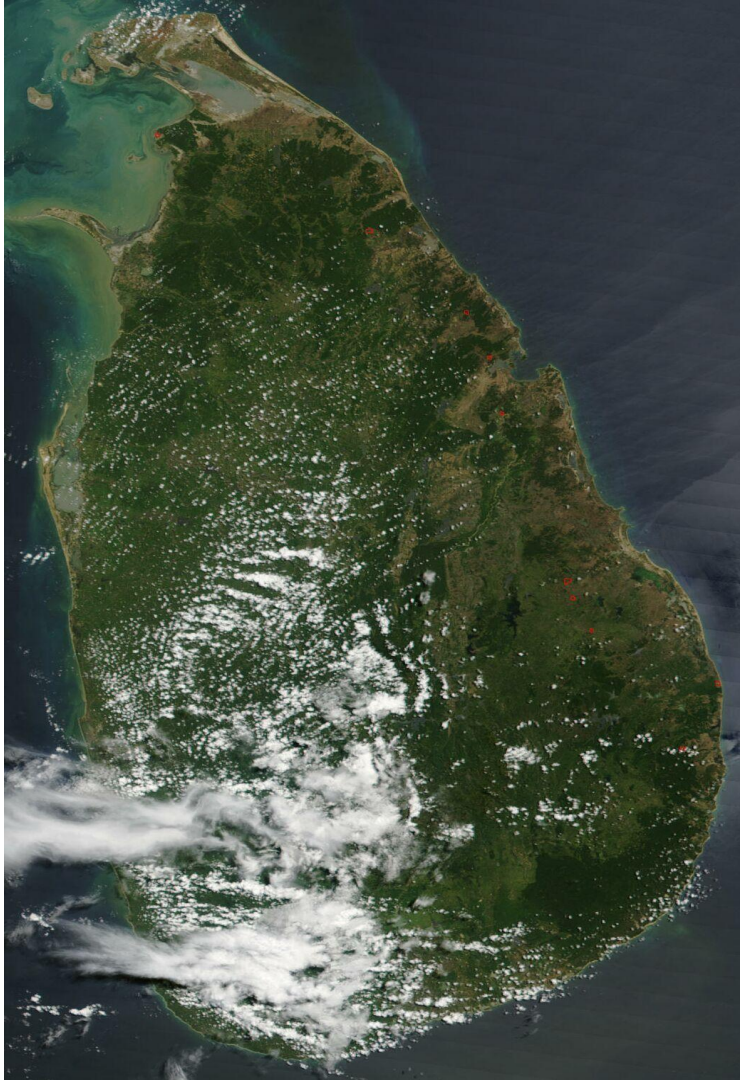
3 colour bands

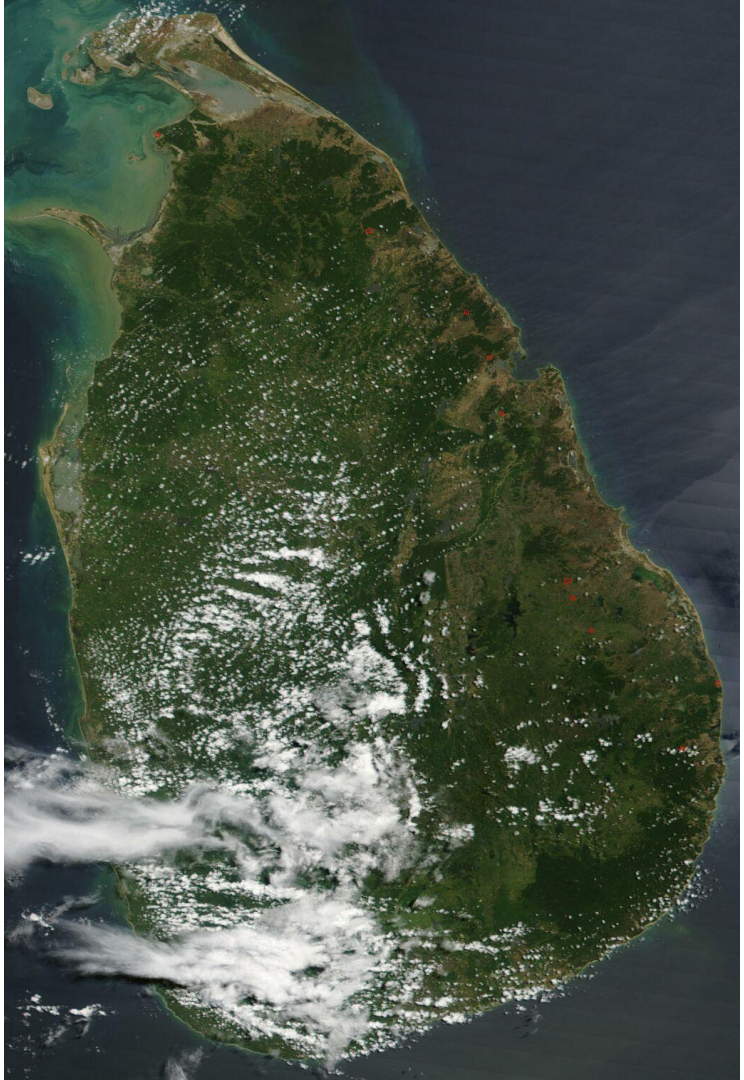
Hyperspectral Cameras

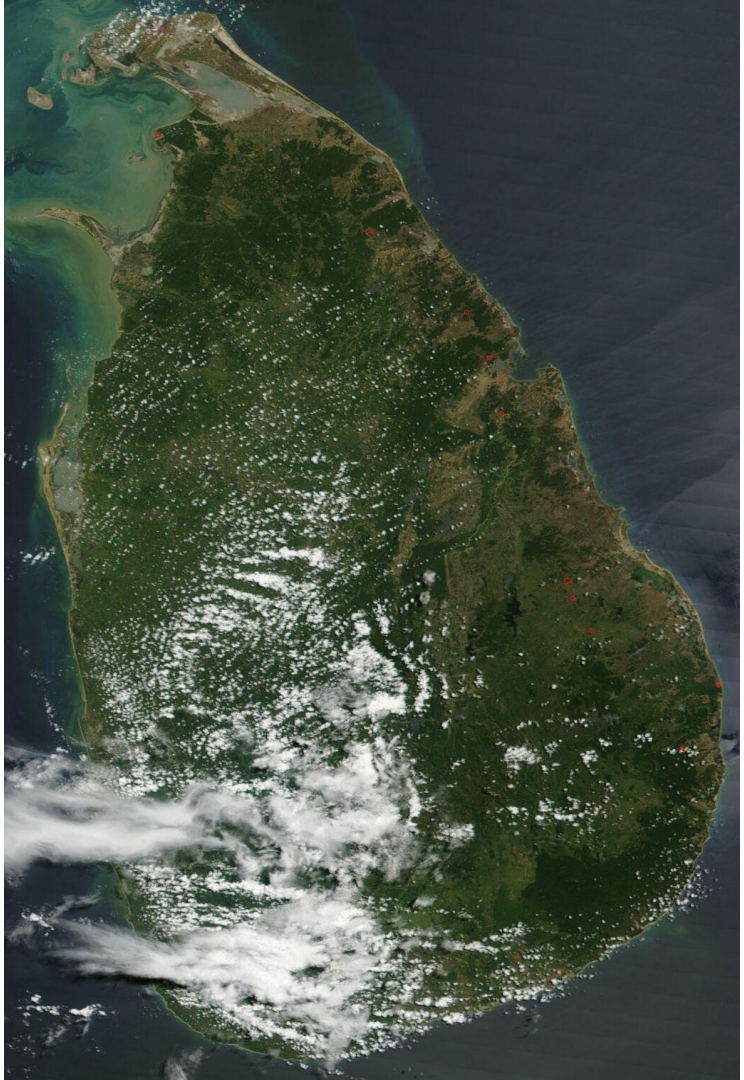


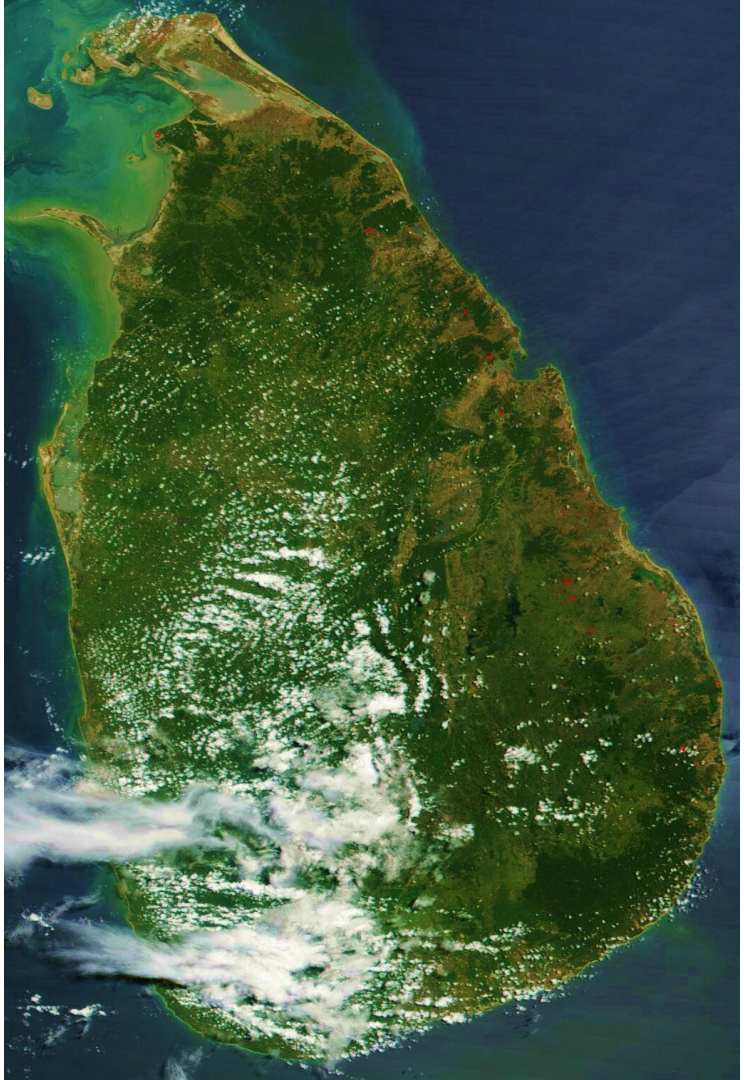
103 colour bands





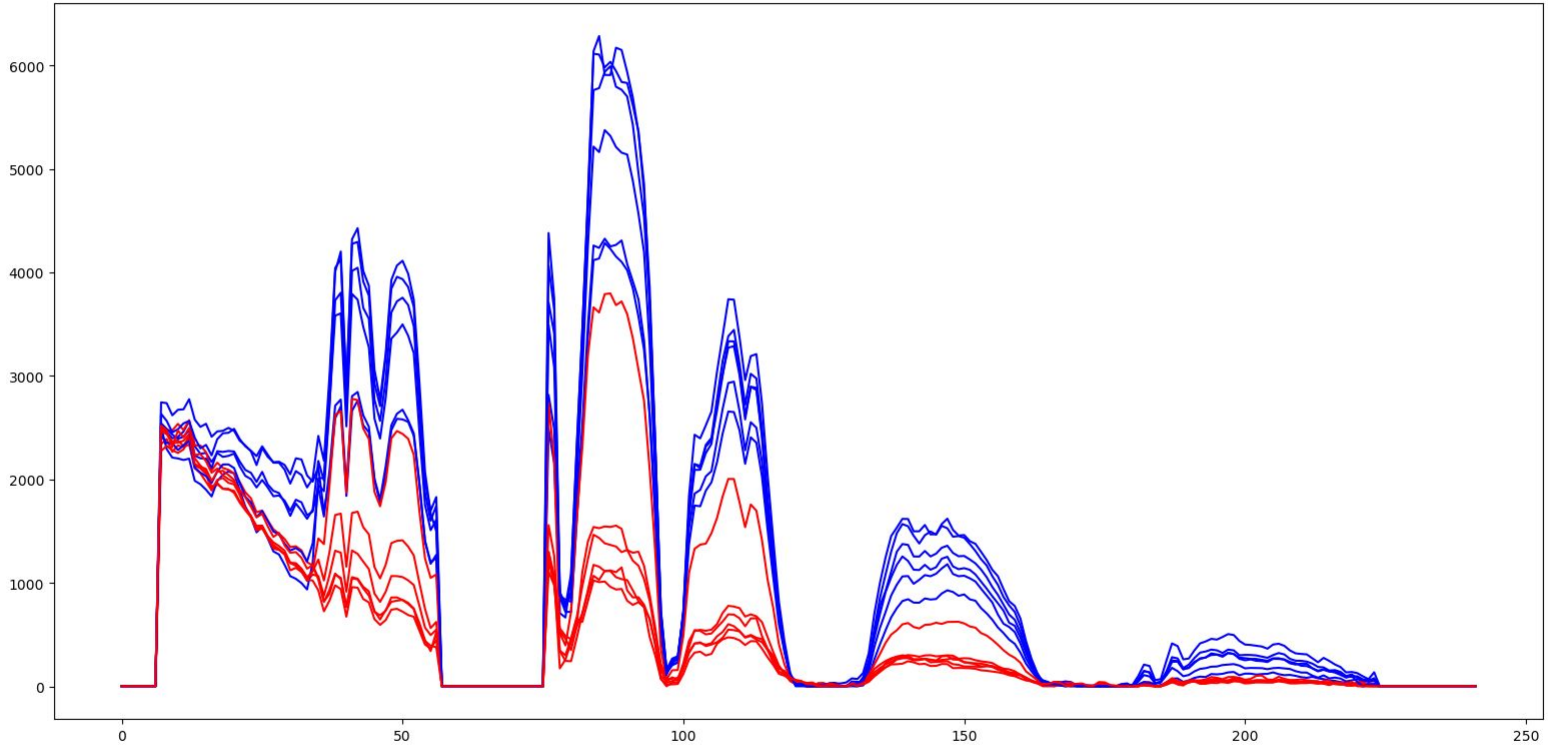






Why HSI?

- RGB photographs do not show any difference for a land with or without a certain mineral underneath.
- But these minerals tend to reflect/emit the EM waves differently in other bands of the spectrum.


6000
5000
4000
3000
2000
1000
0
0
50
100
150
200
250

	2014
Mining & Quarrying	3.00%
Manufacturing	17.30%
Electricity, Gas & Water	2.40%
Construction	9.70%

Impact

- Sri Lanka earns 1.2 Billion USD per annum from mining earth resources.
- But this is less than 2% of the GDP.

- Reliable and cheap prediction WHERE to mine can increase the mining by a several fold.

Thank you!