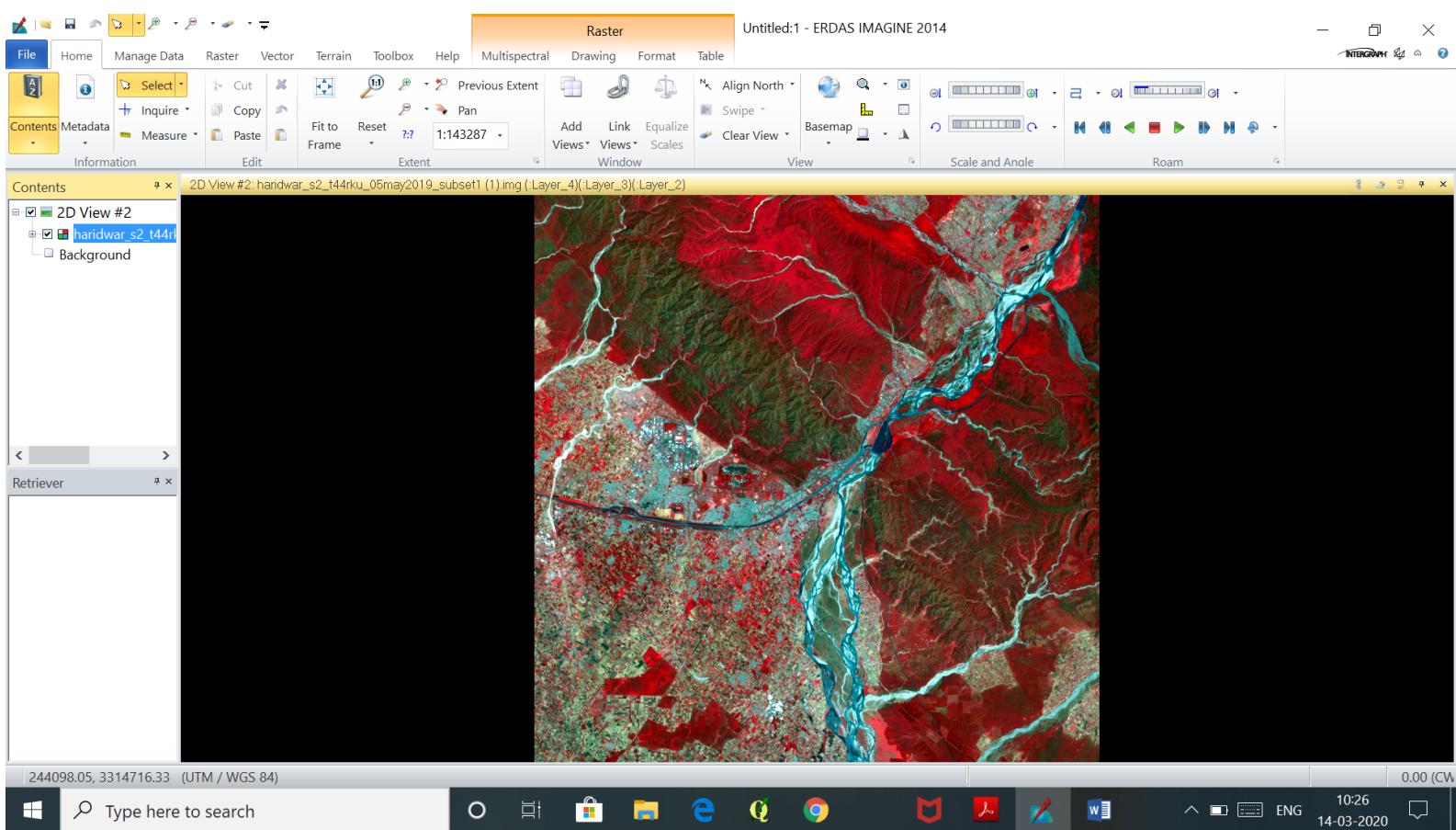
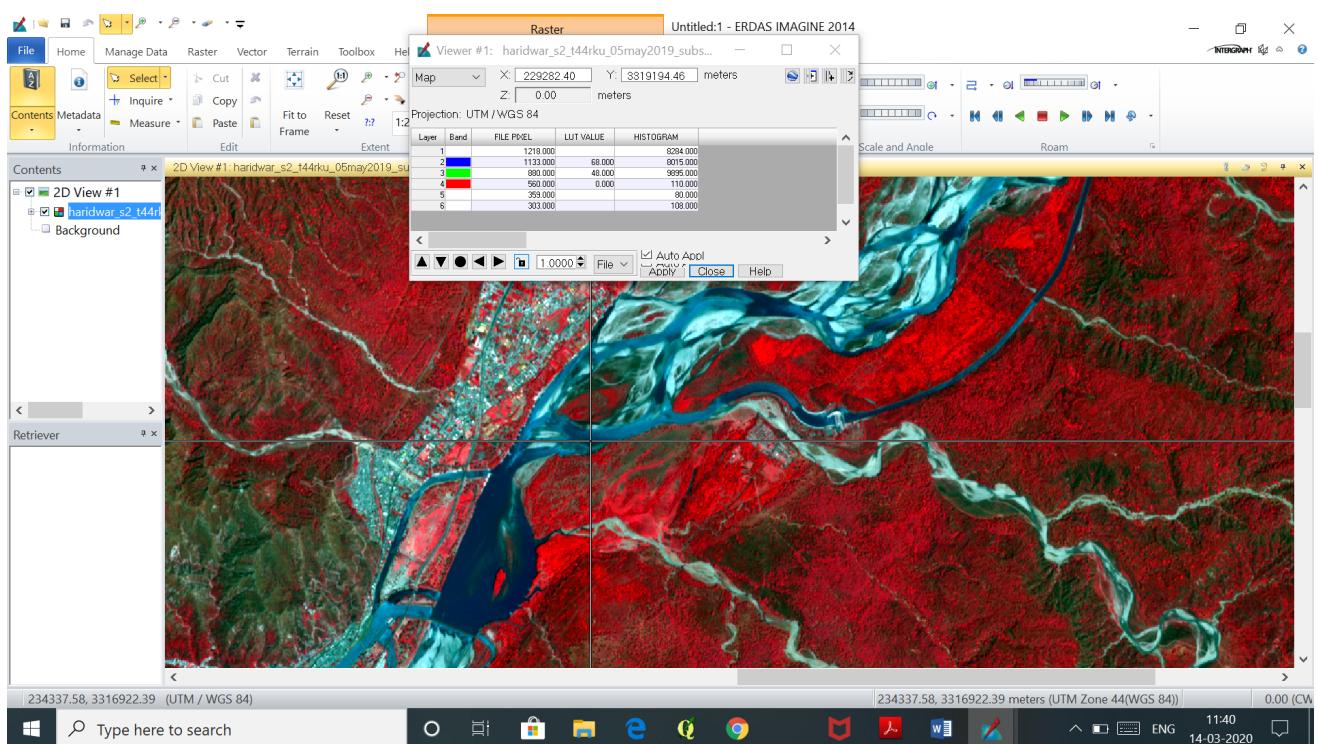


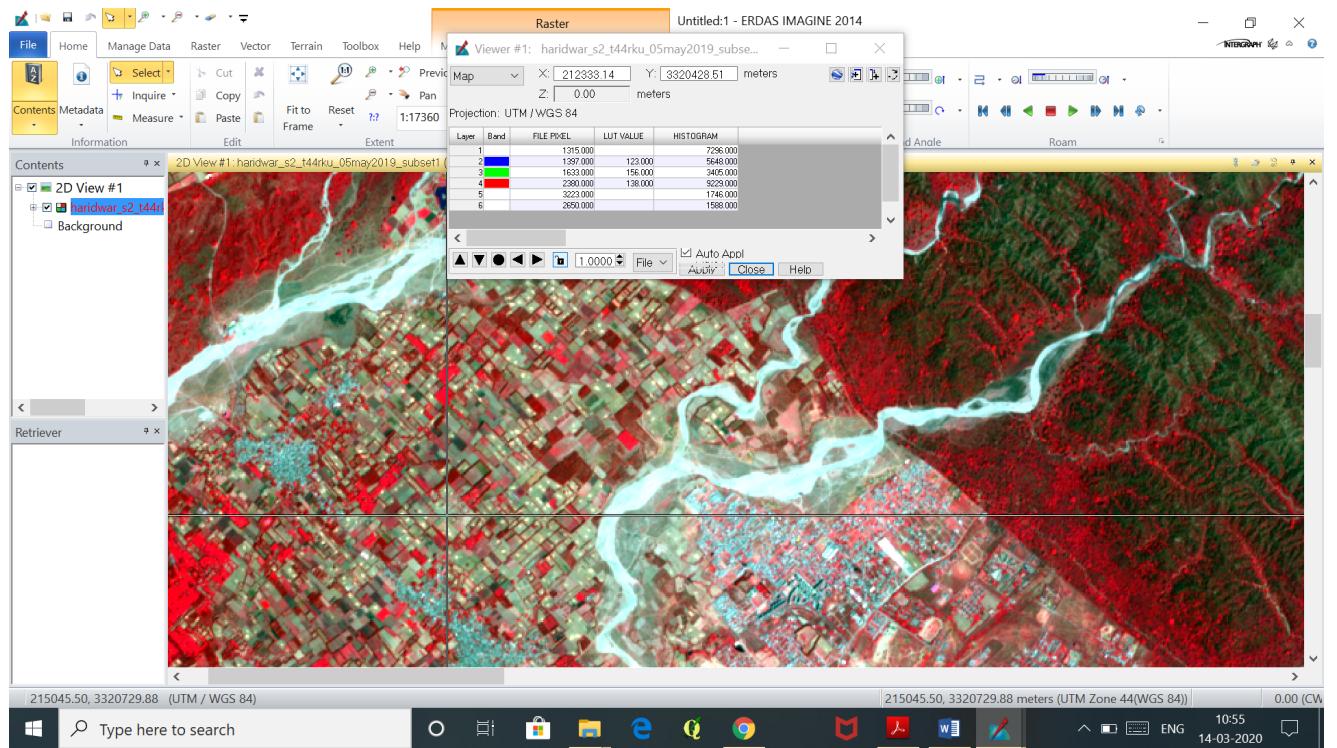
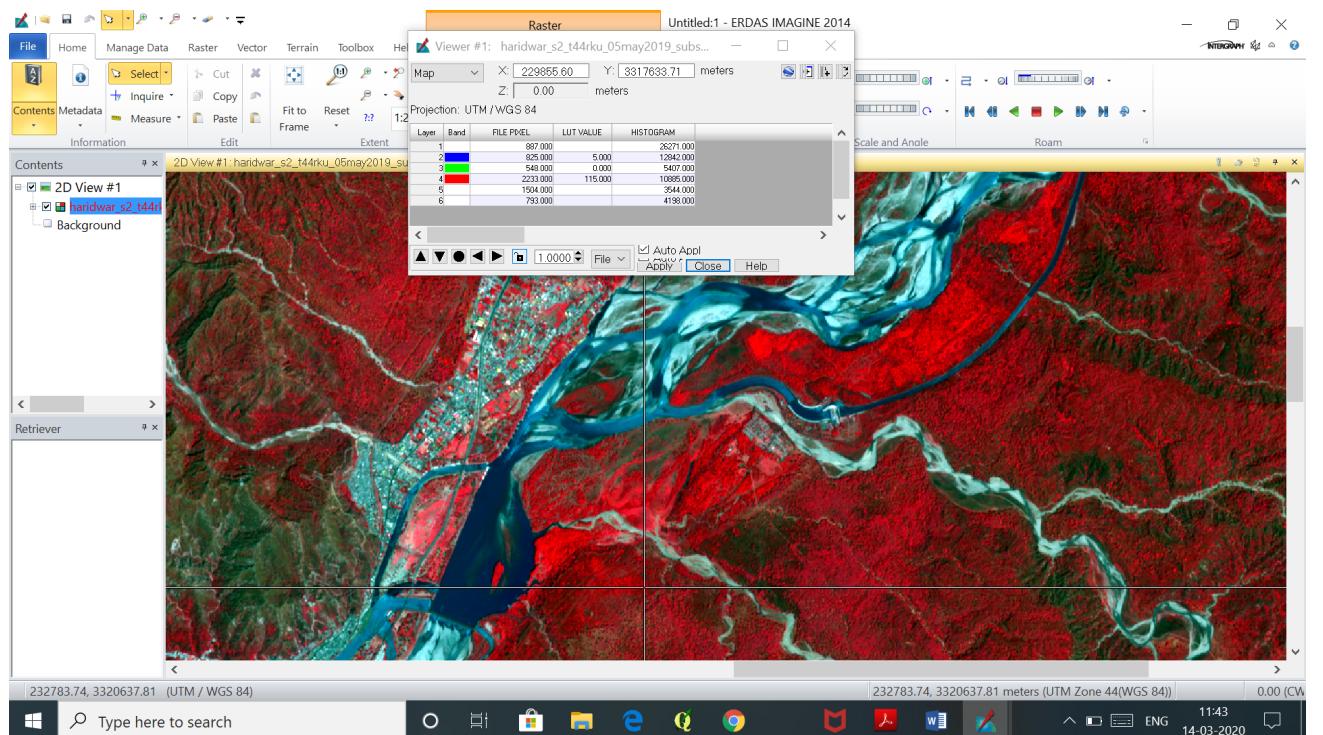
IMAGE 1: HARIDWAR



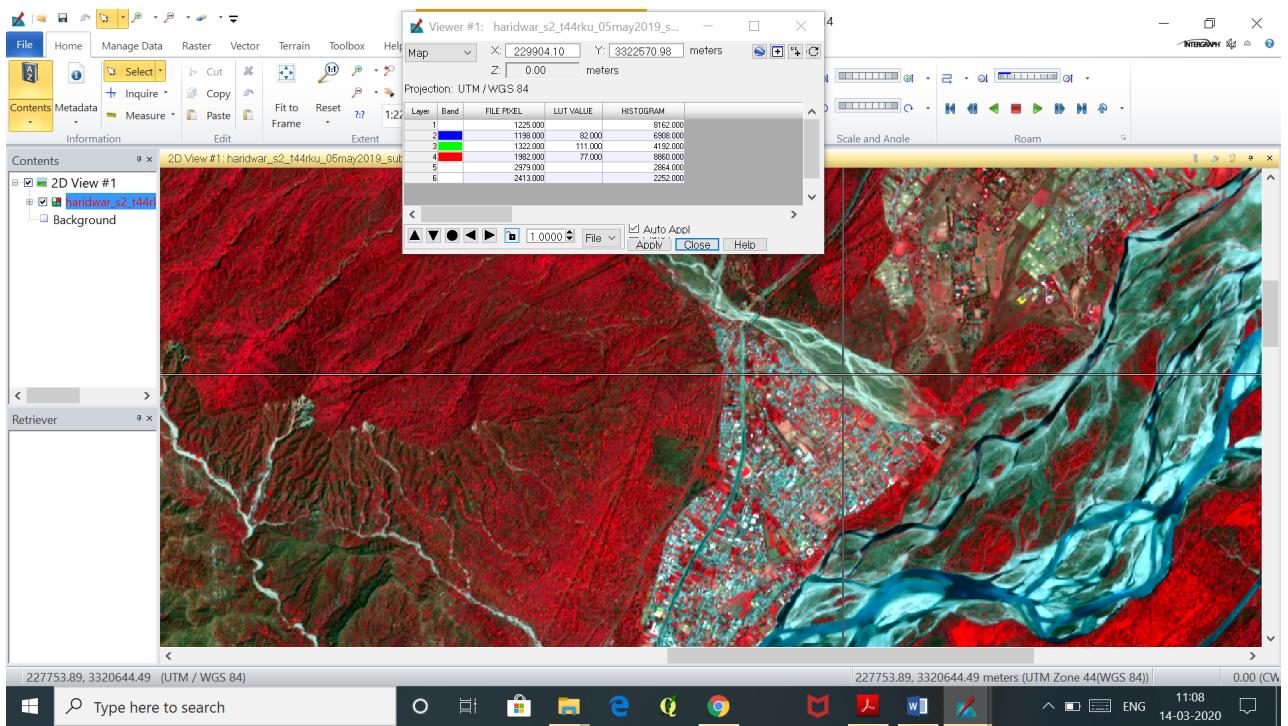
FEATURES

A.

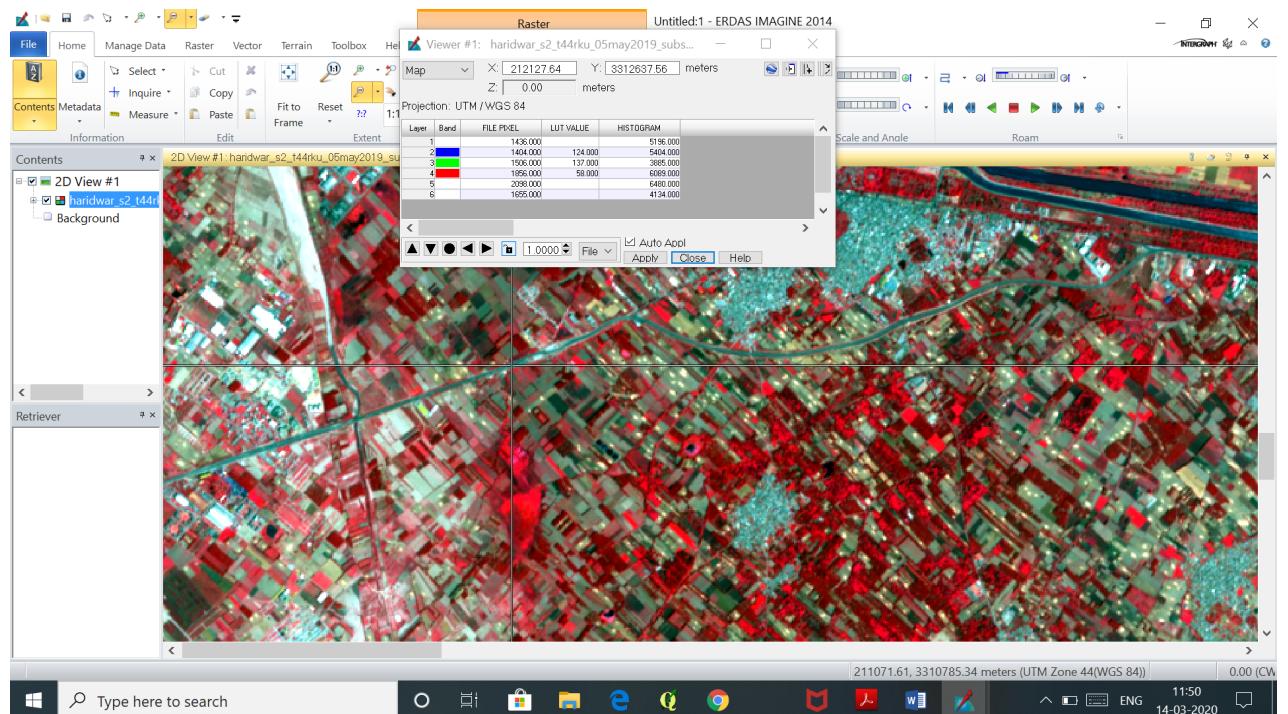


B.**C.**

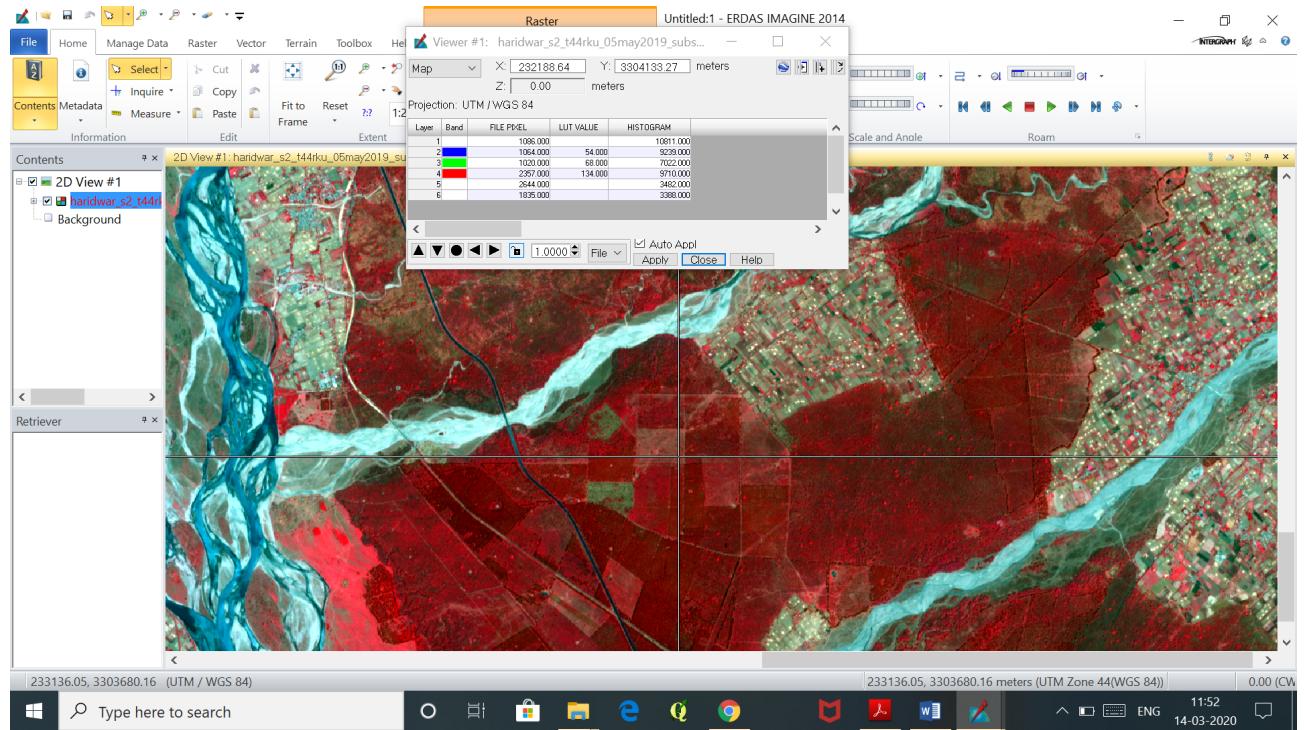
D.



E.



F.

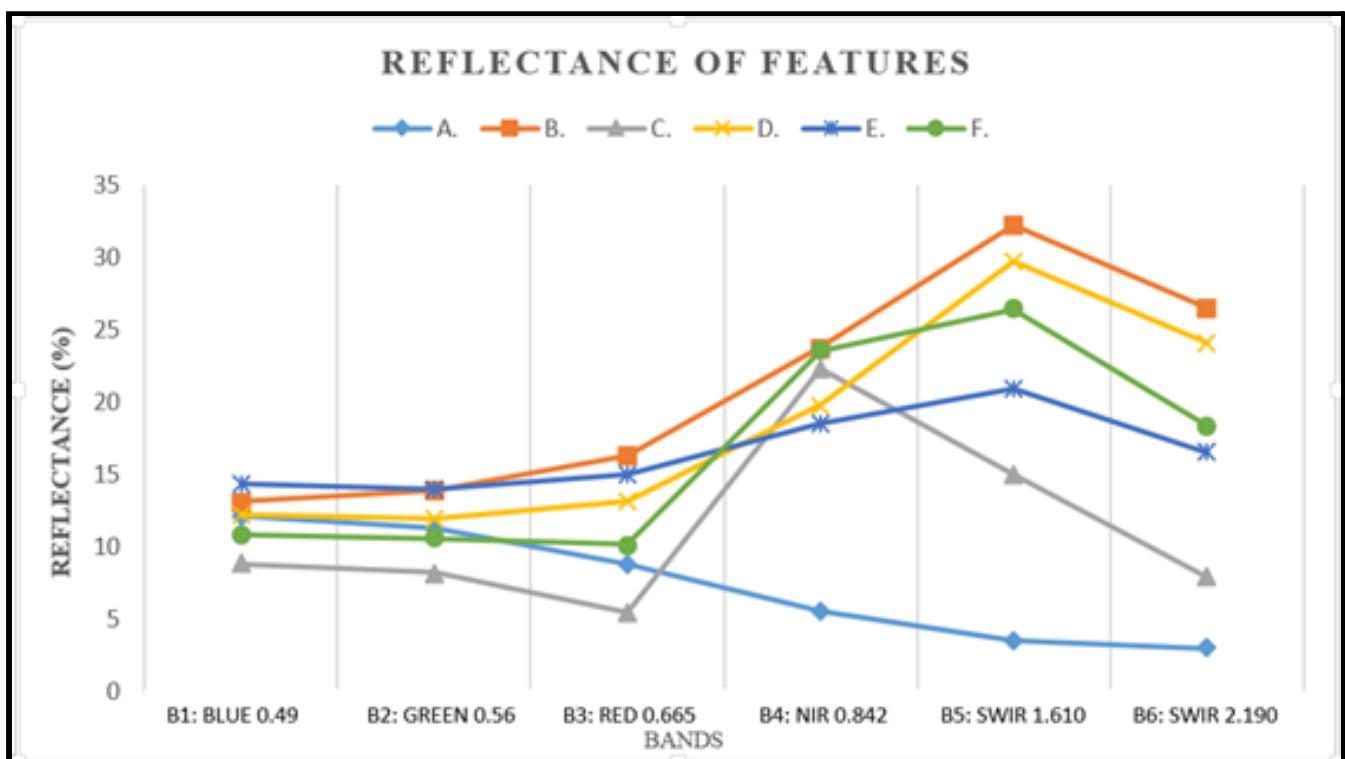


Digital Number values of features identified

Features	Digital Number Values (FCC)					
	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6
A.	1218	1133	880	560	359	303
B.	1315	1397	1633	2380	3223	2650
C.	887	825	548	2233	1504	793
D.	1225	1198	1322	1982	2979	2413
E.	1436	1404	1506	1856	2098	1655
F.	1086	1064	1020	2357	2644	1835

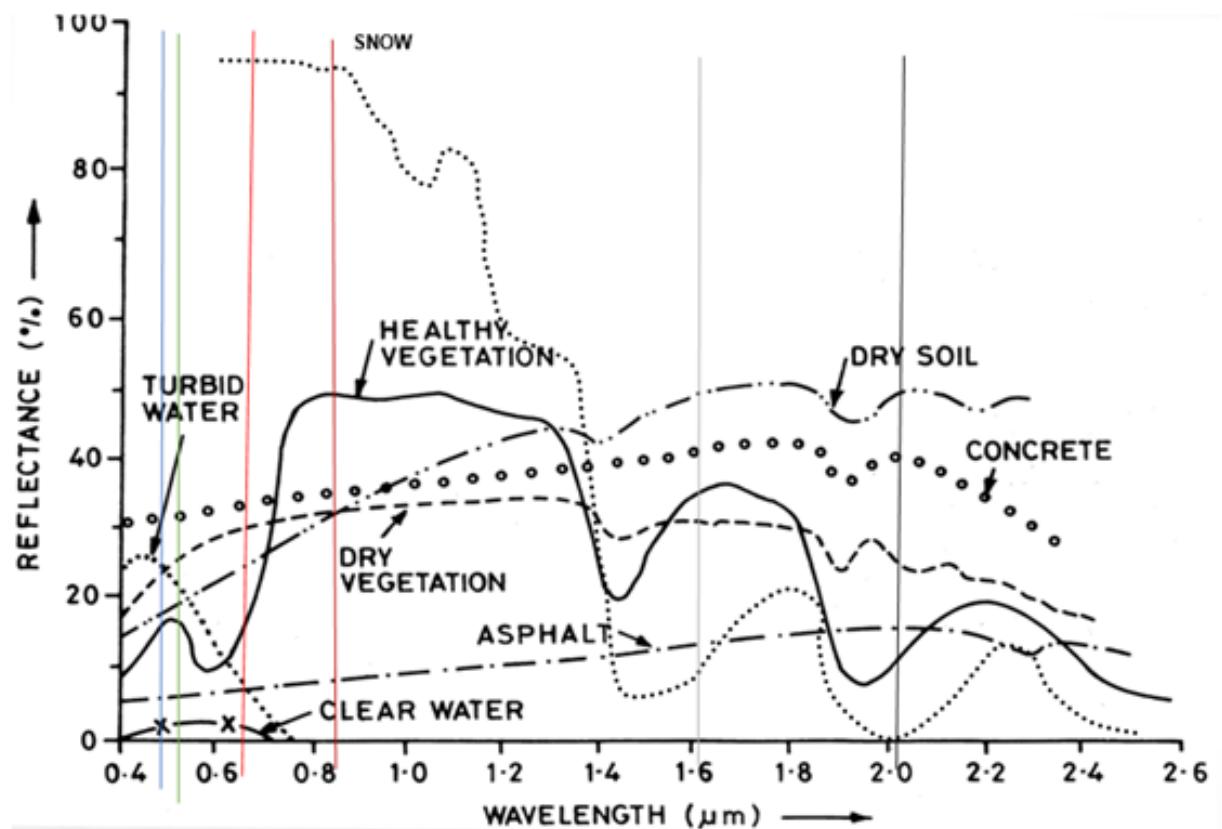
Reflectance in (%) for features identified

Features	Reflectance in % (FCC)					
	B1: Blue 0.49	B2: Green 0.56	B3: Red 0.665	B4: NIR 0.842	B5: SWIR 1.601	B6: SWIR 2.190
A.	12.18	11.33	8.80	5.60	3.59	3.03
B.	13.15	13.97	16.33	23.80	32.23	26.50
C.	8.87	8.25	5.48	22.33	15.04	7.93
D.	12.25	11.98	13.22	19.82	29.79	24.13
E.	14.36	14.04	15.06	18.56	20.98	16.55
F.	10.86	10.64	10.20	23.57	26.44	18.35



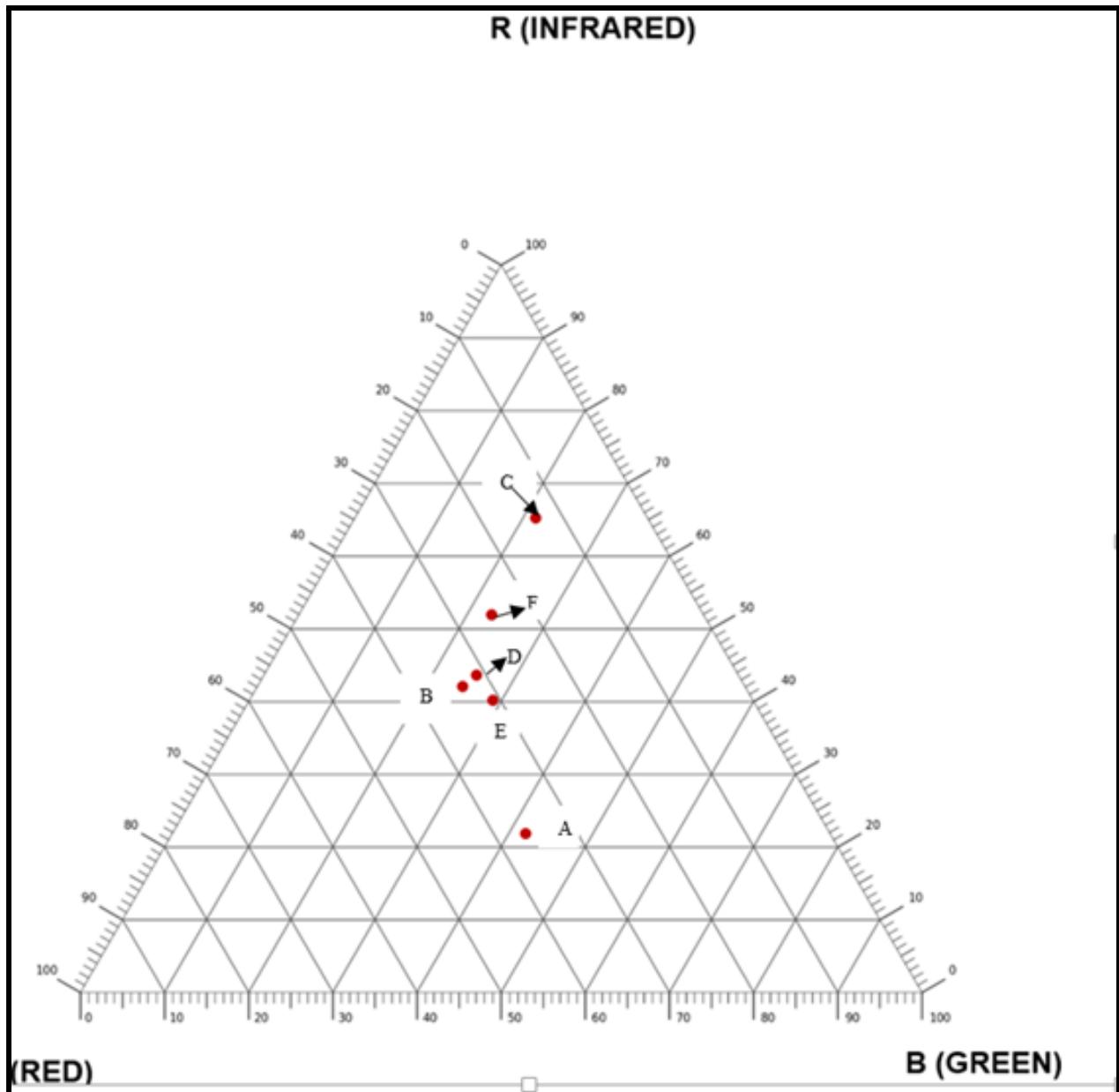
Reflectance of features plotted on line graph.

Spectral Signature Curves for Common Objects



Sentinel-2 Bands	Wavelengths
	B1: Blue 0.49
	B2: Green 0.56
	B3: Red 0.665
	B4: NIR 0.842
	B5: SWIR 1.610
	B6: SWIR 2.190

TERNARY DIAGRAM FOR FEATURES BASED ON REFLECTANCE



Calculation of reflectance for ternary representation

Features	DN Values (FCC)			Reflectance for ternary representation (%)		
	B2: Green 0.56	B3: Red 0.665	B4: NIR 0.842	B2: Green	B3: Red	B4: NIR
A.	1133	880	560	44	34	22
B.	1397	1633	2380	26	30	44
C.	825	548	2233	23	15	62
D.	1198	1322	1982	27	29	44
E.	1404	1506	1856	29	32	39
F.	1064	1020	2357	24	23	53

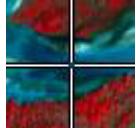
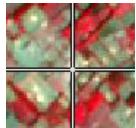
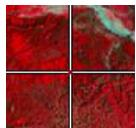
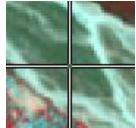
IMAGE INTERPRETATION-1

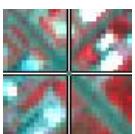
1. INTRODUCTION

This is image no. 1 which has been taken for interpretation. In the photo above, **6 land covers are distinct and identifiable.** This image is in standard false colour composite. For identification of those elements we have marked it with letters of the alphabet in the pages above.

2. INTERPRETATION

2.1 INTERPRETATION TABLE

Feature	Tone	Size	Shape	Texture	Pattern	Height/ shadow	Remarks
A. 	Blue	Large	Randomly elongated	Smooth	Branched	-	This might be stream carrying turbid water joining main river
B. 	Variable	-	Quadrilaterals	Rough with large grains	Closely stacked dense quads	Silhouette in shape of boxes	This feature might be dense settlement
C. 	Bright red	Large patches	Random	Rough with small grains	Dispersed	Small silhouette	This feature looks like vegetation.
D. 	Gradient with hues of blue, green and white	Small	Randomly channelled	Smooth	Braided	-	It looks like mountainous stream with sediment loaded water

E.		Dark grey	Narrow	Regularly elongated	Smooth	Linear	-	This feature looks like an asphalt road.
F.		Light brown	Small patch	Polygon	Rough with fine grains	Closed packed polygons		This feature looks like barren land with dry soil.

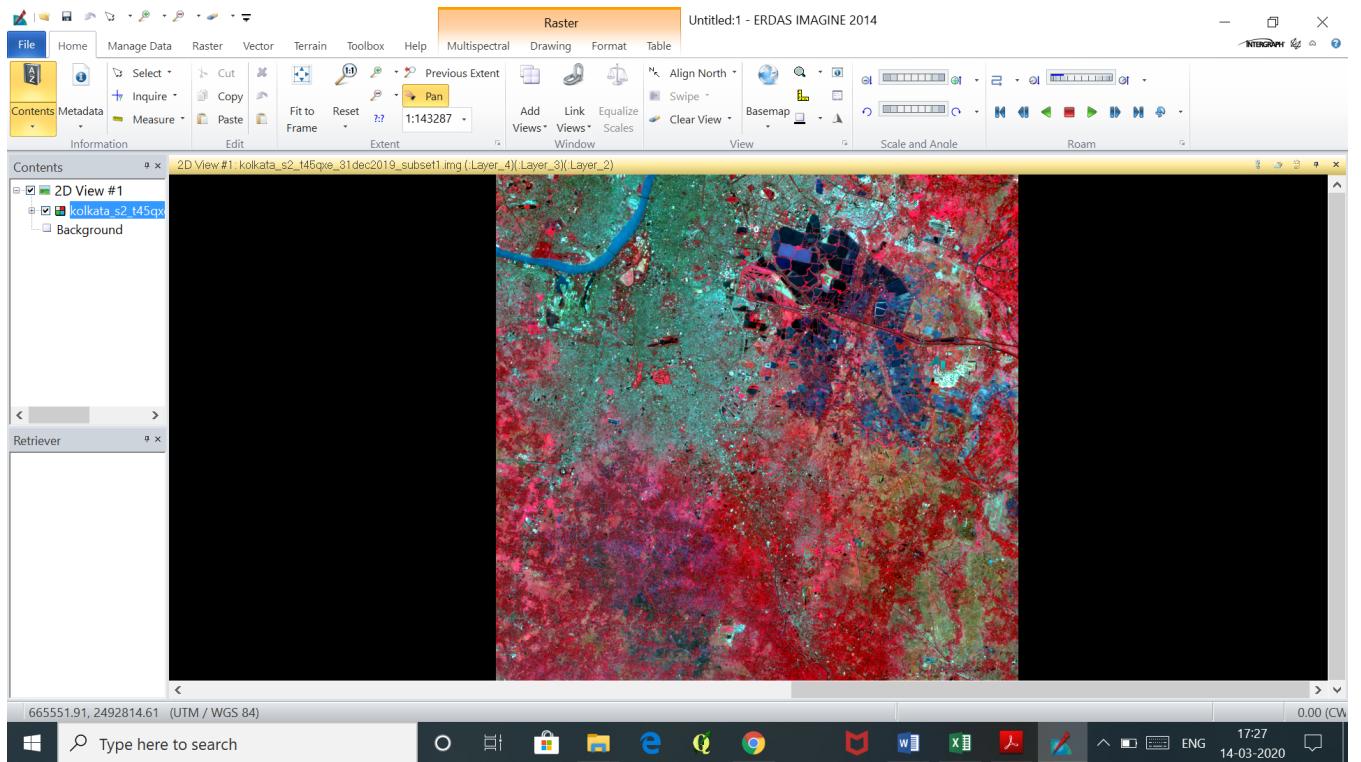
3. Site, Situation and Association

This image shows a mountainous region with many braided streams with sediment mixed in their water. The settlements are dispersed in upper reaches of mountains and clustered in the lower flood plain.

4. Final remarks

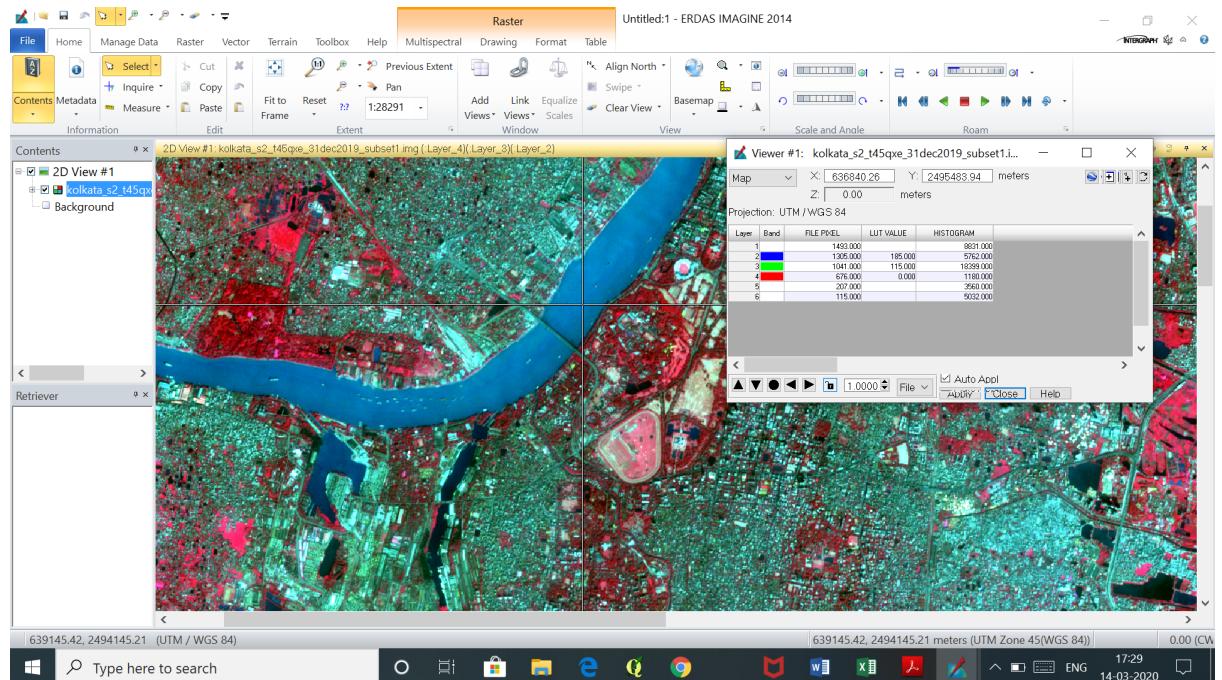
Based on prior information, it is an image of Haridwar in Uttarakhand in India; we can clearly ascertain that the river is Ganga with its tributaries falling in a braided and dendritic pattern. There is a plain in lower part with dense urban settlement.

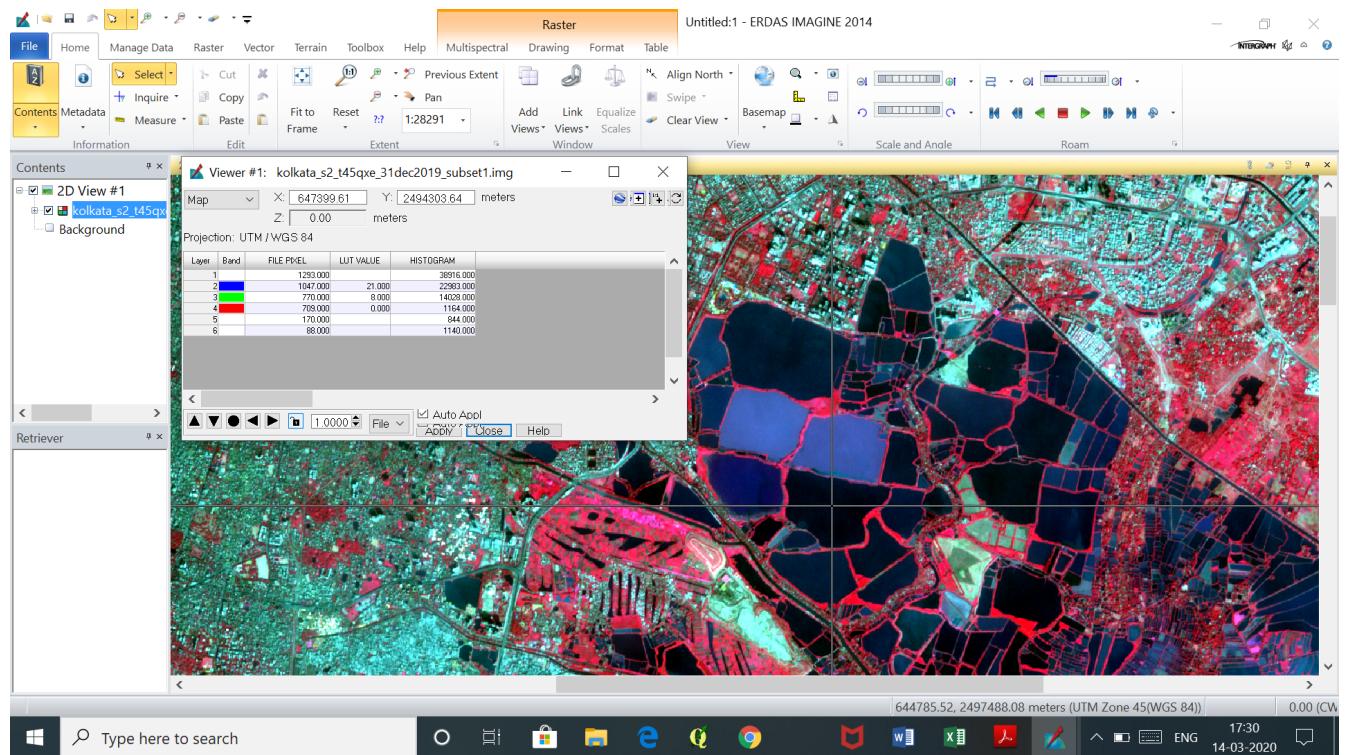
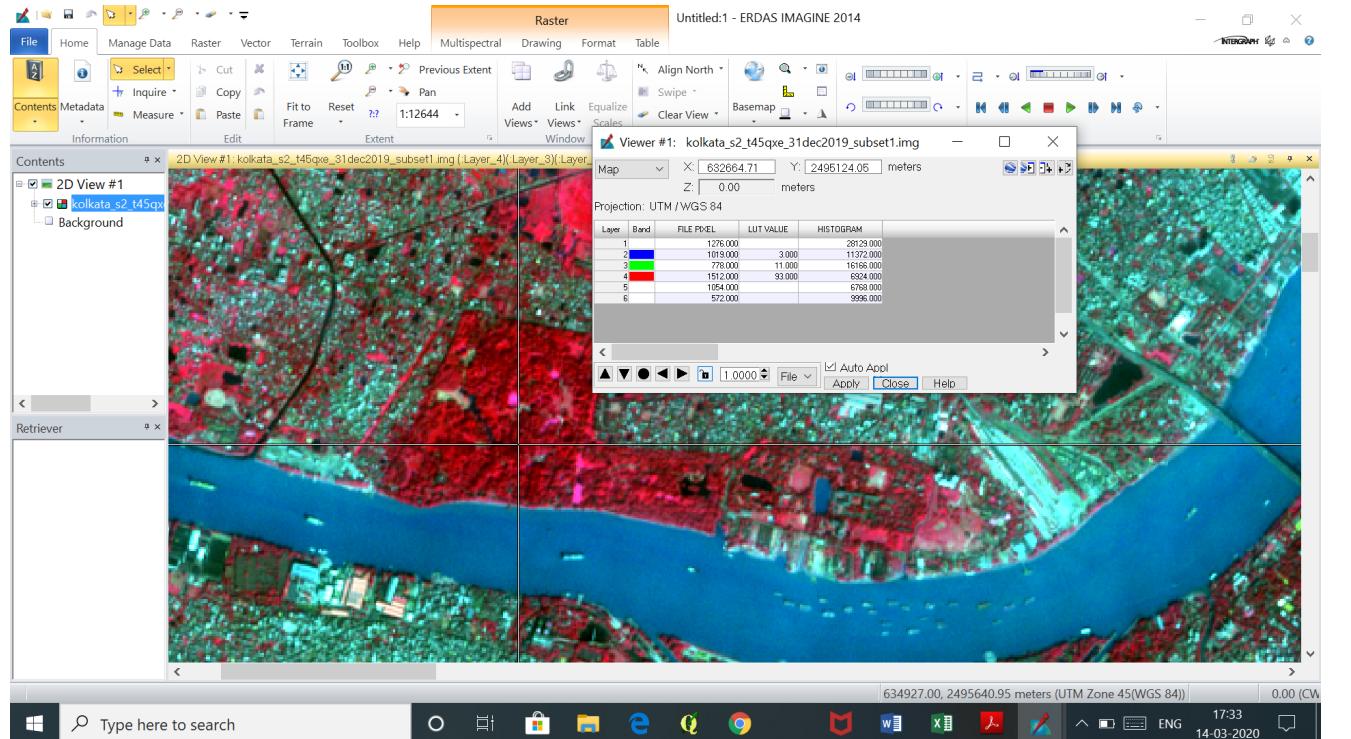
IMAGE 2: KOLKATA

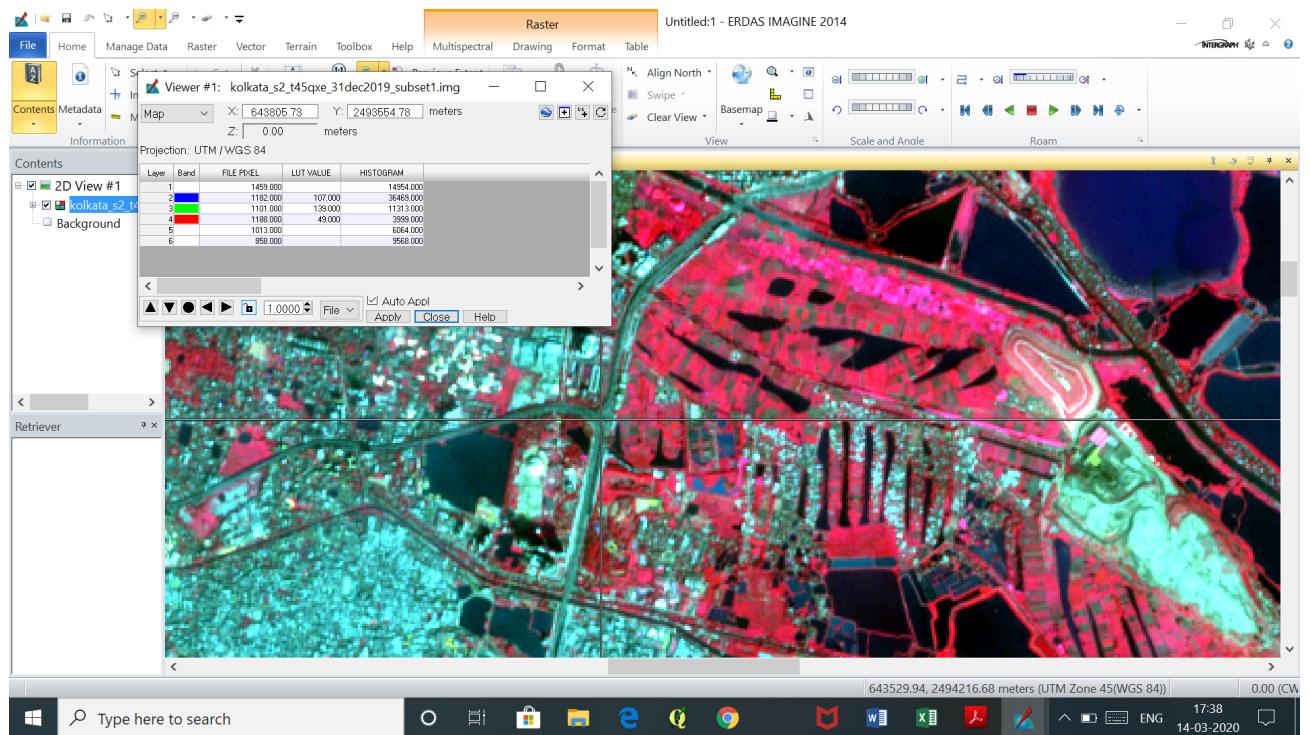
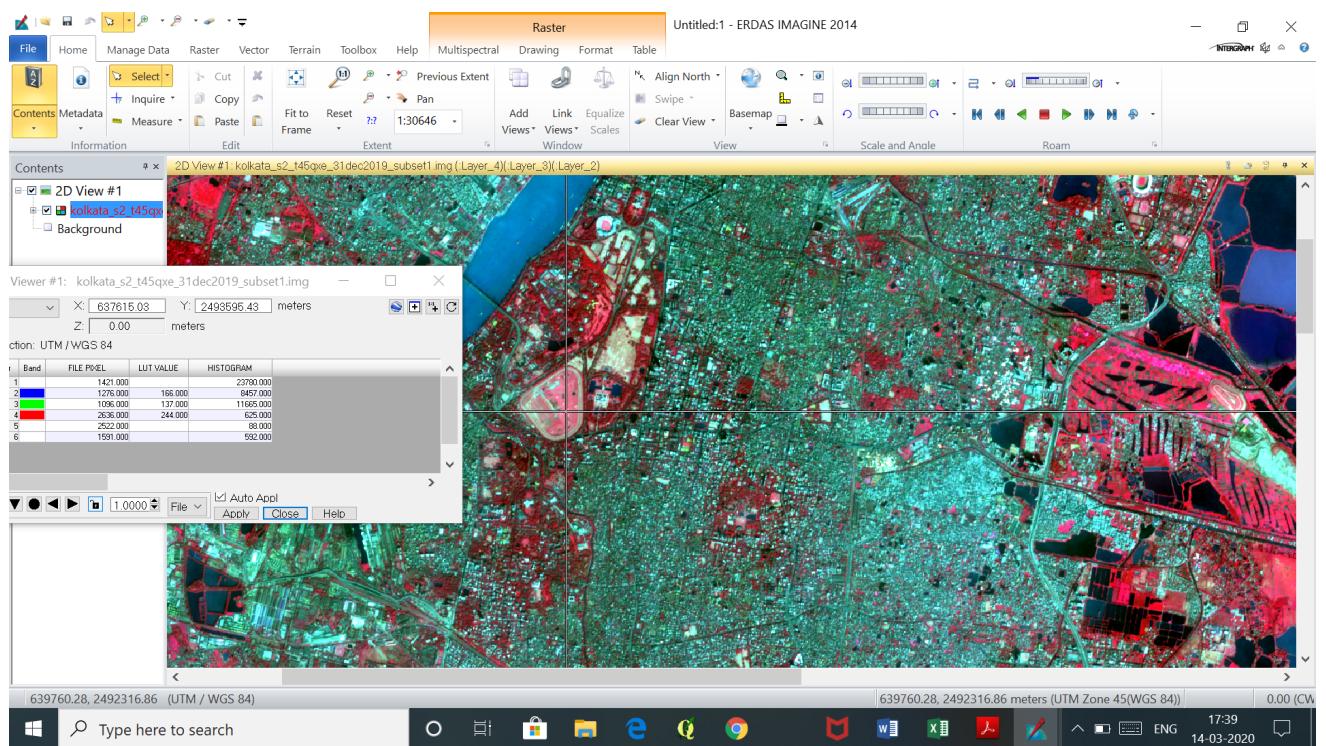


FEATURES

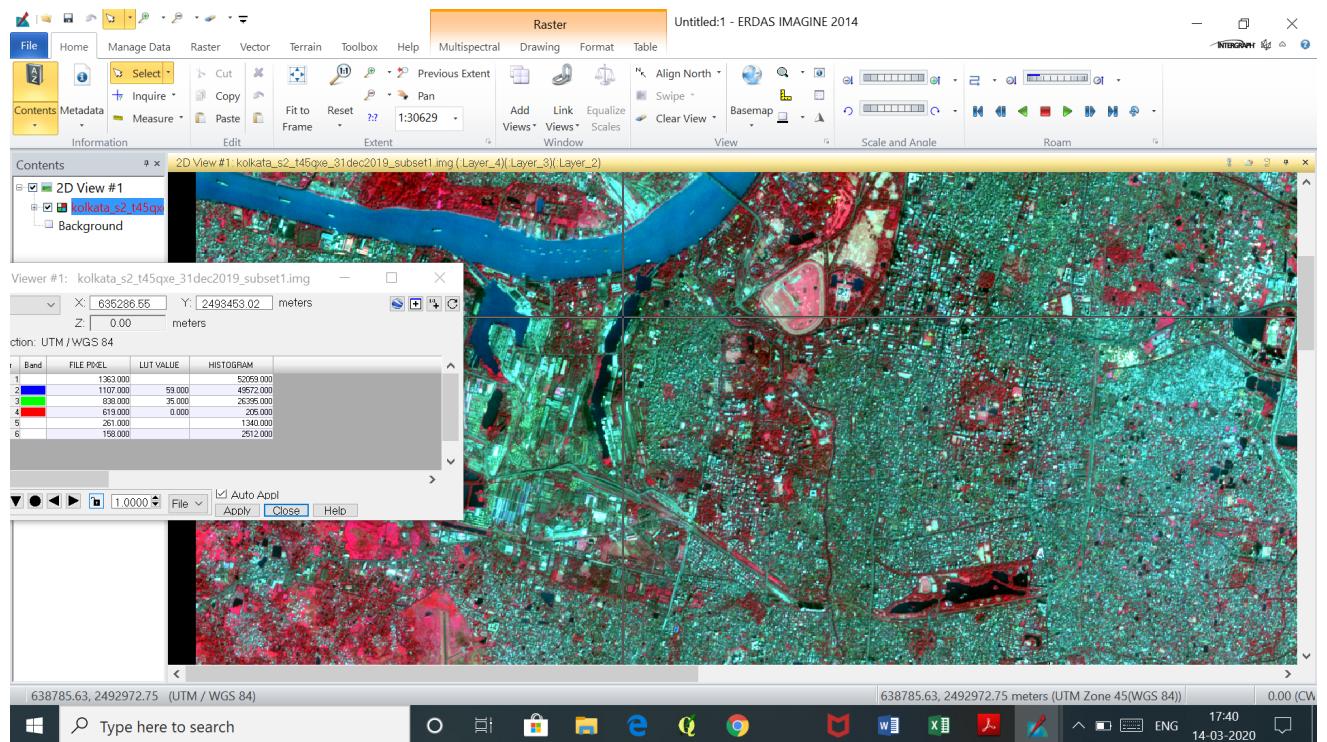
A.



B.**C.**

D.**E**

F

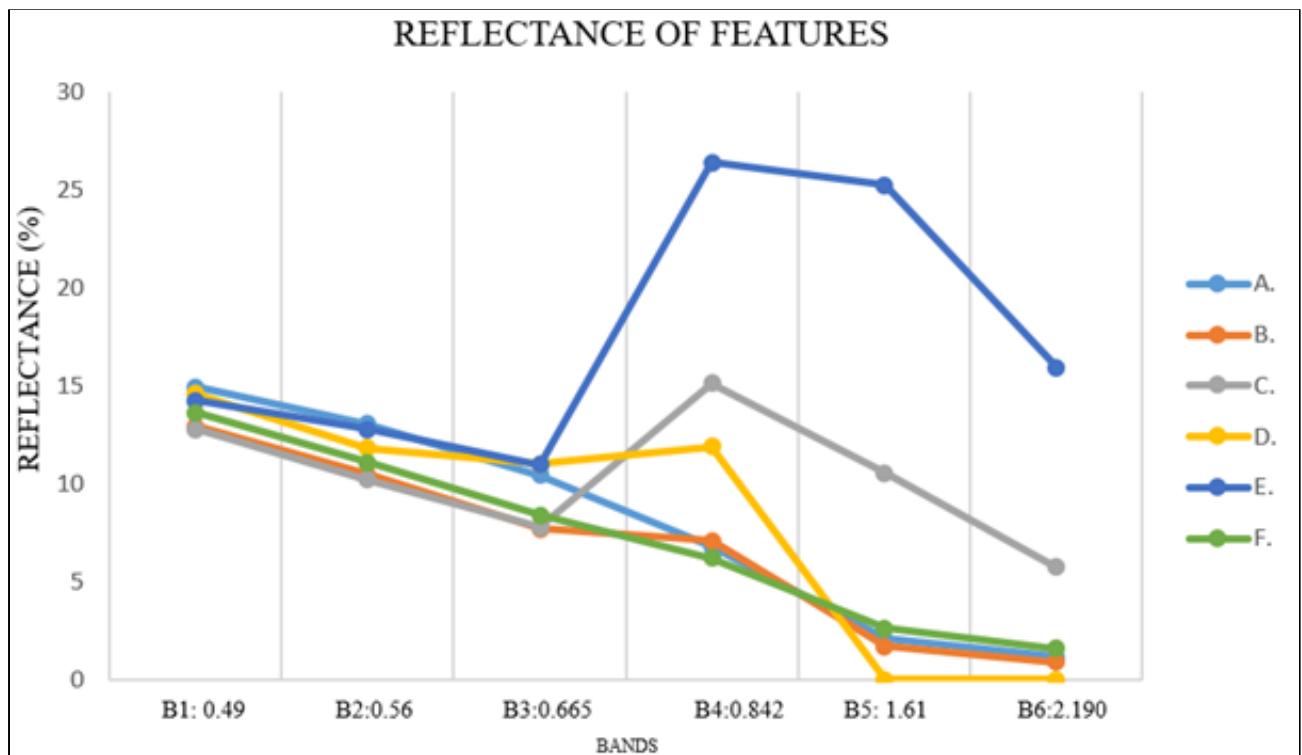


Digital Number Values of features identified.

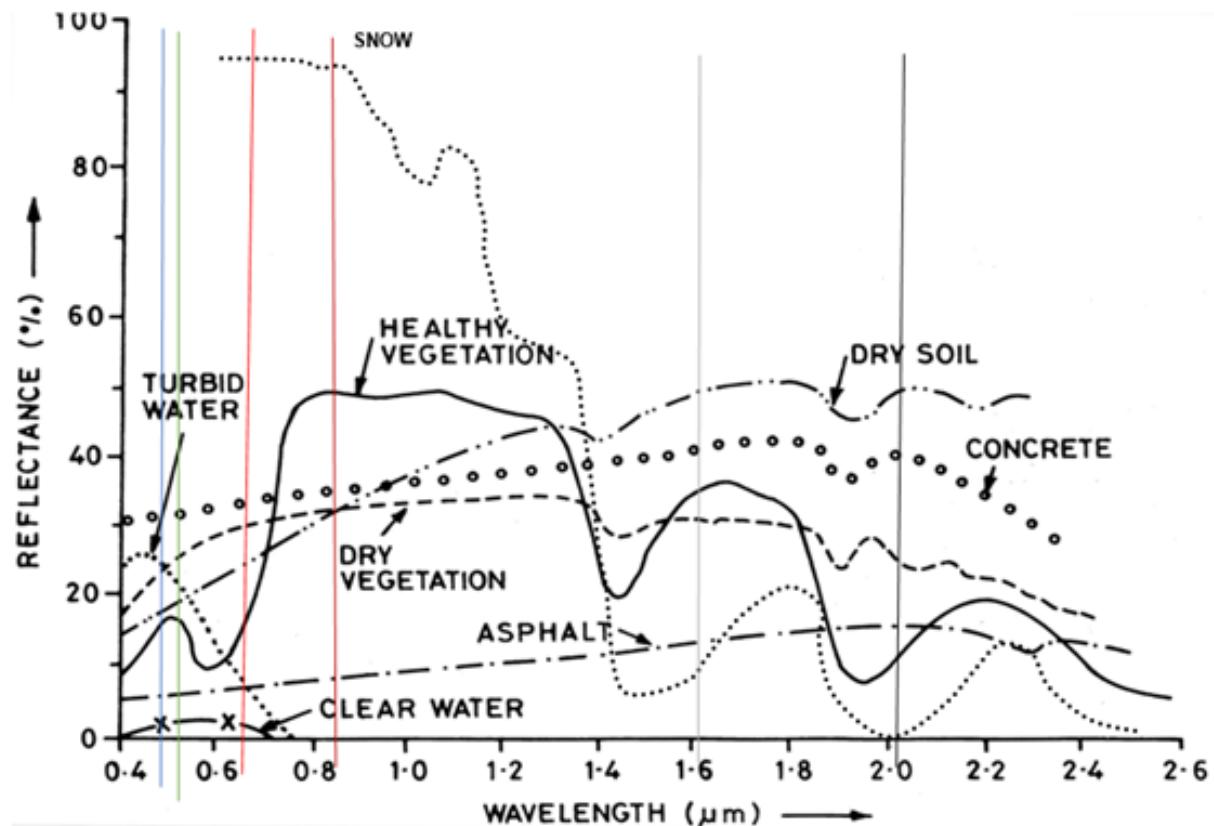
Features	Digital Number Values (FCC)					
	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6
A.	1493	1305	1041	676	207	115
B.	1293	1047	770	709	170	88
C.	1276	1019	778	1512	1054	572
D.	1459	1182	1101	1188	1013	858
E.	1421	1276	1096	2636	2522	1591
F.	1363	1107	838	619	261	158

Reflectance of features identified in %

Features	Reflectance in %(FCC)					
	B1: Blue 0.49	B2: Green 0.56	B3: Red 0.665	B4: NIR 0.842	B5: SWIR 1.601	B6: SWIR 2.19
A.	14.93	13.05	10.41	6.76	2.07	1.15
B.	12.93	10.47	7.70	7.09	1.70	.88
C.	12.76	10.19	7.78	15.12	10.54	5.72
D.	14.59	11.82	11.01	11.88	10.13	8.58
E.	14.21	12.76	10.96	26.36	25.22	15.91
F.	13.63	11.07	8.38	6.19	2.61	1.58

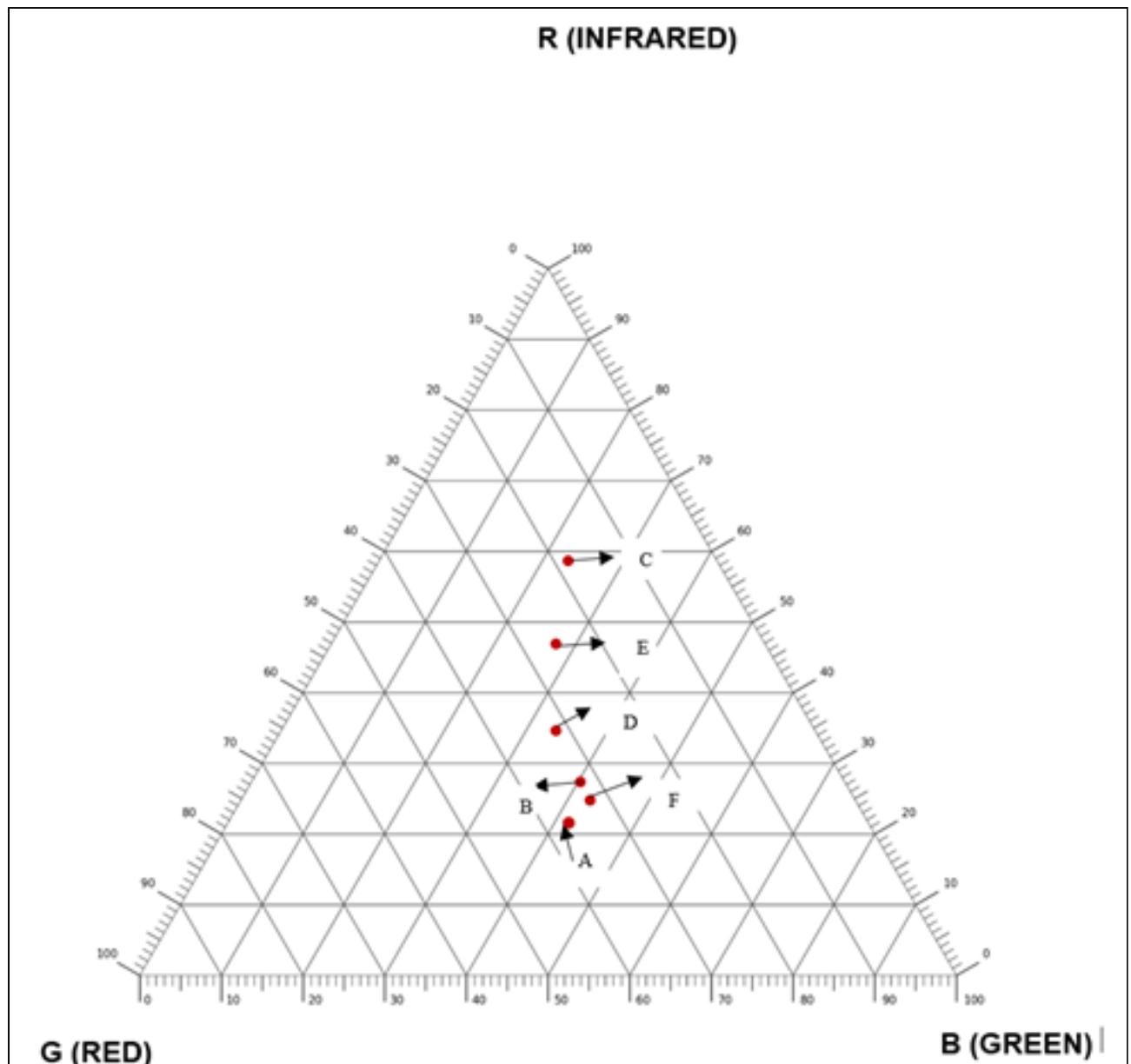


Spectral Signature Curves for Common Objects



Sentinel-2 Bands	Wavelengths
Blue	B1: Blue 0.49
Green	B2: Green 0.56
Red	B3: Red 0.665
Red	B4: NIR 0.842
Grey	B5: SWIR 1.610
Dark Grey	B6: SWIR 2.190

TERNARY DIAGRAM FOR FEATURES BASED ON REFLECTANCE



Calculation of reflectance for ternary representation

Features	DN Values (FCC)			Reflectance for ternary representation (%)		
	B2: Green 0.56	B3: Red 0.665	B4: NIR 0.842	B2: Green	B3: Red	B4: NIR
A.	1305	1041	676	43	35	22
B.	1047	770	709	41	31	28
C.	1019	778	1512	31	23	46
D.	1182	1101	1188	34	32	34
E.	1276	1096	2636	25	22	53
F.	1107	838	619	43	33	24

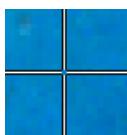
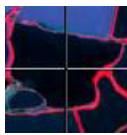
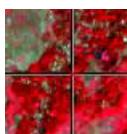
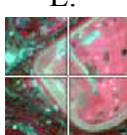
IMAGE INTERPRETATION-2

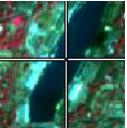
2. 1 INTRODUCTION

This is image no. 2 which has been taken for interpretation. In the photo above, **6 land covers are distinct and identifiable.** This image is in standard false colour composite. For identification of those elements we have marked it with letters of the alphabet in the pages above.

2.2 INTERPRETATION

INTERPRETATION TABLE

Feature	Tone	Size	Shape	Texture	Pattern	Height/s hadow	Remarks
A 	Blue	Relatively Large	Curvilinear	Smooth	-	-	It resembles like a river with large channel
B 	Deep Blue-gre en	Large	Irregular polygon	Smooth	Jigsaw fit patterned	-	It looks like water filled field i.e. wetland
C. 	Bright red	-	Irregular	Rough with small grains	Dispersed	Small silhouette	The feature might be vegetation
D. 	Medium grey	Narrow	Y-shaped	Smooth	Branched linear	-	The feature might be road
E. 	Light pink	Small	Quadrilater al with curved edges.	Smooth	-	-	This feature seems like a stadium or a field.

F. 	Dark blue	Narrow	Elongated protrusion	Smooth with rough edges	Protruding	-	The feature looks like an inshore harbour.
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2.3 Site, Situation and Association

This image depicts an urban landscape along a large river with dense settlements, stadiums and scattered vegetated areas. Many features typical to a metropolitan area are evident and distinguishable.

2.4 Final remark

Based on prior information, it is the city of Kolkata therefore there is a harbour, wide roads and densely placed settlements.