

SESMIM PROJECT
STRENGTHENING EXTRACTIVE SECTOR MANAGEMENT IN MONGOLIA

FOSS4G Remote Sensing Training Workshop Day 2

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What is remote sensing?

"Science of obtaining information about objects or areas from a distance, typically from aircraft or satellites."

National Oceanic & Atmospheric Administration

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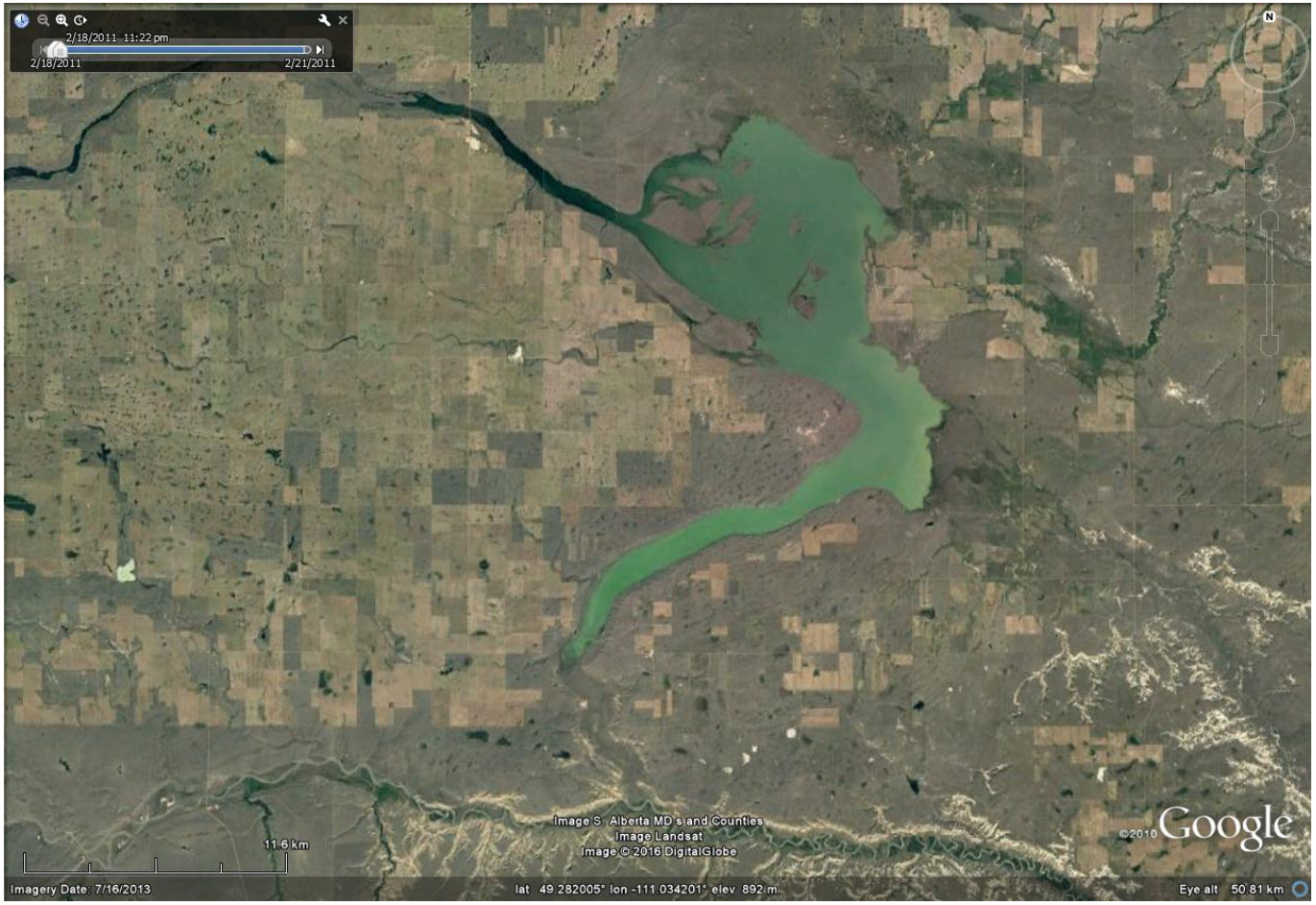
Pakowki Lake, Alberta, Canada



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Pakowki Lake, Alberta

- Alberta Environment study Southern Alberta in 1980s
- Hydrologic water balance and runoff model
- Dead ended watershed – basin ends in a lake without outfall
- Goal was to use Landsat IV to determine lake boundary
- Manual selection of analog images at RS library
- Climate of southern Alberta
- Result was inconclusive because of cloud cover

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Landsat on DVDs





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Kumbo, Cameroon, Africa

- Landsat imagery
- Infrastructure mapping – road network
- Location of water supply

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Kumbo Cameroon Africa (2007)



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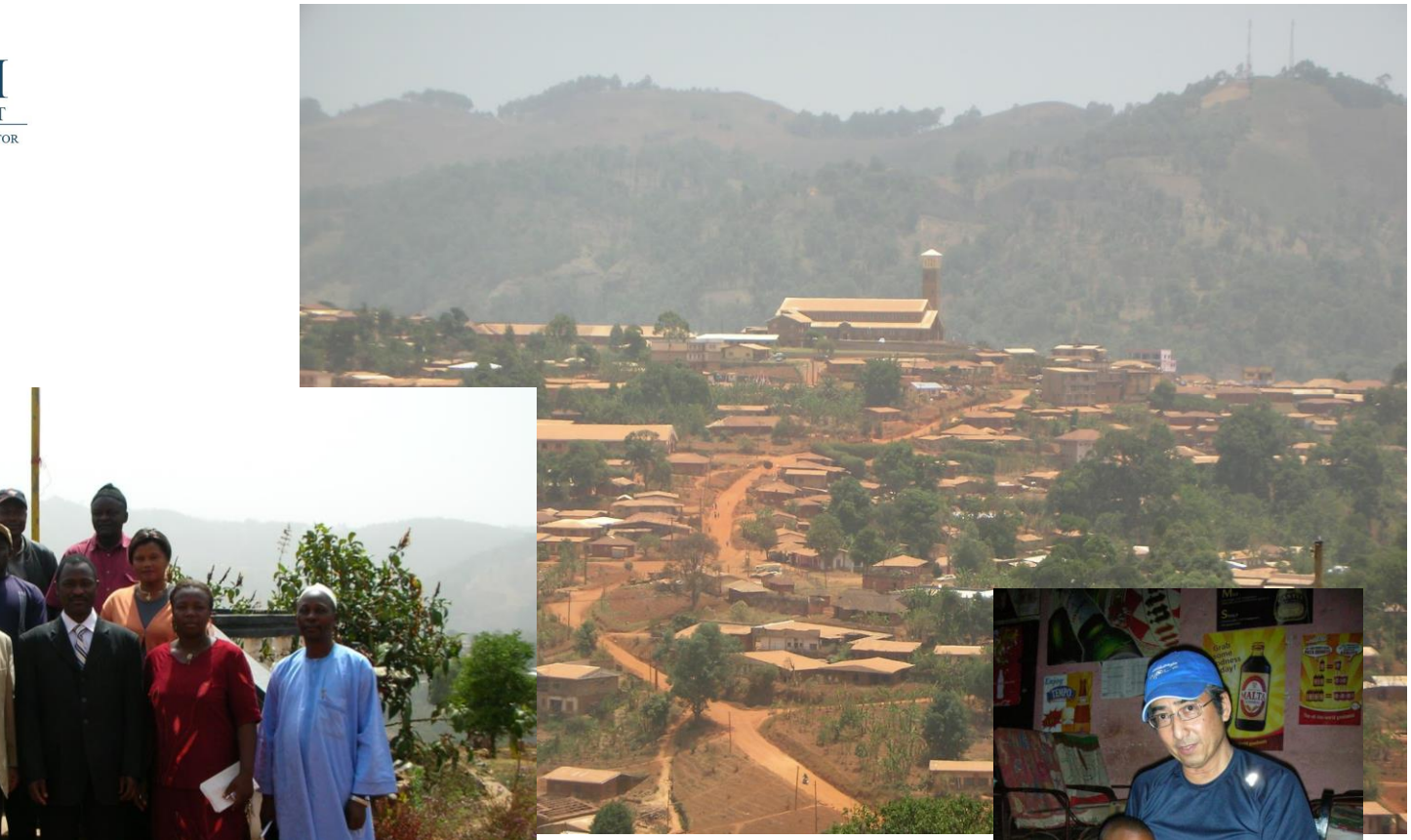



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Global Affairs Canada
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Panjwai, Kandahar, Afghanistan

- Google Earth – project planning
- Crop classification
- Drainage design

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IRRIGATED CROPS IN PANJWAY DISTRICT (KANDAHAR)

S.No	Crop name	Local Name	Varieties	Planting Date		Harvesting Date		Water Requirement
1	Grape	Angore	Thompson seedles	05-Feb	15-Mar	20-Jun	20-Agu	900-1100mm/year
			seeded	05-Feb	15-Mar	20-Jun	20-Agu	900-1100mm/year
2	Pomegranate	Anar	Kandahari	10-Feb	20-Mar	15-Sep	20-Nov	900-1150mm/year
3	Wheat	Ghanam	Heart Improved	01-Dec	10-Jan	20-May	10=July	450-650mm/gp
			Roshan Improved	01-Dec	10-Jan	20-May	10=July	450-650mm/gp
			Bakhtawar Improve	01-Dec	10-Jan	20-May	10=July	450-650mm/gp
			Sorlosha Local	01-Dec	10-Jan	20-May	10=July	500-700mm/gp
			Hazardana Local	01-Dec	10-Jan	20-May	10=July	500-700mm/gp
4	Corn	jwari		05-Jun	05-Jul	30- Agu	30-Sep	500-800mm/gp
5	Barley	Orbashi		20-Jan	15-Mar	20-May	10-Jun	450-650mm/gp
6	Poppy	Tariaq		20-Dec	20-Jan	01-May	30-May	350-500mm/gp
7	Melon	Khataki		10-Mar	05-Apr	20-Jul	30- Agu	400-600mm/gp
8	Watermelon	Hendwanna		10-Mar	05-Apr	20-Jul	30-Agu	400-600mm/gp
9	Cucumber	Badrang		25-Mar	20-Apr	01-May	30-May	350-500mm/gp
10	Henebane	Bangi		20-Mar	20-Apr	20-Sep	15-Nov	500-800mm/gp
11	Mung bean	Mash		20-May	10-Jul	15-Sep	20-Oct	300-500mm/gp
12	Onion	Peiaz		01-May	30-May	next year		350-550mm/gp
13	Tomato	Romian		20-Feb	10-Mar	15-May	20-Jul	400-800mm/gp
14	Egg plant	Banjen		20-Feb	10-Mar	15-May	15-Jul	400-800mm/gp
15	Spinach	palak		05-Sep	05-Oct	20-Nov	20-Dec	300-500mm/gp

gp= growing period

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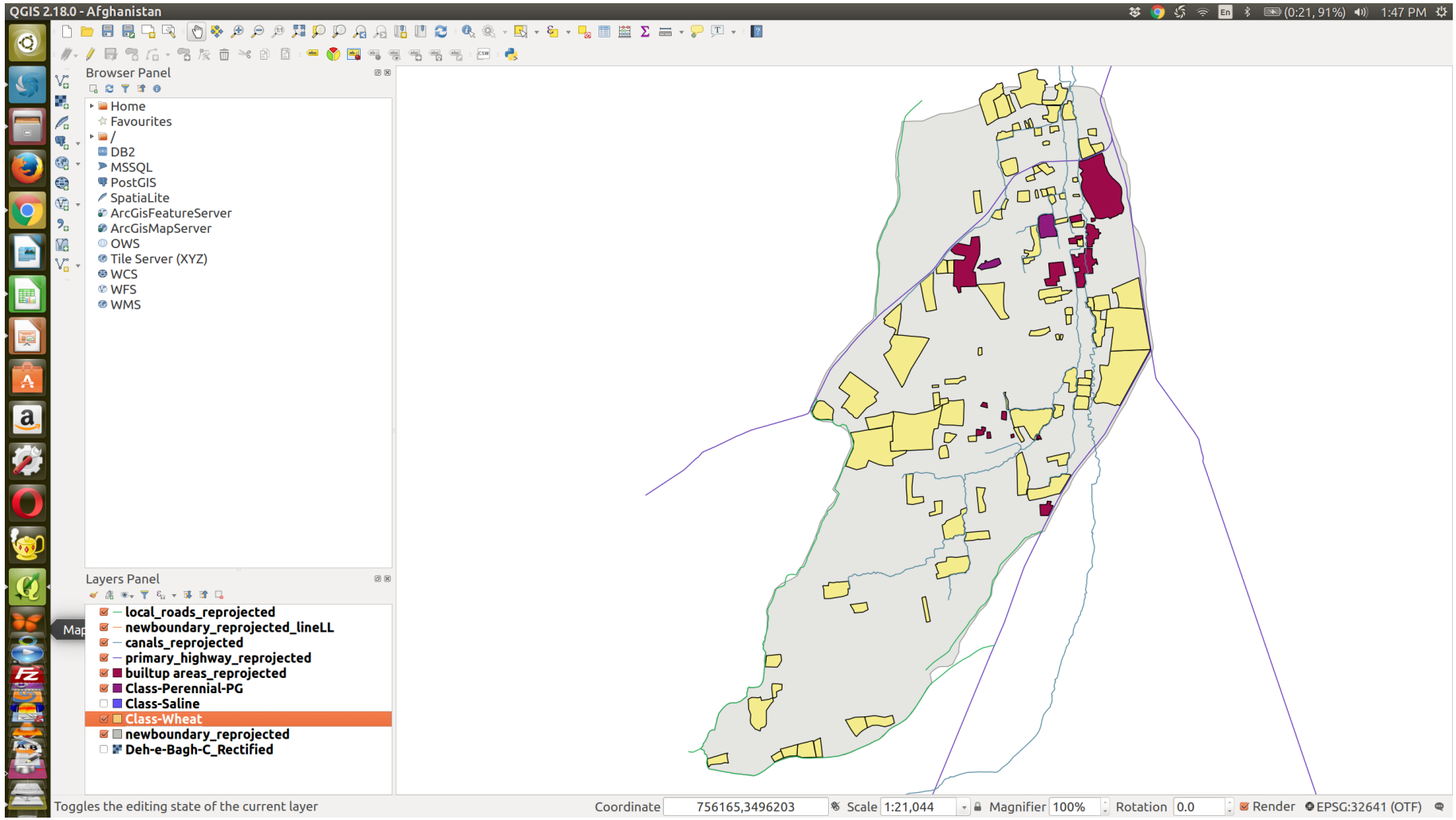
Afghanistan Panjwei Classification



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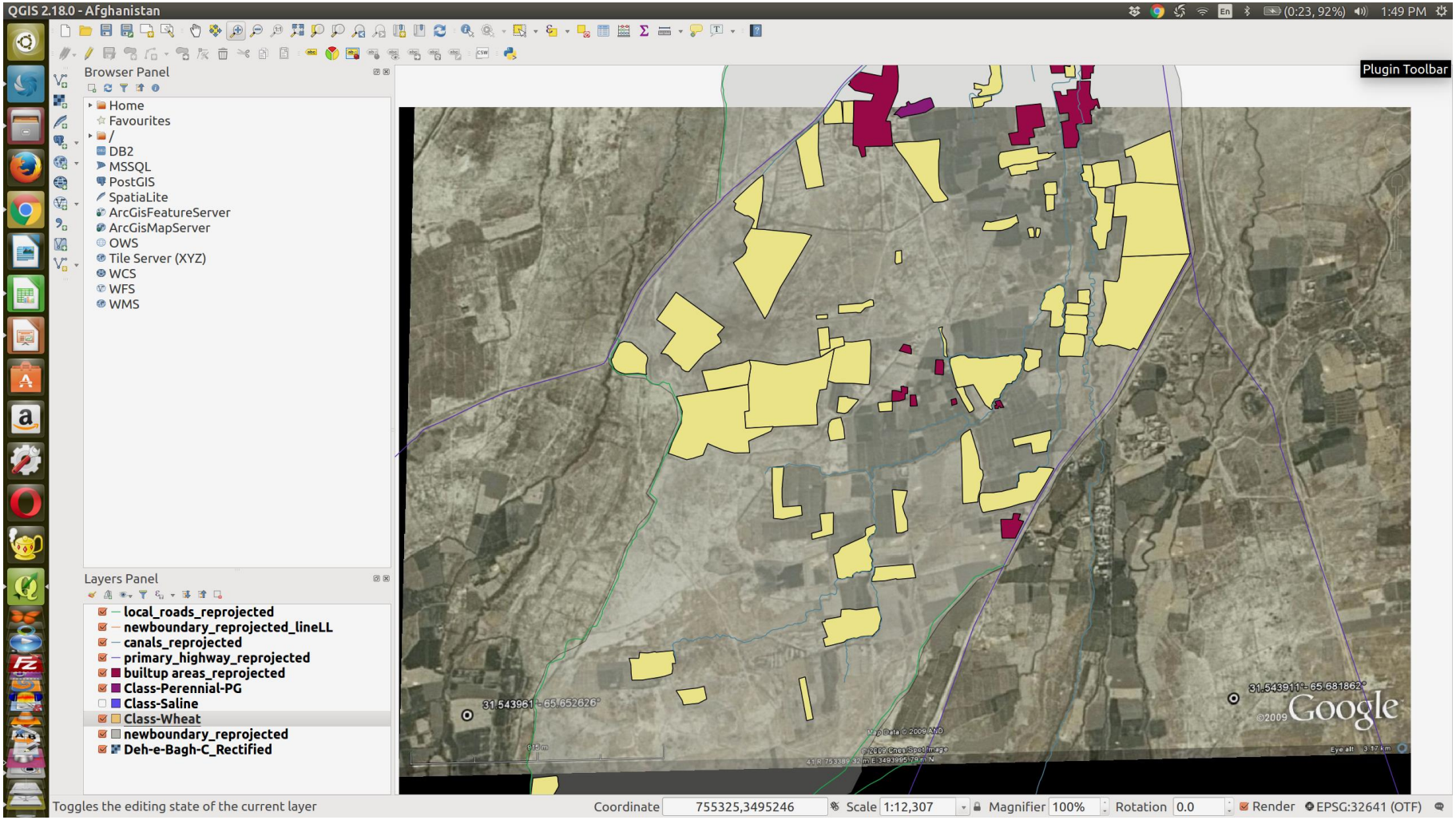
Classification with Google Earth



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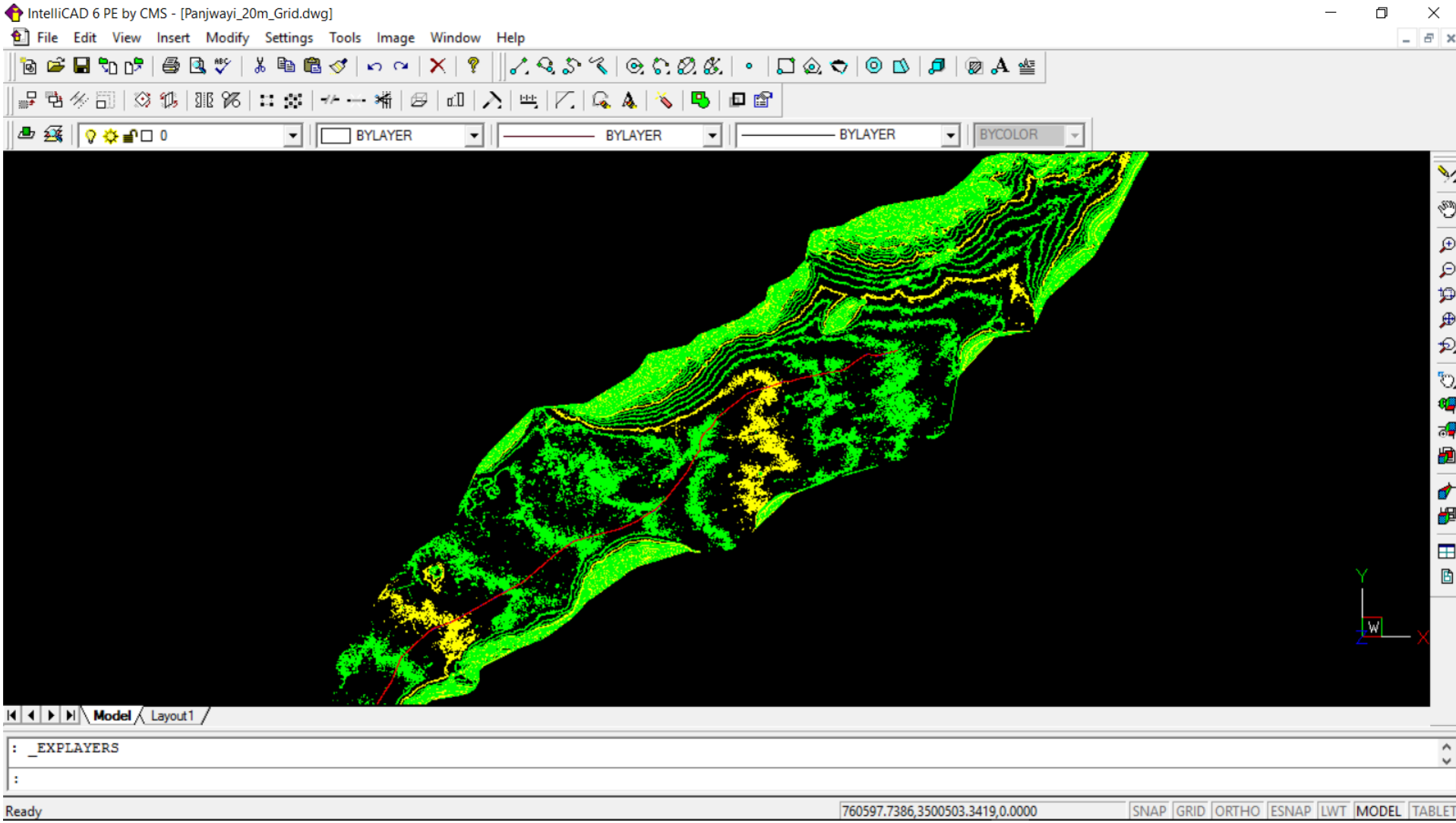
Contours



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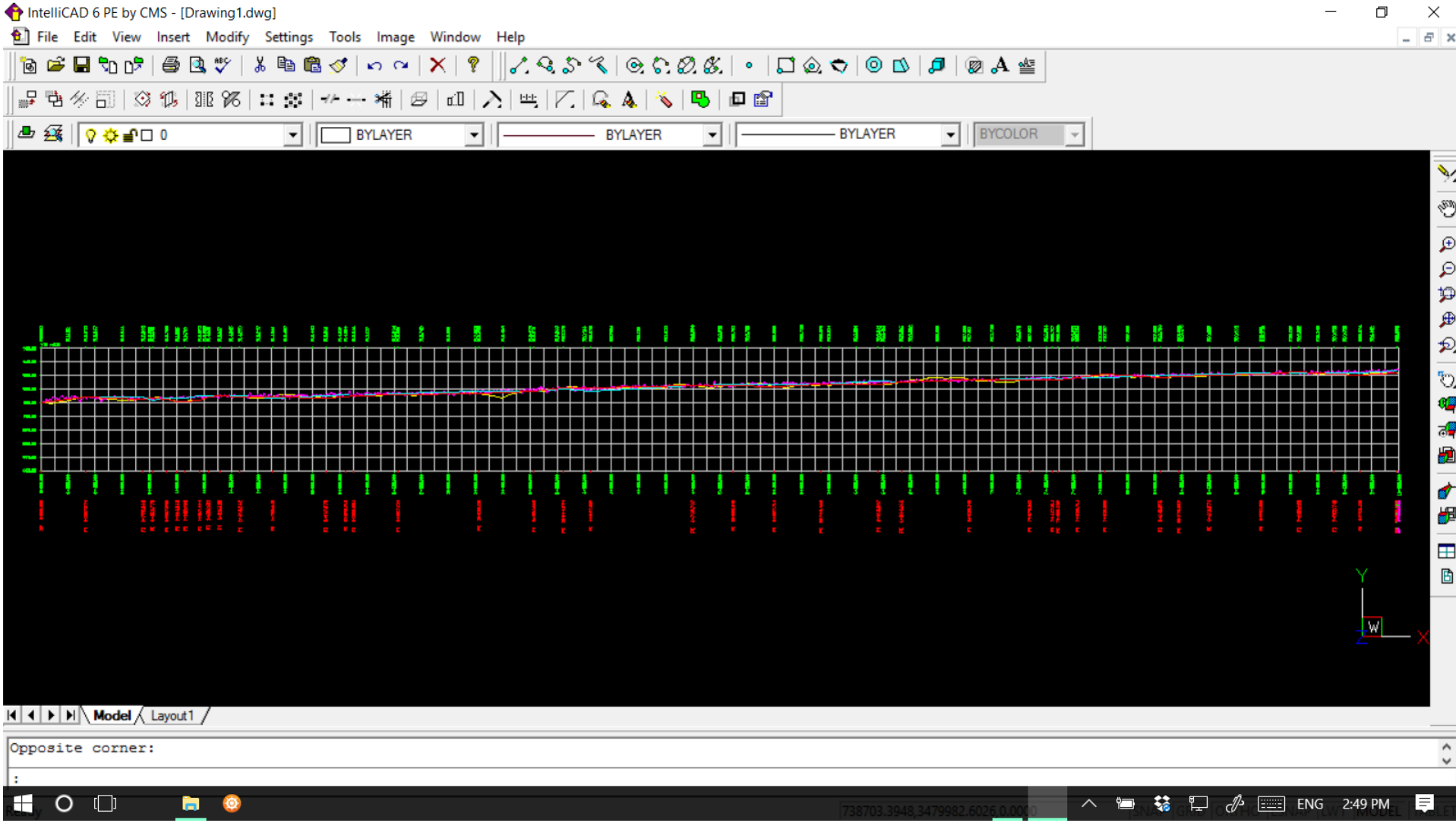
Panjwei Drainage Canal



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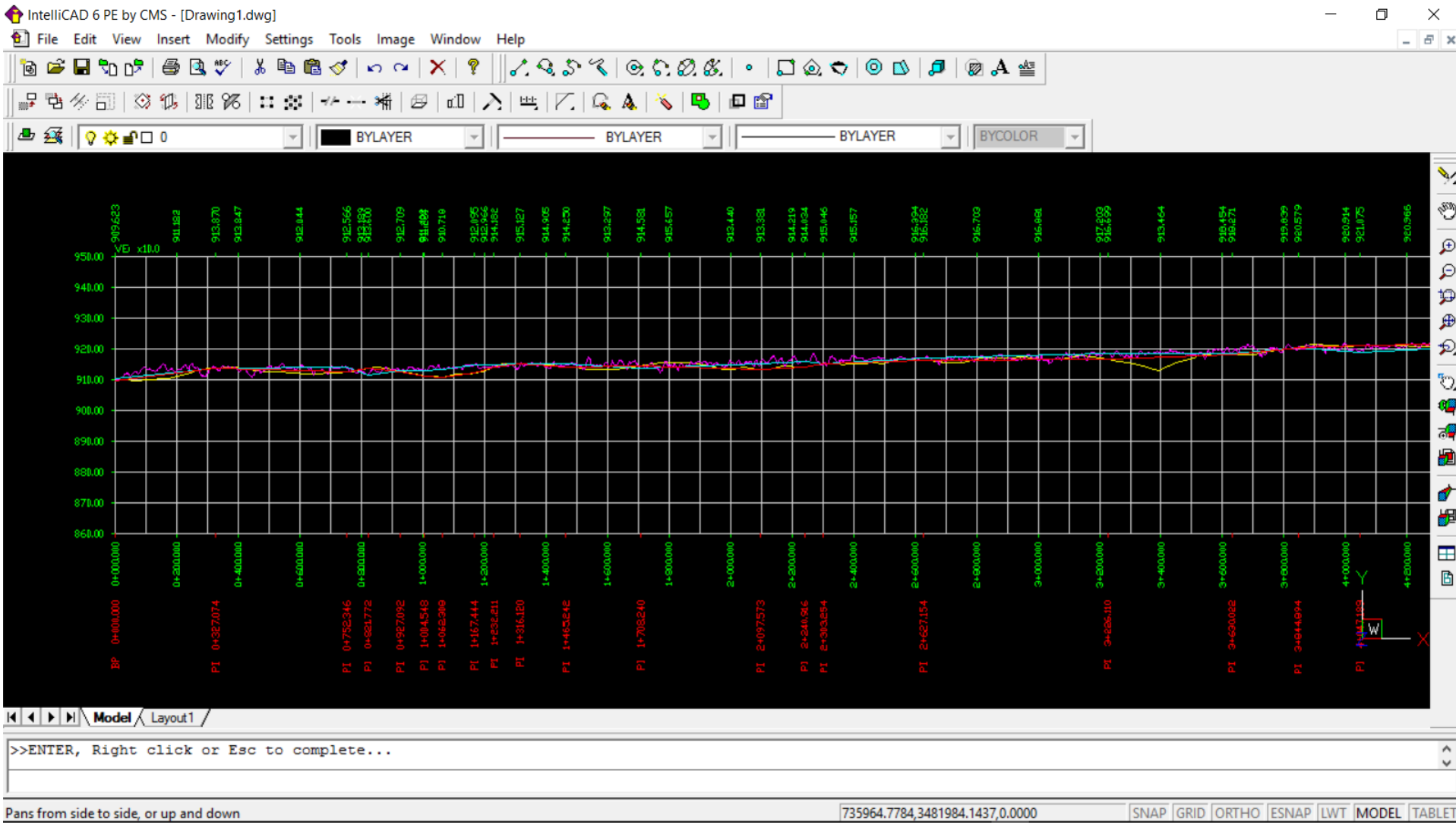
Canal Profile



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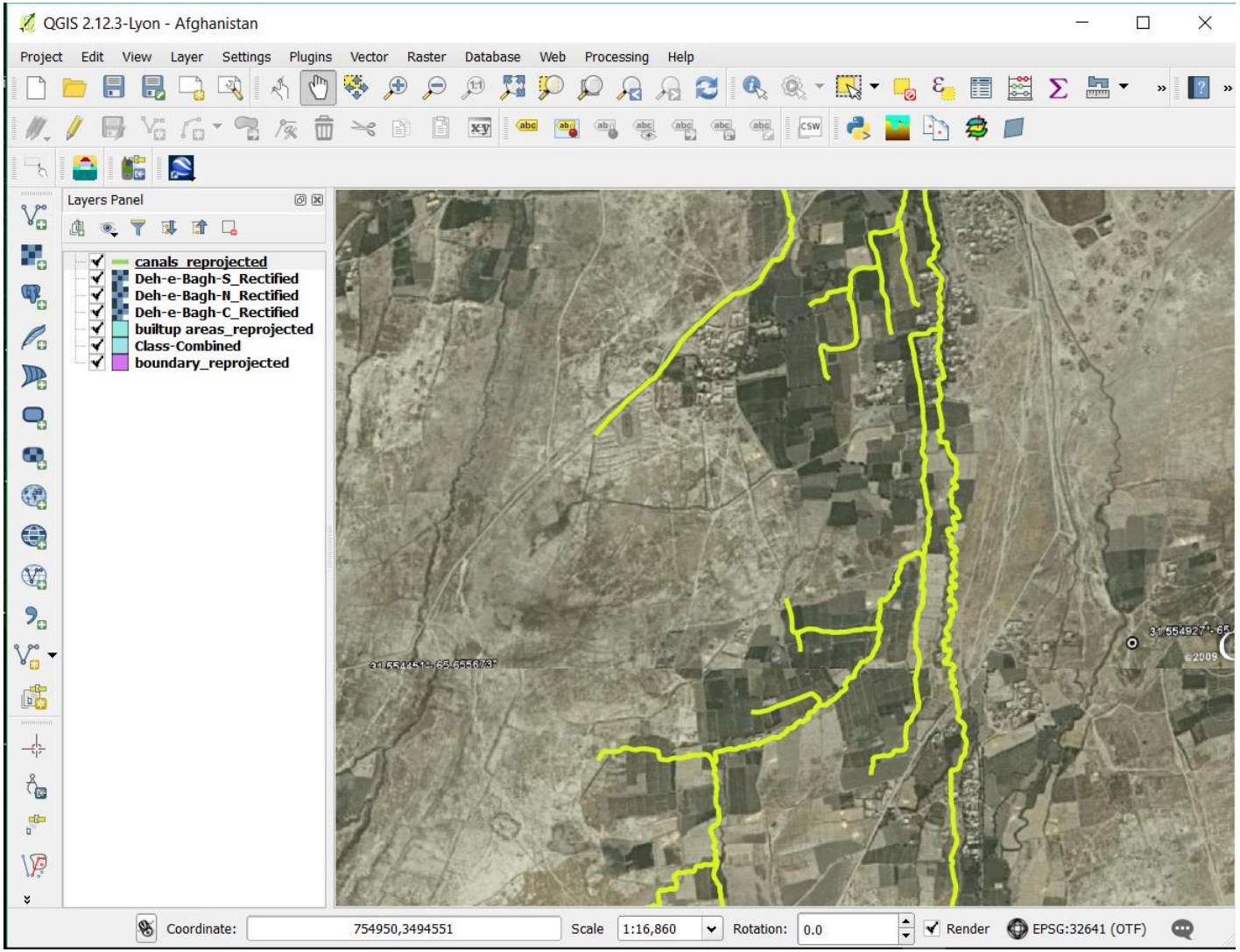
Irrigation Canals



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What is your experience?

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Remote Sensing Image Formats

- JPG, JPEG – Most common format available (lossy)
- GEOTIF – Another common with geotagging and lossless
- BIL -Band interleaved by line (NASA)
- ECW – Proprietary format used by Erdas (Intergraph)
- JPEG2000 – Higher compression than JPEG
- MrSID – High compression proprietary GDAL supported

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Where can we get RS images today?

- NOAA
- USGS
- Google Earth, Bing, etc.
- Mongolian Government
- Private Sector

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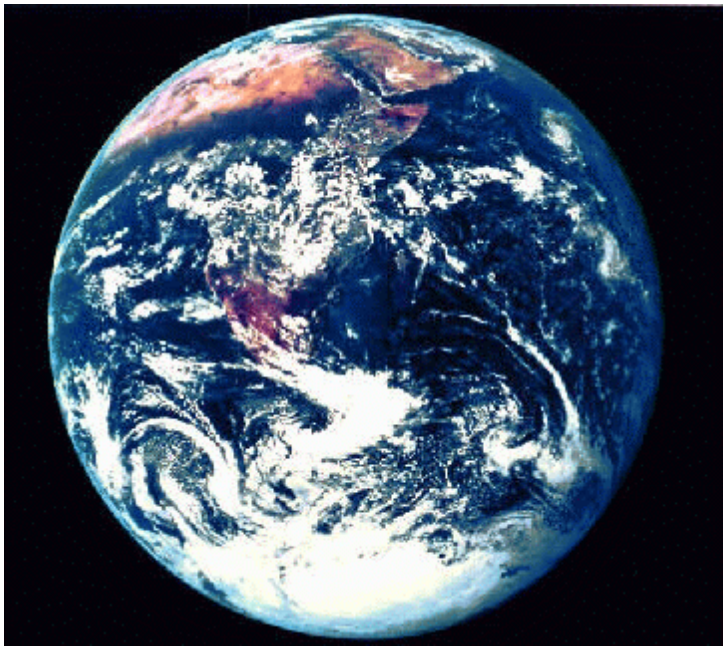
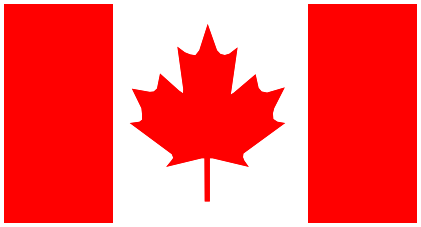
Thank you!







баярлалаа!