

Manitoba Son Grassland Rnalytica

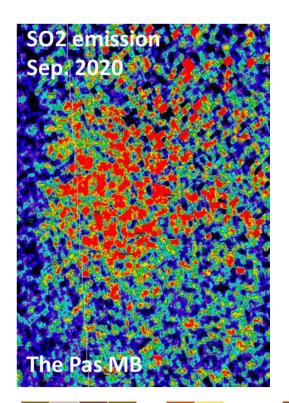
Manitoba Grassland Inventory Sampling Protocol

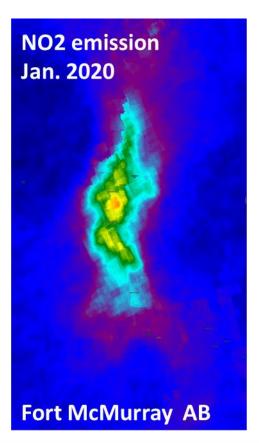
by: Nasem Badreldin

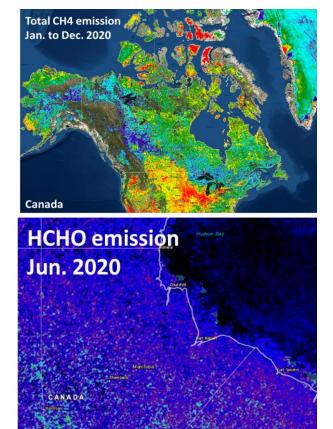
Project Manager & Founder Grassland Analytica Email: <u>service@grasslandanalytica.com</u> Website: <u>www.grasslandanalytica.com</u>

May, 25th 2021

Grassland Analytica





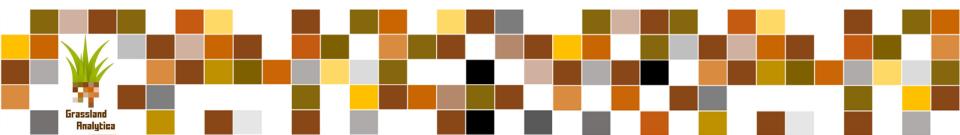


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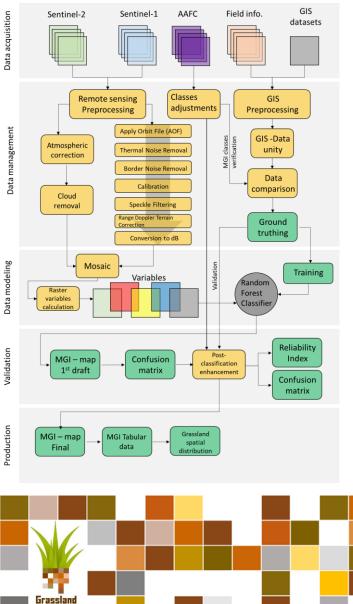


Outlines

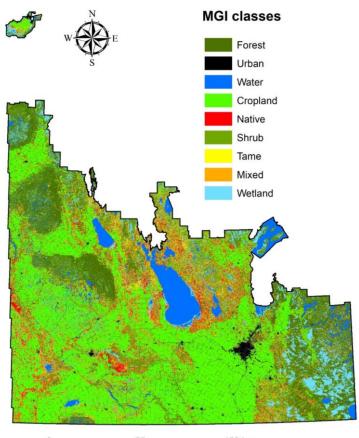
- Manitoba Grassland Inventory (MGI)
- Land cover identification
- Grassland land cover assessment
 - Grassland classes
 - Other land cover classes
- Biomass assessment
- Areas of interest (AOI)
- Survey 123 app



Manitoba Grassland Inventory (MGI)

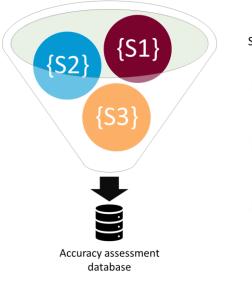


Analytica

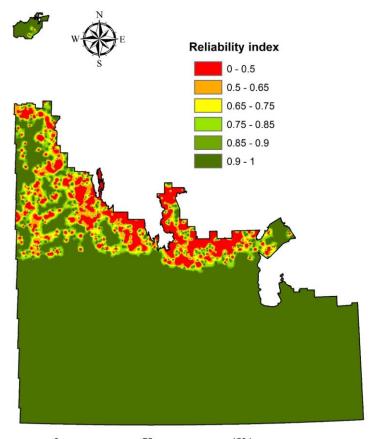


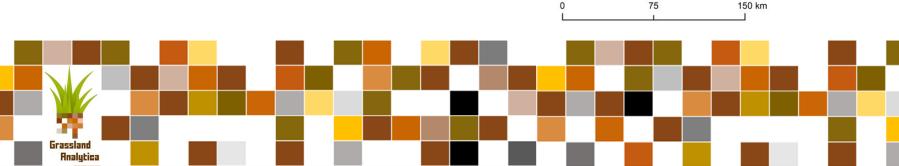


Manitoba Grassland Inventory (MGI)



Stages of accuracy assessment Modeling assessment . Model Characteristics . Too Variable Importance . Training Data: Classification Diagnostics . Validation Data: Classification Diagnostics . Confusion matrix . Kappa coefficient . Reliability map





Land cover identification

Native grassland

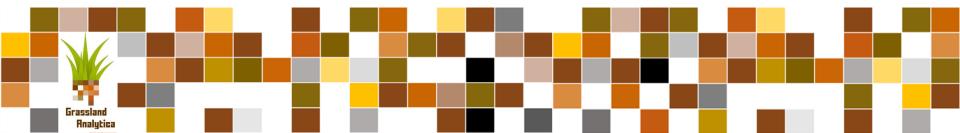
- Needle grasses (needle and thread, porcupine grass, and green needlegrass);
- Wheat grasses (slender, western, northern and awned);
- June grass, blue grama grass, side oats grama.
- Little & big bluestem, switchgrass.
- \circ Sedge species.
- $\,\circ\,$ Pasture sage; and
- Non-vascular species (selaginella or lichens)



Land cover identification

Mixed grassland

- A higher heterogenic grassland terrain with a mix of less than 75% native or/and less than 75% tame.
- Native or/and tame grassland affected by high abiotic stresses such as soil salinity and drought.
- $\,\circ\,$ Native or/and tame grassland affected by soil erosion such as water and wind erosions.
- $\,\circ\,$ A high disturbed area by livestock and human activities; and
- A bare terrain with low vegetation covers < 50% coverage in a 100 sq.m area.



Land cover identification

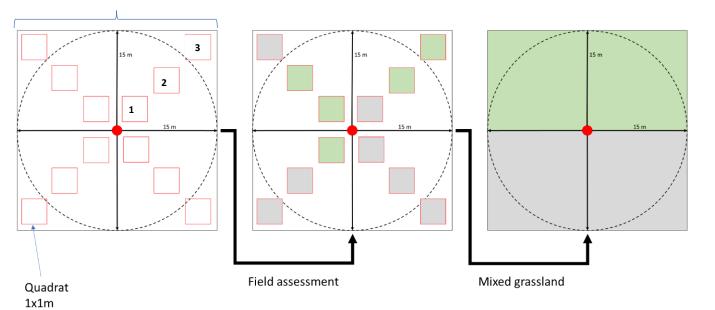
Tamed grassland

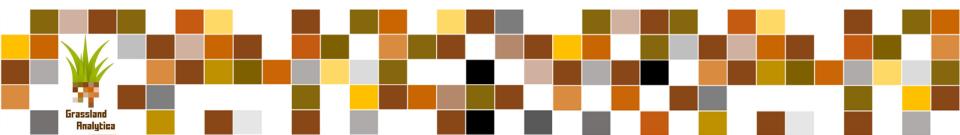
- $\,\circ\,$ Crested wheatgrass, meadow & smooth brome; Orchard.
- <u>Kentucky bluegrass</u>, Russian wildrye, tall & meadow fescue; and
- Alfalfa, red/white/alsike clover and sweet clover.
- Cropland
- Shrub
- Forest
- Water



Grassland land cover assessment

PLOT 30x30m





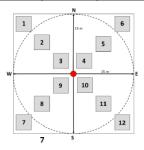
Date: DD / MM / YYYY	Your Name:	
Lat:	Overall land cover type:	
Long:	Wet above-ground biomass:	

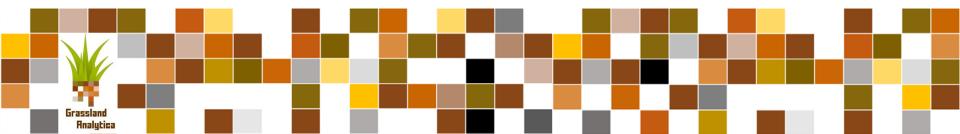
Dry above-ground biomass:

Quadrat #	% Native Grasses	% Native Forbs	% Tame Grasses	% Tame Forbs	% Bare Ground	% Shrubs	Land cover type
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

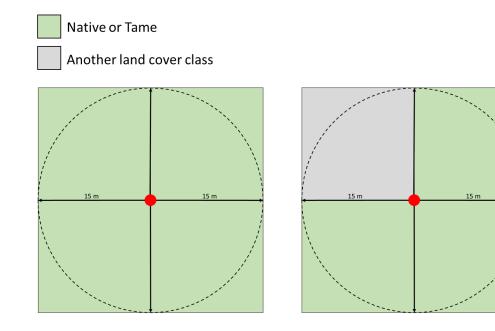
and a sublement	Date: Ju	uly, 2019	-1					-
	Overall class	рачо1 В. 8633; type: Nati	R Ut. LL	A., 10	smith	las huspathis	/ Baregrand	de se
	Quadrat #	% Native Grasses	% Native Forbs	% Tame Grasses	% Tame Forbs	% Bare Ground	% Shrubs	
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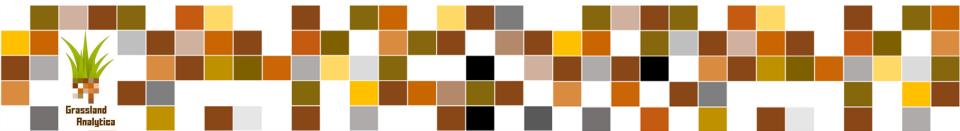
No	ote: Please use the following:
< 1	1 %
1-	- 5 %
5 -	- 25 %
25	- 50 %
50	- 75 %
75	- 100 %



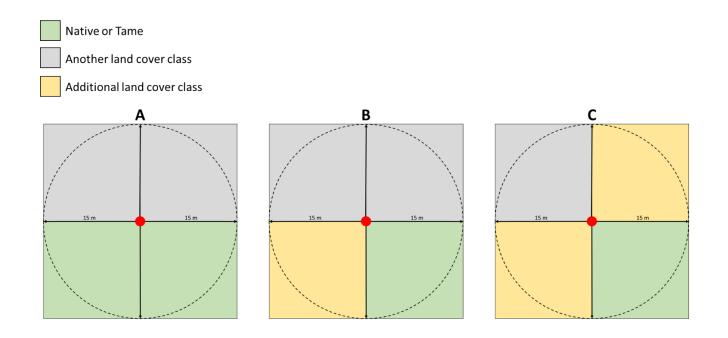


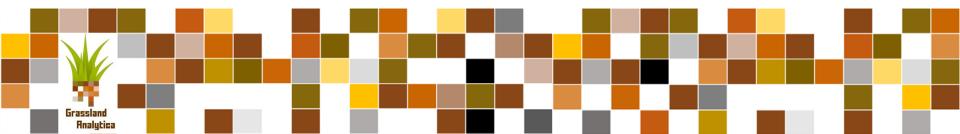
Grassland land cover assessment



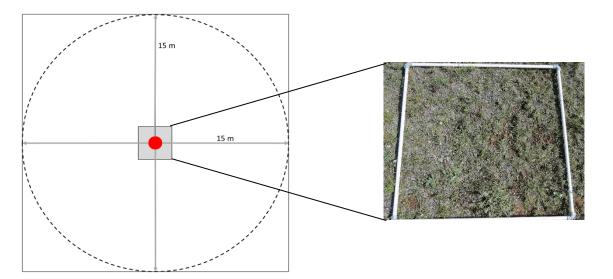


Grassland land cover assessment

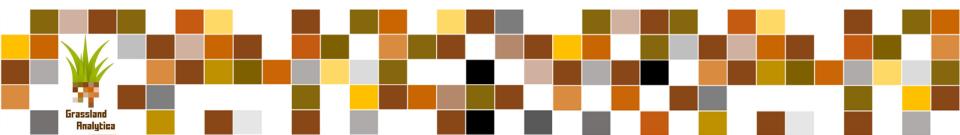




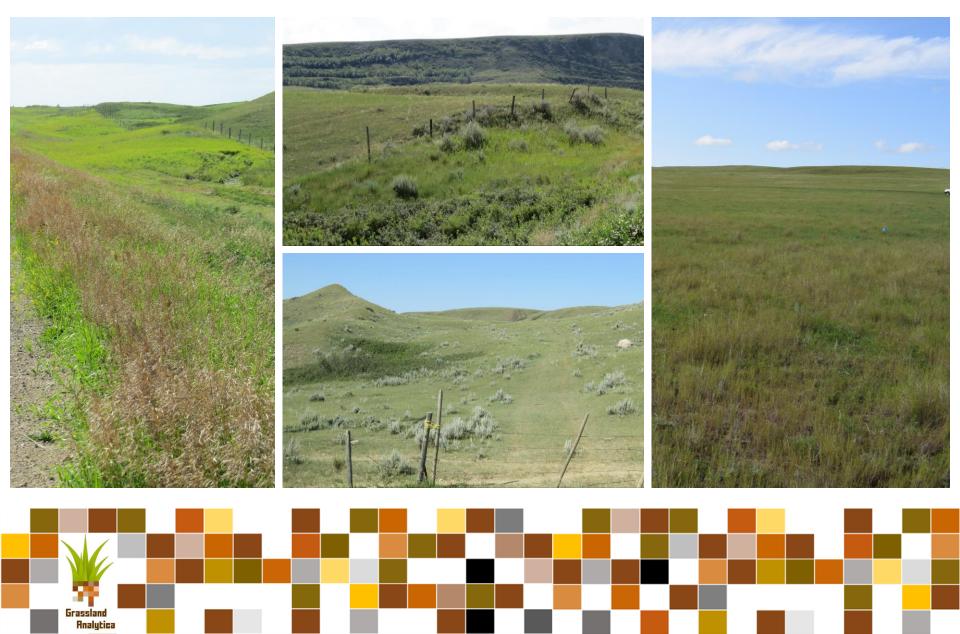
Biomass assessment



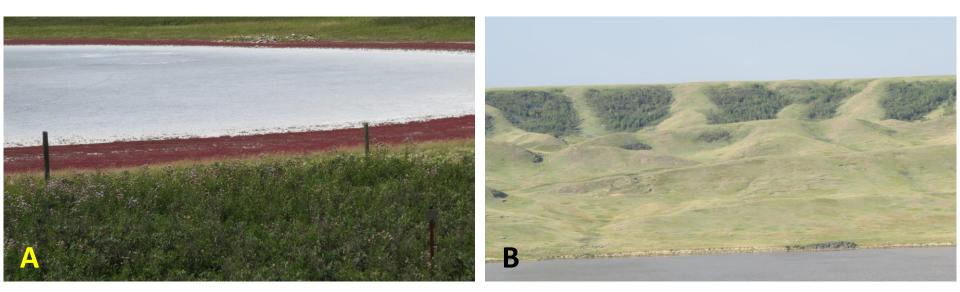
- Place your 1m x 1m quadrat at the center of the grassland assessment plot.
- Harvest all plant (grass) material inside the boundaries of the used quadrat.
- Measure all plant biomass above the soil, even if it is plant litter.
- Cut as close as possible to the soil surface.
- Never harvest plant parts outside the quadrats, even if these plants are rooted within the quadrat.



Plots vs road assessment



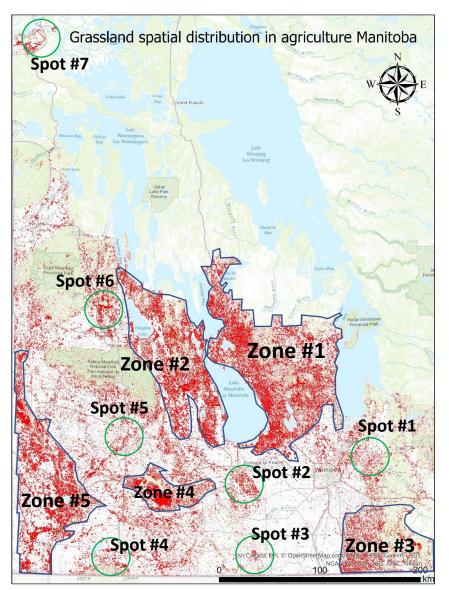
Please, avoid!

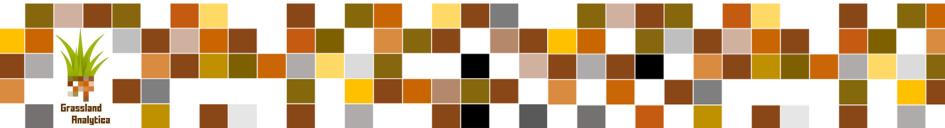




Areas of interest (AOI)

- \odot The total target is 3,000 points
- More than 50% must be grassland classes
- Five (5) zones and seven (7) spots
 must be visited
- O Mid July mid August
- Avoid wildfire locations





Survey 123 app

- <u>https://www.gov.mb.ca/agriculture/land-management/land-id-tool.html</u>
- <u>https://youtu.be/QSiVwGpRhMs</u>



Thank you! Merci! Questions?



Grassland Analutica

For more information, please contact:

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Nasem Badreldin PhD

Project Manager & Founder Grassland Analytica Email: <u>service@grasslandanalytica.com</u> Website: <u>www.grasslandanalytica.com</u>