

GLOBAL AG RISK SOLUTIONS



OPPORTUNITY

Ranchers need a forage insurance to manage the additional cost to buy feed in years where pasture and forage have low production

- No effective crop insurance solution available today
- Unlevel playing field vs crop farmers

Rancher Profitability is very tight, so the solution needs to be cost effective

- Low cost of operating and claims adjusting expense
- Actuarially credible rates
- High correlation to in-field results at individual rancher level
- Easy to use

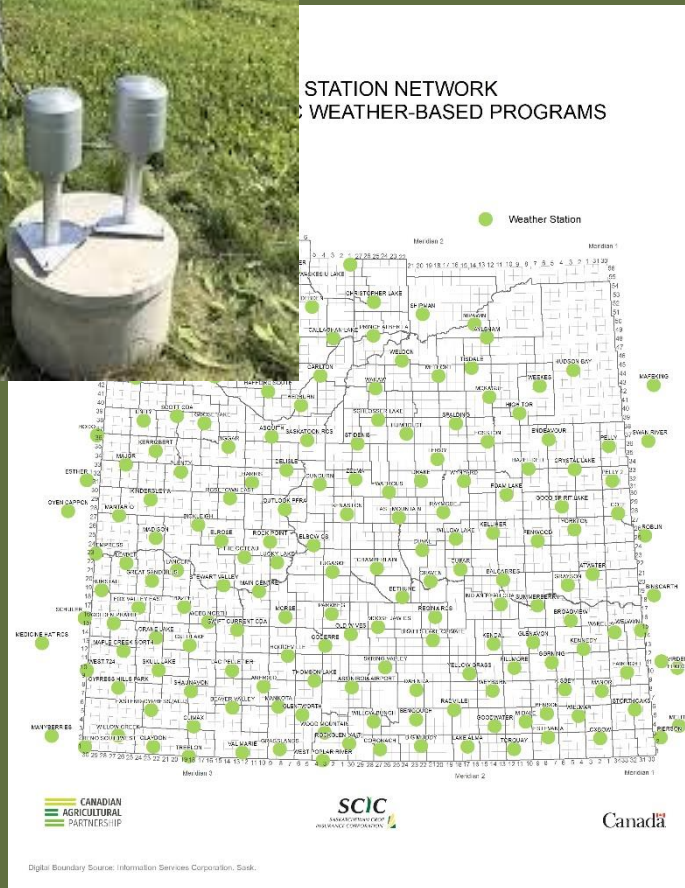
THE CHALLENGE

Traditional Production Insurance Cannot Work For Every Circumstance

- Continuous use pasture
- Varying stocking rates
- Varying winter feed requirements
- Varying methods of harvesting (graze, bail, silage, swath)
- On-farm consumption
- Import and export of production
- Poor record keeping
- No historical data



CURRENT OFFERING



Sask Crop Insurance Options

Production Guarantee – 0.4M acres (1.23 in 2020)

- Works well for baled production with long term records

Rainfall Guarantee – 2.3M acres (1.91 in 2020)

- Forage rainfall insurance program
- Flexible weighting options and incorporates extreme heat into calculation
- Only 186 weather stations across 3600 townships

Corn Heat Unit - 7,316 acres (0.66 in 2020)

Corn Rainfall - 16,593 acres (1.15 in 2020)

<https://www.scic.ca/uploads/files/fin-annual-report-202021.pdf>

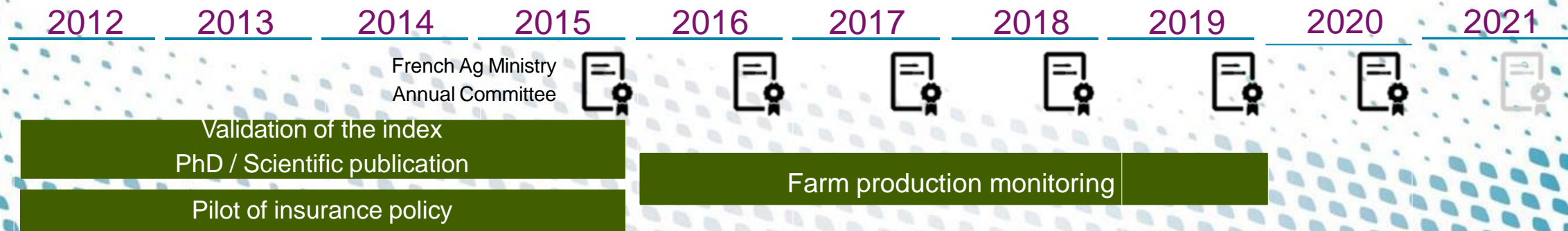
SOLUTIONS



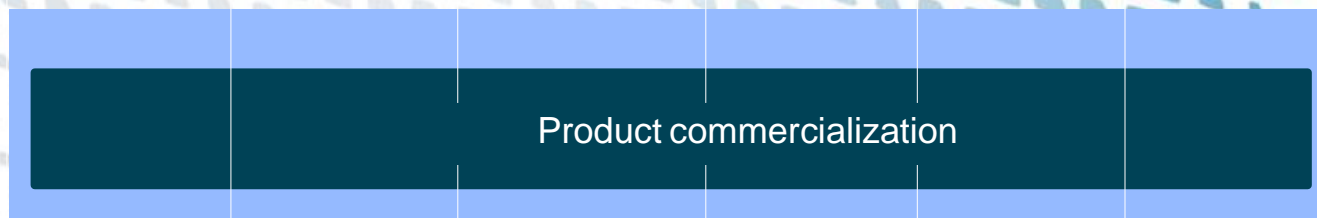
Satellite based observations could offer better solutions

- Needs to have high frequency of imagery
 - Needs to have long term data available
 - Needs to be direct observations with very little interpolated data
 - High correlation to in-field results
 - Needs to adjust to the seasonal variation (early spring, late spring, growth thru August/Sept)
-
- [Remote Sensing | Free Full-Text | Validation of a Forage Production Index \(FPI\) Derived from MODIS fCover Time-Series Using High-Resolution Satellite Imagery: Methodology, Results and Opportunities | HTML \(mdpi.com\)](#)

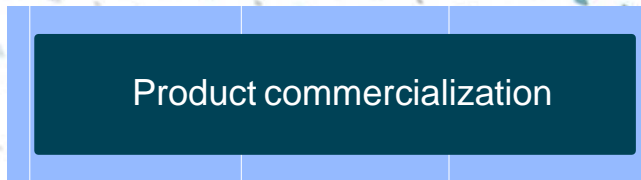
History of GPI



France



Italy



Brazil



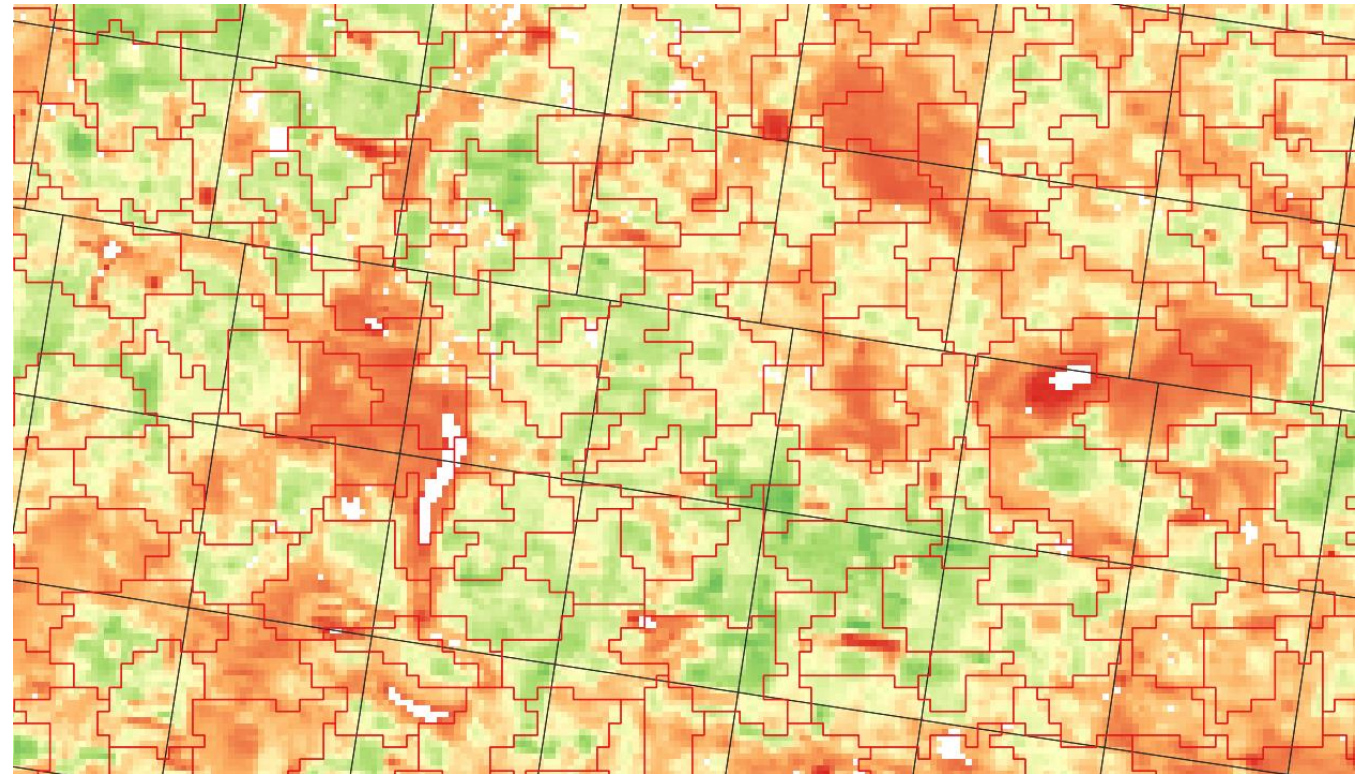
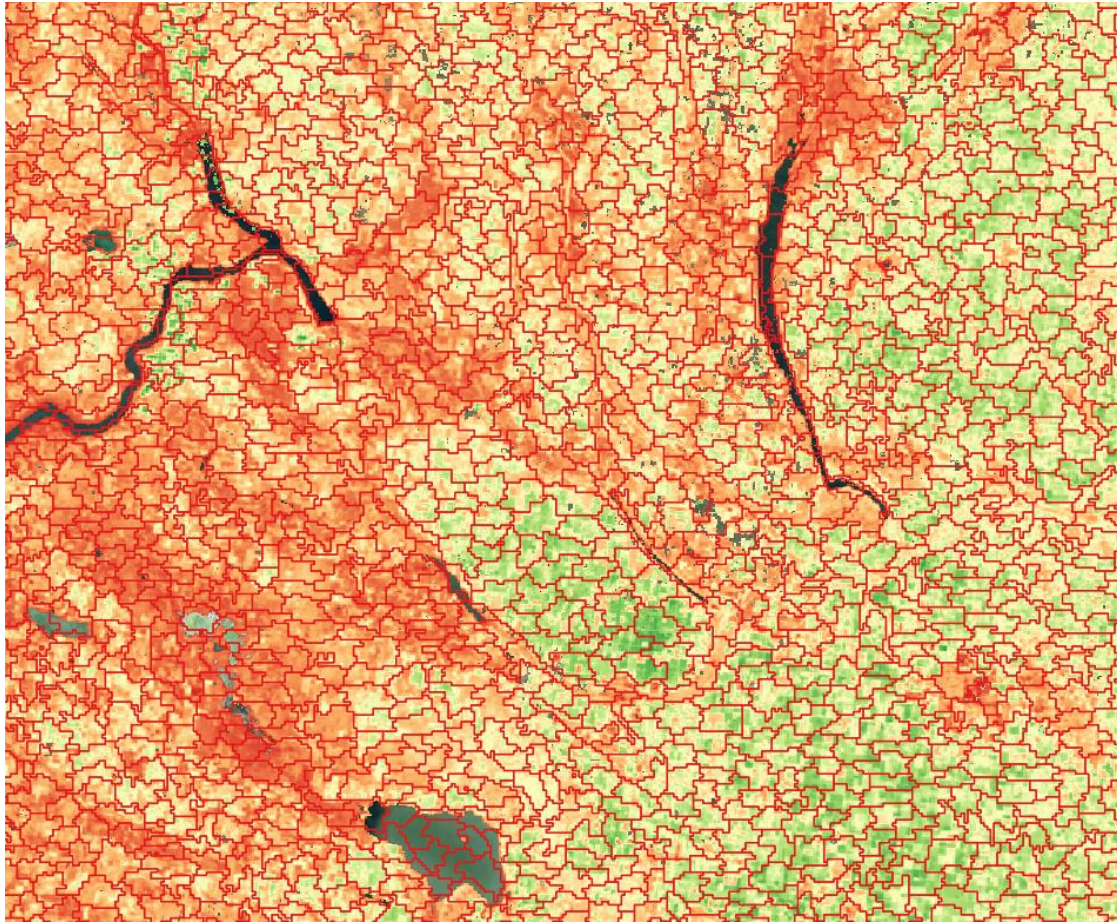
Canada



AIRBUS

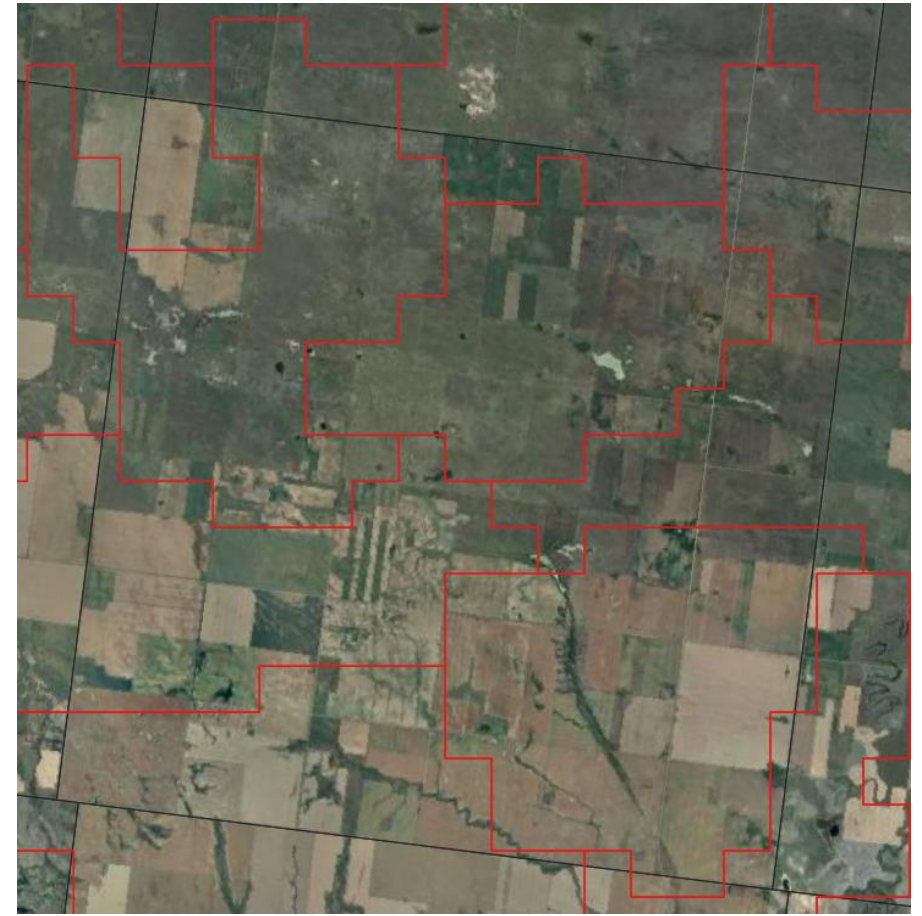
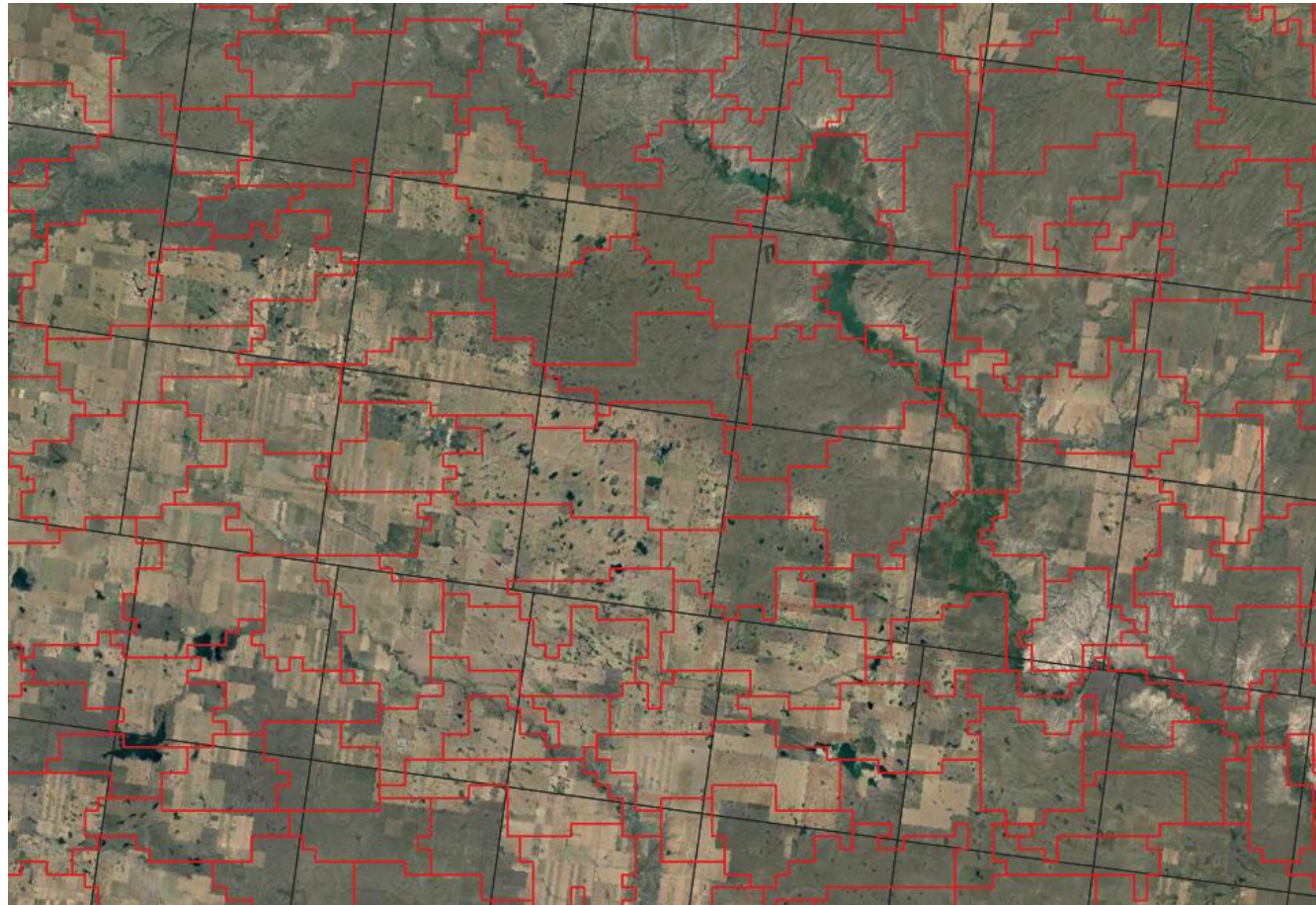
"Mesh" Grid Structure

Creates higher resolution and accuracy as it follows phenological and topographical characteristics of the land



"Mesh" Grid Structure

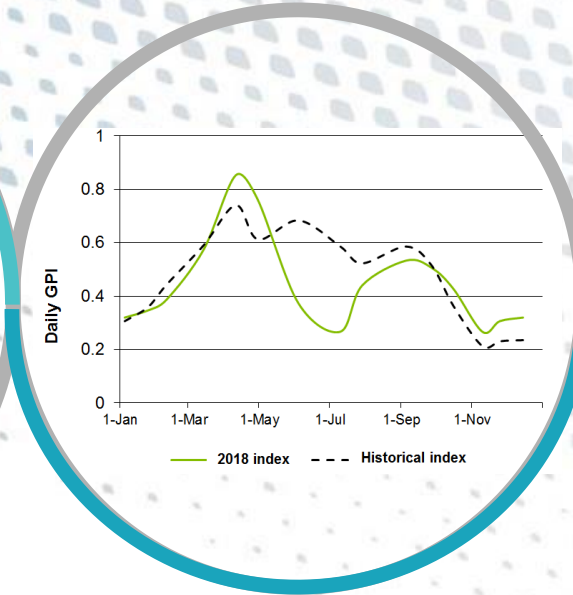
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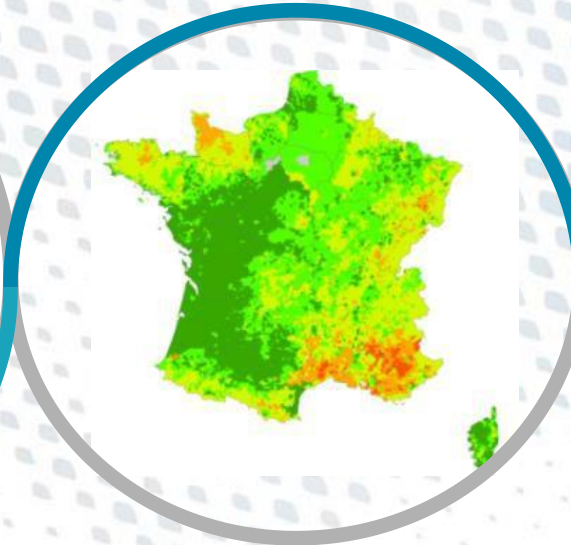
Main steps of the methodology



01 Computation of the satellite data



02 Comparison of annual and historical GPI



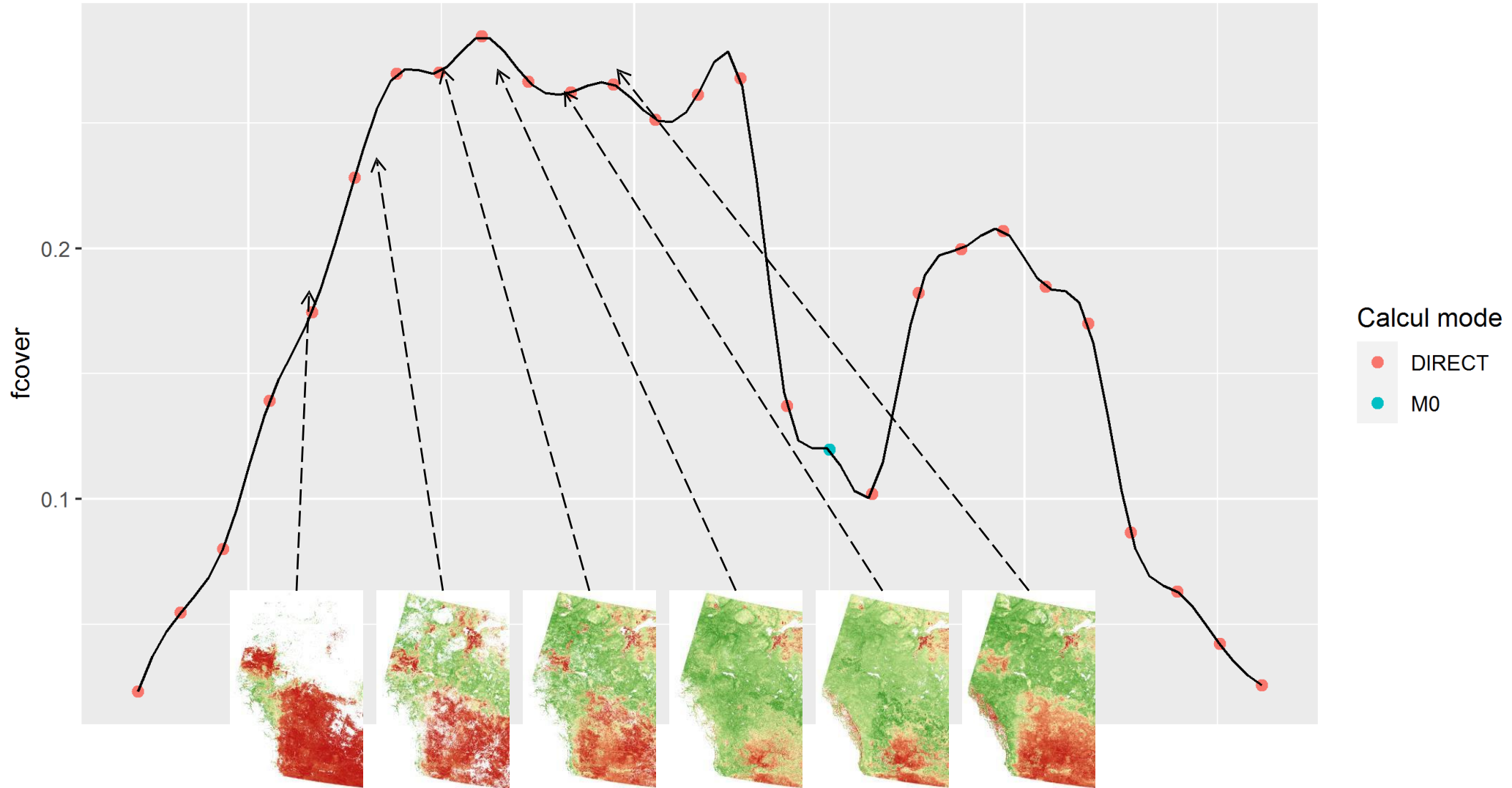
03 GPI Variation per zone



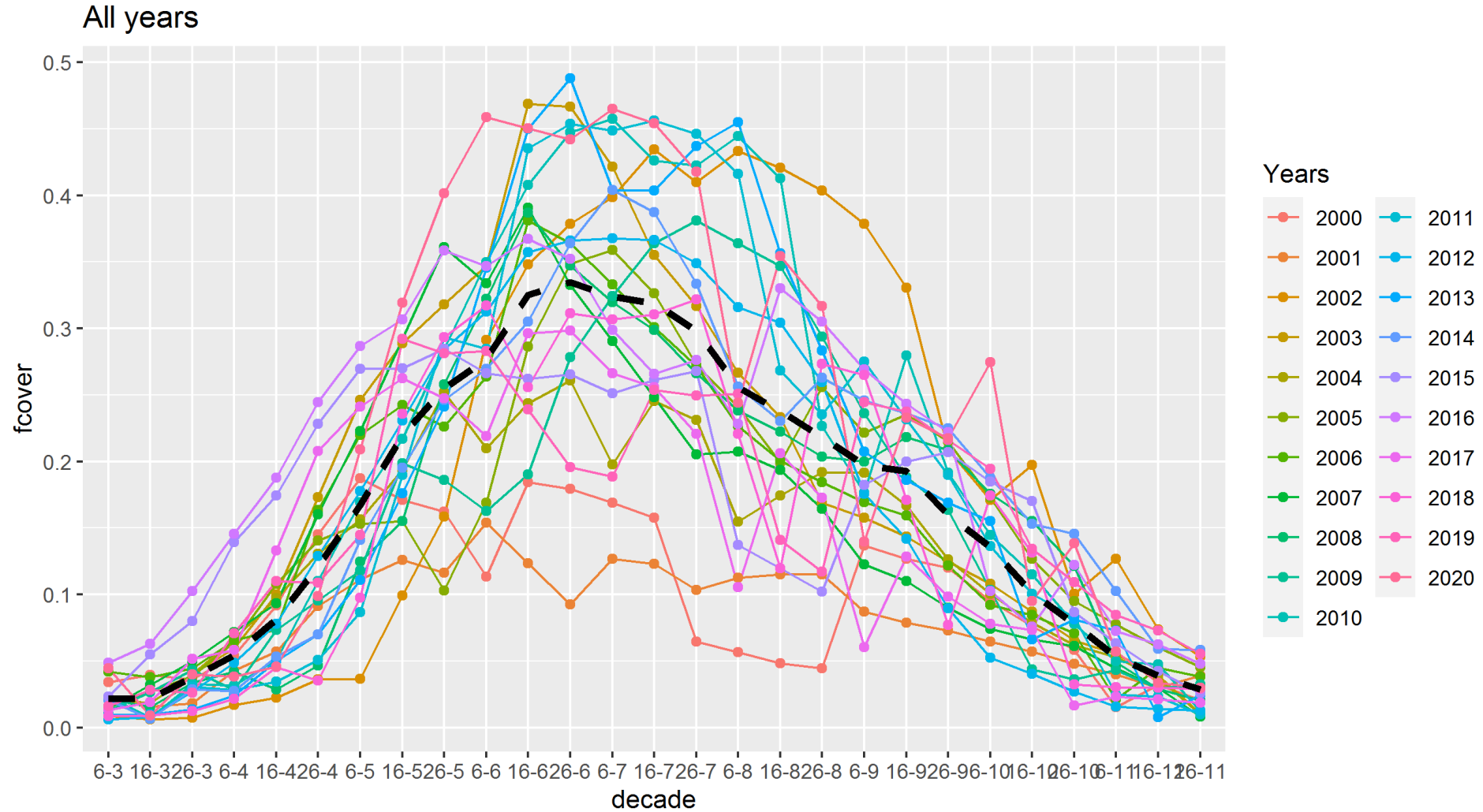
04 Payouts

Gap filling

2015



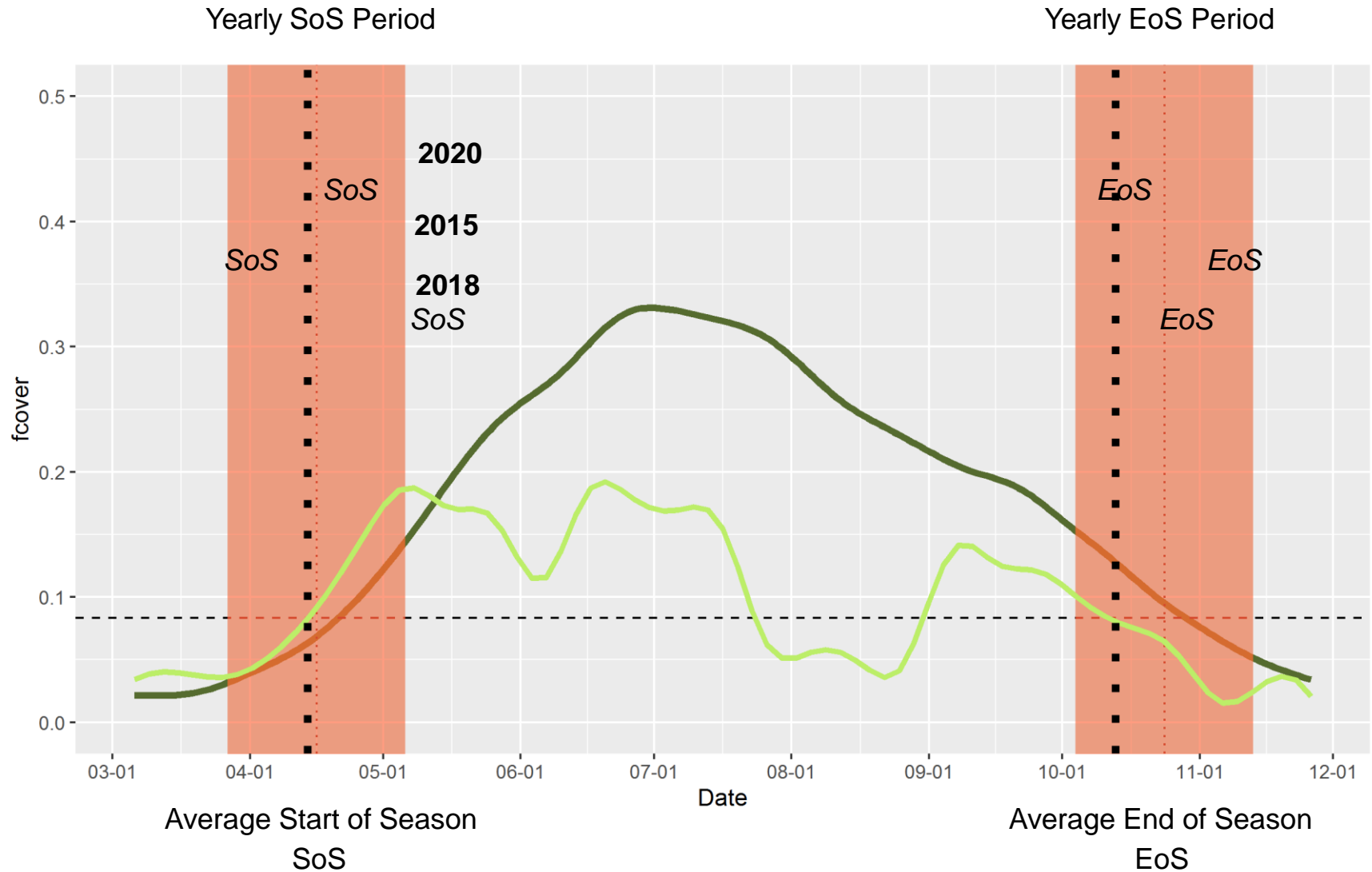
Phenometrics computation



Phenometrics computation

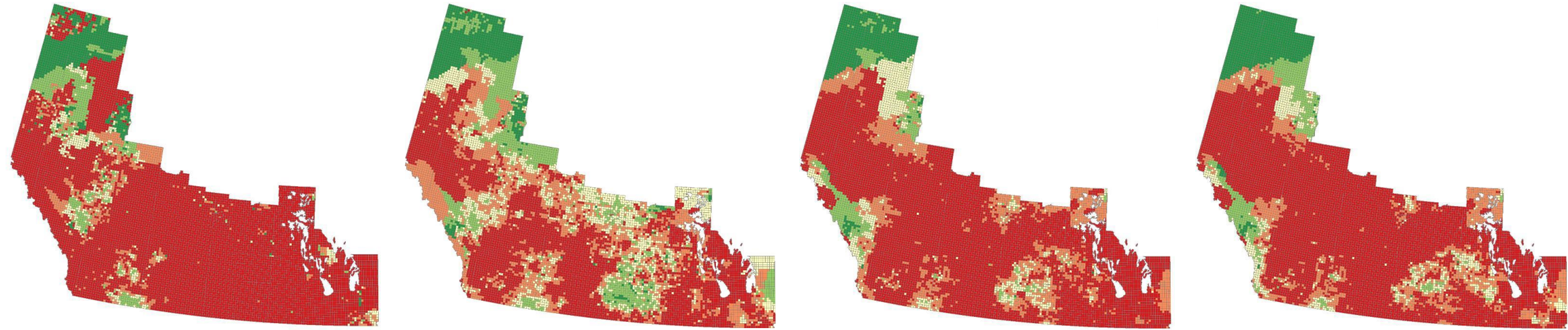
Average SoS and EoS and Seasonal threshold are fixed for a Township

Yearly SoS and EoS are variable for a Township



Grassland production variation along 2021 in Canada

Confidential



May

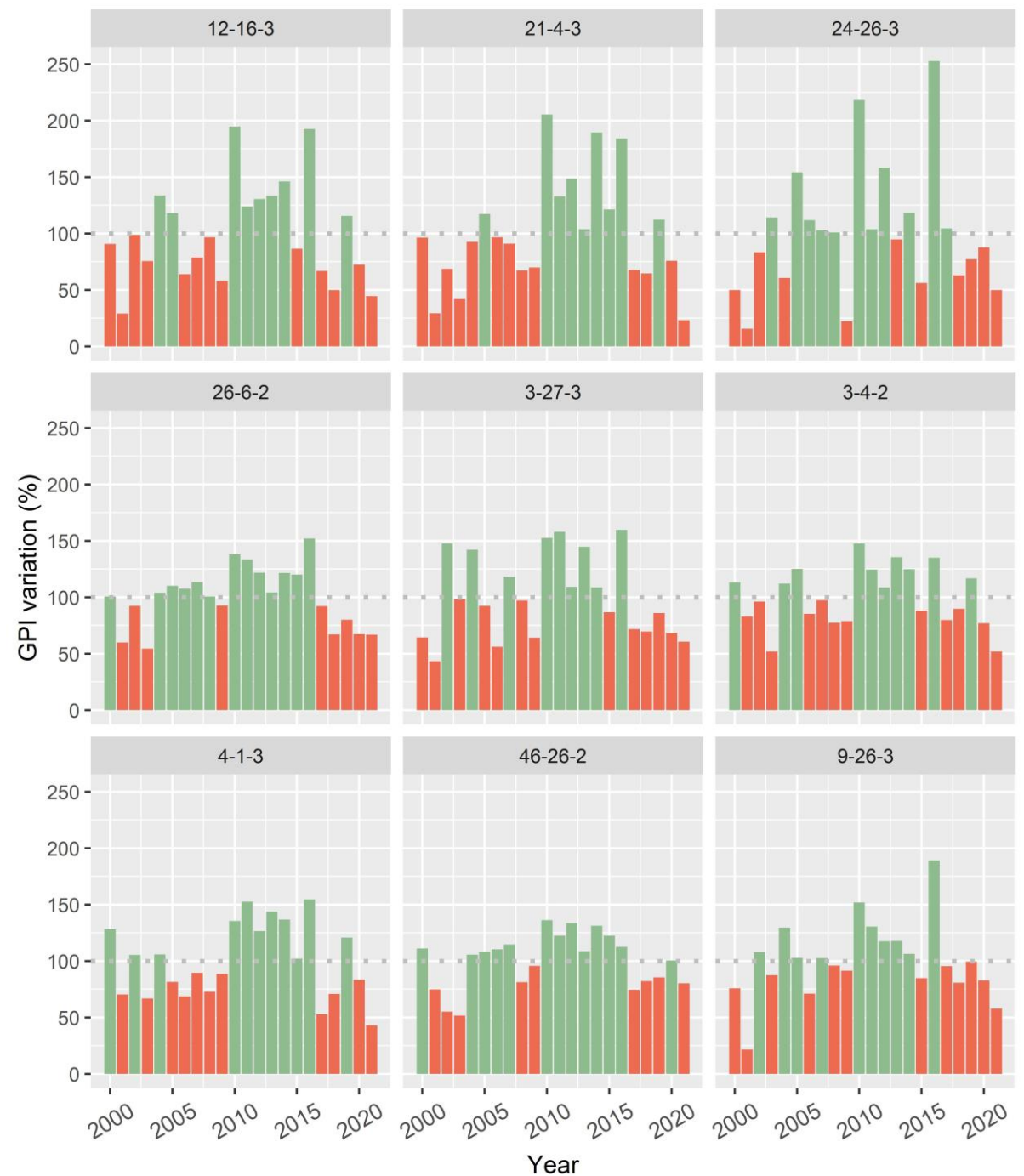
June

July

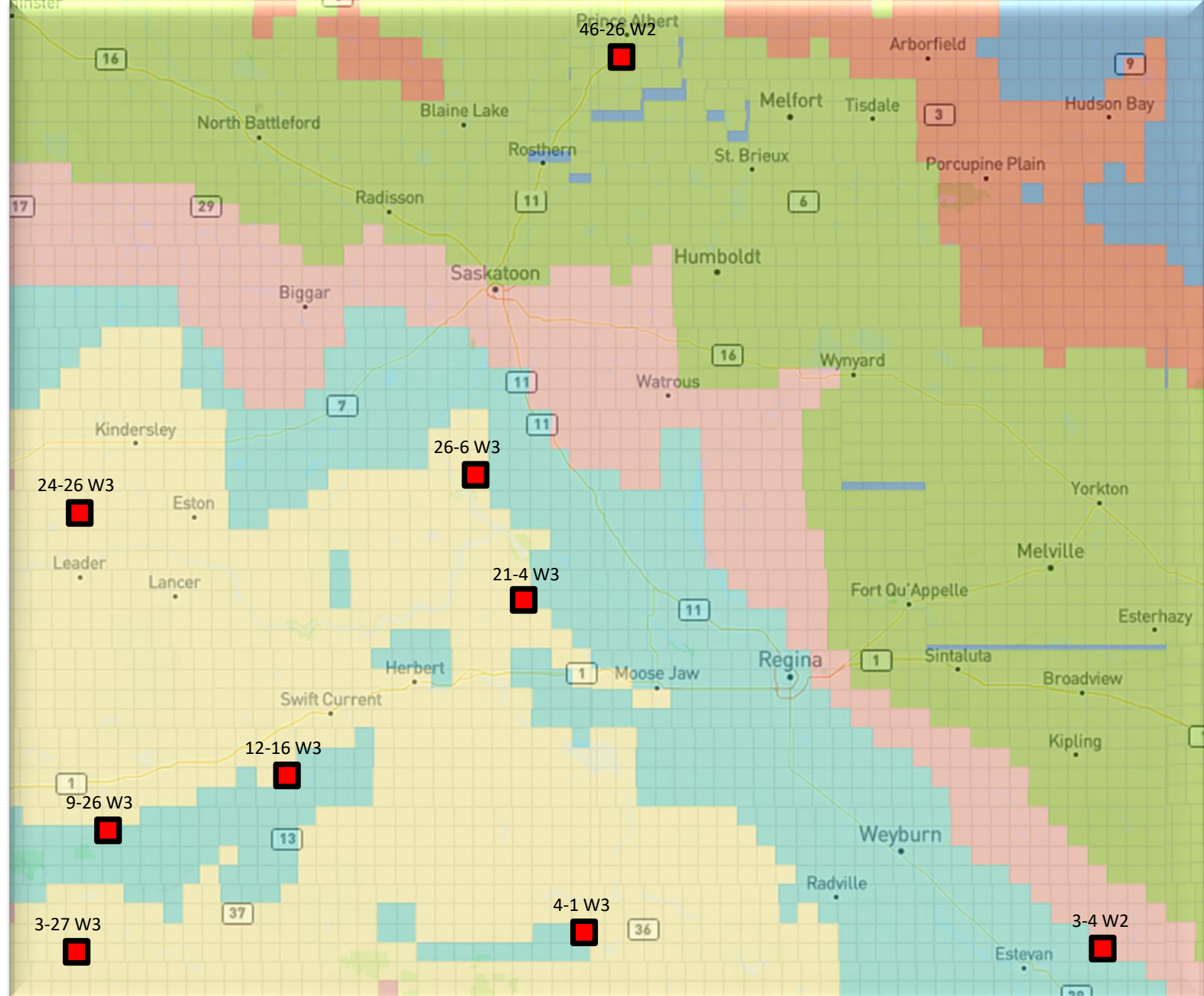
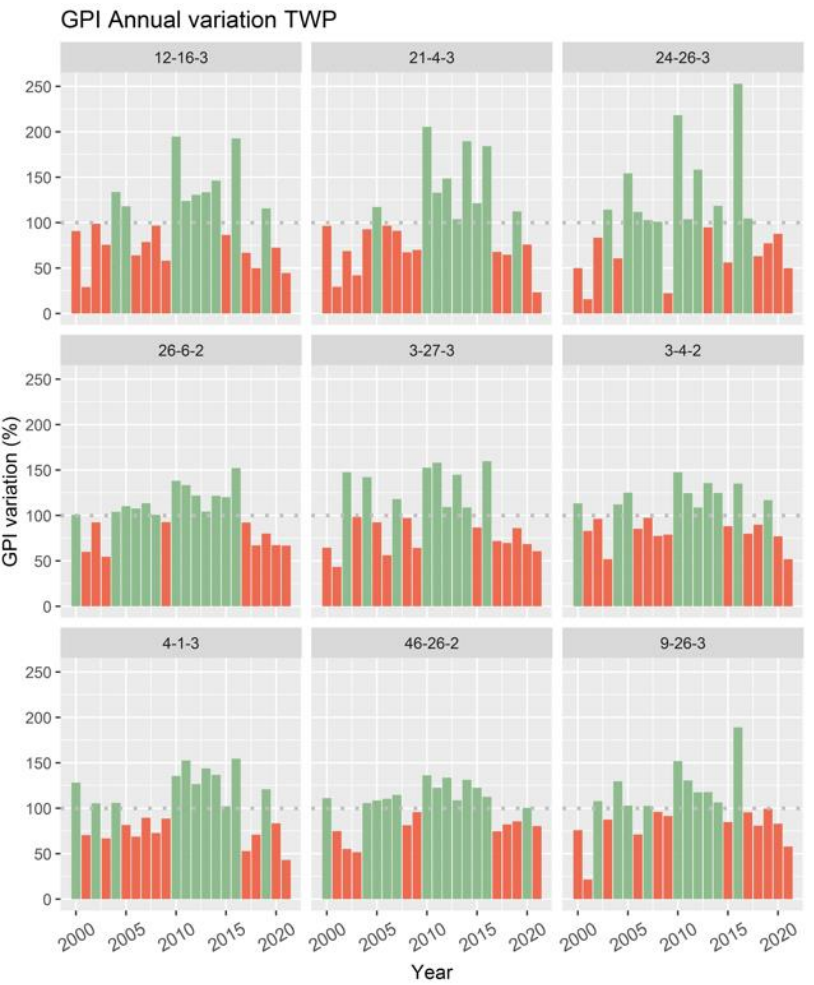
August

GPI Index Outputs Saskatchewan 2000 to 2020

GPI Annual variation TWP



Confidential



SOLUTION

- Global Ag Risk Solutions developed a satellite-based software to ingest weather data and manage policy documentation for Parametrics.Ag
 - First product was Canola Heat Blast Insurance measuring temperature during flowering
 - Product infrastructure is built to manage customer and user experience
 - AIRBUS satellite technology and products are now proven in Brazil and Europe and ready for Canadian deployment

PATH FORWARD

- Create a public private partnership
- Utilize AgriRisk Initiative funding
- R&D Product Development
- Federal and Provincial BRM Negotiation
- Product Commercialization

TIMELINES

- February
 - Alignment of producer group, crop insurers, province and Feds
 - Airbus data acquisition and cleansing.
 - Statement of work with Airbus, actuaries, data science, field staff.
 - Deal and signatures from all relevant parties.
- March
 - Data science and Actuarial Study
 - Development of expected rates, loss ratios, burning costs by township/section
- April
 - Development of commercialization and pilot project
- April thru September
 - monitor the pilot project on a farm-by-farm basis, as well as ground truthing.
- October
 - Assess viability and farmer feedback
- November
 - finalizes all changes to product and pursue reinsurance for 2023
- December
 - Execute commercialization strategy, engage target market
 - Producer education and awareness sessions

DELAYED

DELAYED

DELAYED

ON HOLD