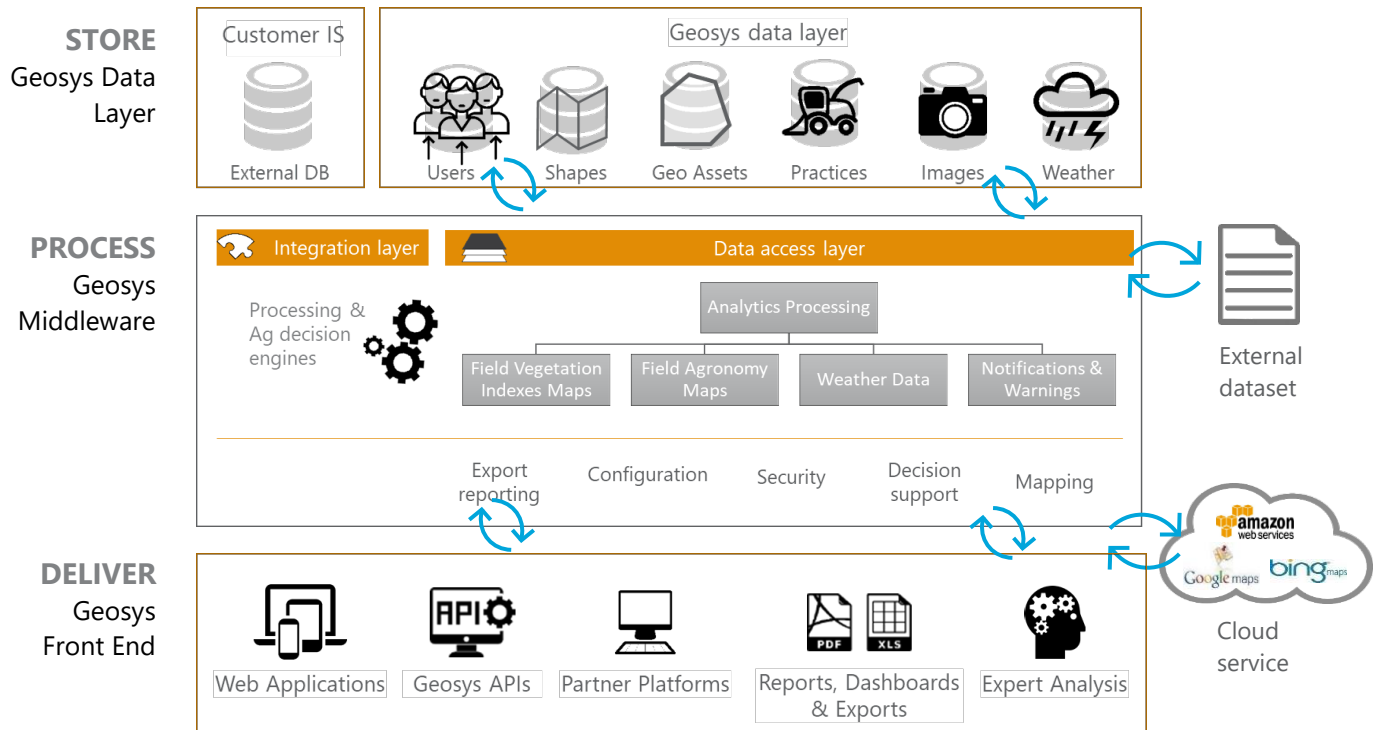


# ANALYTICS CAPABILITIES OVERVIEW

## THE GEOSYS PLATFORM



## ANALYTICS

Below is an overview of the analytics currently available.

Field Vegetation Indexes Maps	Field Agronomy Maps	Weather Data	Notifications & Warnings
<ul style="list-style-type: none"> <li>• NDVI (<i>Normalized Difference Vegetation Index</i>), EVI (<i>Enhanced Vegetation Index</i>), CVI (<i>Chlorophyll Vegetation Index</i>), GNDVI (<i>Green Normalized Difference Vegetation Index</i>), LAI (<i>Leaf Area Index</i>) and more.</li> <li>• Color composition maps: True and False colors maps used to visualize vegetation cover.</li> <li>• Vegetation Time series: vegetation growth measured daily</li> <li>• Burnt crop index</li> </ul>	<ul style="list-style-type: none"> <li>• Yield Variability and Yield Goal Map</li> <li>• Organic Matter Map</li> <li>• Satellite derived Management Zones</li> <li>• Elevation and slopes map</li> <li>• Nitrogen application maps (for wheat, barley, canola and more)</li> <li>• Field Variability indicator</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-model dataset covering historical, current weather and forecasts</li> <li>• Several aggregation levels: admin unit, small ag region and location based</li> <li>• Ag parameters: temp min, max, average, rainfall, wind speed, humidity, snow depth, atmospheric pressure, soil moisture and temperature</li> <li>• Precipitations (Daily)</li> </ul>	<ul style="list-style-type: none"> <li>• New satellite image notification</li> <li>• Difference map with change detection</li> <li>• Fields benchmarking</li> <li>• Vigor status change</li> <li>• Agro climatic alerts</li> <li>• Crop emergence date</li> <li>• Harvest date</li> <li>• Crop flowering date</li> </ul>

# DELIVERY CHANNELS

## WEB APPLICATIONS

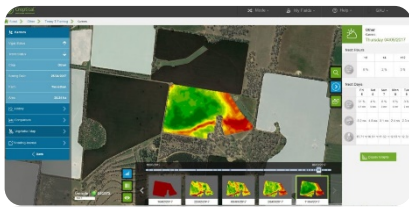
Geosys provides ready-to-use applications or can build tailored applications for specific business needs – from white label offerings to complete custom builds.

Provides daily decision support with fast access to comprehensive field data.



- Benchmark performance
- Target scouting efforts
- Identify opportunities to protect and maximize yield potential

Powerful grower-support tool offering daily insights.



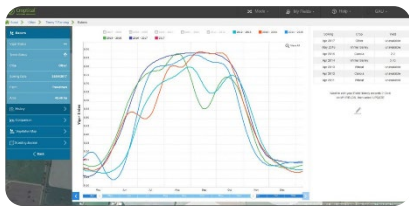
- Monitor day-to-day field performance with daily satellite and weather updates
- Prioritize scouting, testing and field operations by quickly identifying farms and fields performing above average, average or below average
- Use best-in-class field variability maps to take a closer look at fields
- Identify opportunities to protect and improve yields as the season progresses

Scout smarter with field benchmarking and support app.



- Take bias out of the equation – fields are objectively benchmarked using only real physical measurements from satellite data
- Intuitive interface makes discovering crop conditions fast and easy with field variability maps
- CROPTICAL® In Field mobile application provides access to data on-the-go with a scouting app that records notes and pictures

Quick, easy access to historical satellite and weather data.



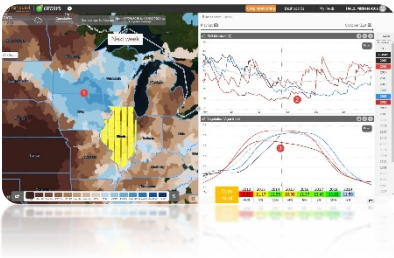
- Access Geosys' extensive archive to compare performance of a field against previous years
- Track crop health from previous years as compared to actual yields
- Evaluate current weather data and patterns compared to past seasons

Comprehensive crop intelligence tool that enhances the understanding of production risk by combining satellite data on crop conditions with weather data.



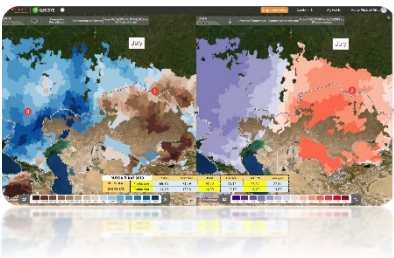
- Manages exposure to risk and help businesses maintain a competitive edge
- Improve operational efficiency
- Access accurate, real-time data
- Leverage local analysts

An unmatched analytical engine.



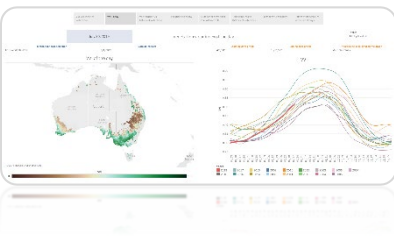
- This interactive tool provides visual data for a more efficient analysis
- Provides objective, unbiased data with tailored analysis for a competitive advantage
- Compare what's happening now to Geosys' extensive, historical database
- Monitor weather events with the ability to see the impact on crops

A comprehensive business solution for global crop monitoring.



- Monitor changes in weather events over any specified time or location to analyze risk and geographical spread
- Daily updates for real-time results
- Archives include instantaneous access to 20+ years of weather data and 15+ years of daily satellite data
- Access aggregated data on consistent zones for comparisons with visual data
- Quickly compare location to historical average, analog years and extreme years

Easily tailored for specific business needs.



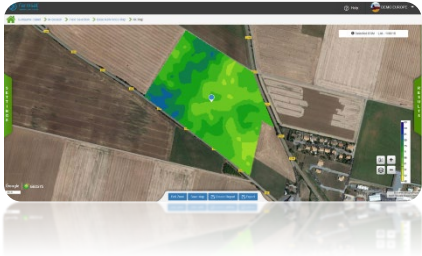
- Customized aggregation levels to quickly analyze fields of interest
- Personalized dashboards provide a high level of flexibility with specific insights on indicators
- Ability to create potential scenarios and monitor risk more efficiently by combining maps with risk criteria to visualize data for a specific region.

Transform your precision agriculture program with an easy-to-use, customizable and industrialized solution



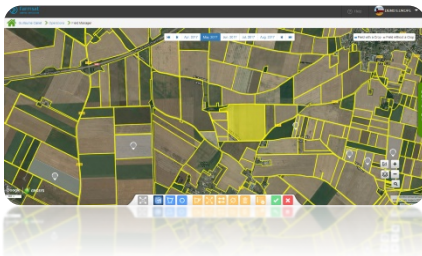
- In-season and historical field variability maps
- Focused management zones
- Variable-rate application maps

Optimize input placement and increase return on investment



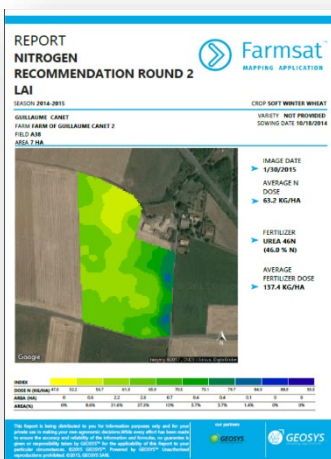
- Put the right input, in the right place, in the right amount by analyzing past and in-season field behavior
- Access multiple years of biomass field variability to define management zones
- Improve soil, tissue and grain sampling plan with unbiased data
- Target nitrogen application based on crop needs and increase input efficiency and field productivity

Streamline your precision agriculture program with powerful, intuitive tools



- Access an industrial solution and create variable-rate application maps for complete farms in one shot
- Be a trusted advisor by providing precise and actionable recommendations
- Customize to fit your local needs

Deliver best-in-class customer support with proven technology



- Use decision tools to create maps, reports and exports in real-time
- Access the latest data throughout the season and identify sales opportunities
- Access a field's history before meeting with a grower
- Develop value-added services to build customer loyalty



## GEOSYS API

Geosys APIs provide a direct connection to agriculture specific analytics flow, giving business the advantage of:

- **Speed and Efficiency** by partnering with businesses to easily integrate data into their solution, and help improve their service portfolio with embedded, high-quality analytics within days.
- **Scalability** through the power of the Geosys Platform, businesses have instant access to satellite imagery and weather information for agriculture areas across the globe – updated daily.
- **Flexibility** to optimize data flow with group calls and multiple filtering options for complex requests – data is delivered to serve the business needs.



## PARTNER PLATFORMS

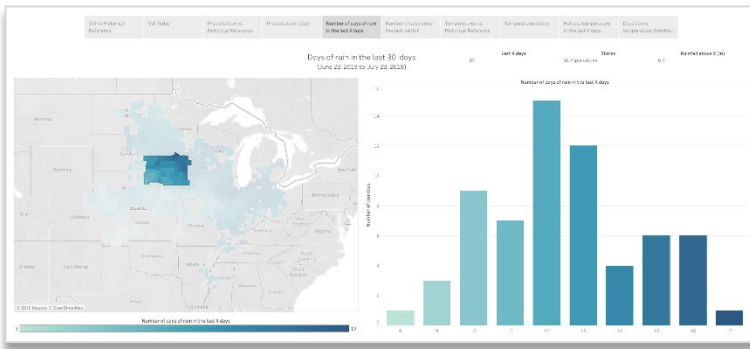
Geosys provides access to its analytics through a variety of trusted third-party platforms such as QGIS, John Deere Operation Center, Invivo and more.



**JOHN DEERE  
OPERATIONS CENTER  
CONNECTED**

## REPORTS, DASHBOARDS & EXPORTS

Geosys provides easy access to the required business analytics – when and how they are needed most. Analytics can be delivered through any of our standardized reports, dashboards or exports, or customized version can be created to best meet the needs of a specific business operation.



### Worldwide Crop Conditions Highlights in 10 Pictures

Through daily monitoring of the major crop producing regions, with the Agriquest® global monitoring tool, Geosys keeps world's pulse.

## 26 July 2019

### US CROP PROGRESS REPORT

**IOWA**  
Next 7 day outlook will be more favorable for corn and soybean planting. Limited progress this week.

**ILLINOIS**  
Limited progress for this report. Next 7 days will help push progress along in the wet north.

**NEBRASKA**  
Slow progress for the report this week. Next week will be much of the same.

**MINNESOTA**  
Planting progress should improve for both corn and soybeans the last week and into next.

**INDIANA**  
Still wet. Conditions are not cooperating.

**SOUTH DAKOTA**  
Better progress this week. Next 7 days will also provide a window to post a larger % increase.

**KANSAS**  
Wet conditions will be the story in June to make or break the winter wheat.

**OVERVIEW**

Strong Weekly Interest   Standard weekly interest

**OHIO**  
Conditions remain wet and the next 7 days aren't any better. Limited progress this week and next.

**WISCONSIN**  
A bit of a dry down the next 7 days. Limited progress last week but better in the days ahead.

**MISSOURI**  
Wettest trend historically since March 1 this year. Next closest year is 1995.

**NORTH DAKOTA**  
Dryness persists. Will have a negative impact to winter, spring and summer crops.

**OKLAHOMA**  
Vegetation index running well above the 10 year average for wheat.

**TEXAS**  
May was a wet month in North Texas.

**MONTANA / IDAHO**  
Warmer temps and dry across MT and ID.

GO TO STATES   = Hot Spot

**#1 - USA**

The hot and dry trend on a part of the Corn Belt should reduce soil moisture.

Next week, the Corn Belt center should receive rains above normal. But the rest of the area will be exposed to hot, drier conditions, resulting in a 5% decline in soil moisture in Illinois. The low levels remain higher than 2012, and for the moment are less prolonged than in 2013 (2). Vegetation indices are showing positive momentum, with values expected to reach averages next week (3). Our maize and soybean yield numbers, while increasing, still reflect risks associated with the strong delay in the cycle this year.

### CROP SITUATION

**USA**  
Water conditions remain rather favorable for corn and soybean grain filling. The dynamics of NDVI is good.

**CAN**  
Harvests are in progress. The rains of the next days could slow down operations. Optimism on production remains relevant.

**BRA**  
We have adopted a more favorable scenario in Rio Grande do Sul and consequently increased our production figure slightly.

**ARG**  
If the dry season continues until the end of the month, wheat and barley potential could be penalized. Right now, water needs remain moderate.

**AUS**  
We have adopted a more favorable scenario in the Western Cape, which leads us to increase our wheat / barley / rapeseed production figures.

**CHI**  
NDVIs in the north remain very high, but the situation is deteriorating in the center of the country. Our production figures are stable.

**OVERVIEW**

ALL CROP   CORN   SOYBEAN   WHEAT   BARLEY   RAPESEED

Strong Weekly Interest   Standard weekly interest

**IND**  
The levels of the water reservoirs are good. NDVI are not very readable due to the cloud cover. At this point, we have a positive bias for maize.

**RUS**  
No improvement for spring wheat. The dry trend in the corn zone is stressing crops, but our production numbers are stable.

**UKR**  
The hot and dry trend accelerates the senescence of crops and limits the corn potential. Our scenario, less optimistic than the USDA, is consolidated.

**EUR**  
Declining indices in the southwest of the continent contribute significantly to our decisions to lower our production figure.

**MEA**  
The season is over.

**ZAF**  
There is a collapse of NDVI in the southern Western Cape. We lowered our production forecasts accordingly.

Continue to Situations by Geography

**#4 - Europe**

In the next 10 days, above-average rains are expected in the corn areas, notably in France, Germany, Italy, Poland, as well as in the south-east of the continent (1). These rains, between 20 and 60 mm (2) will be beneficial for the corn in flowering or grain filling (according to the precocity of the zones).

Favorable rains are expected in the next ten days.



# EXPERT ANALYSIS

Geosys crop analysts provide business insights needed by combining global monitoring with local expertise.

