



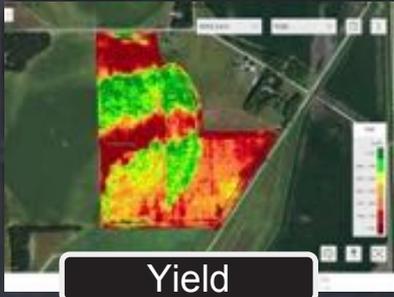
» S2S weather forecast data needs and Climate FieldView™

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Climate FieldView™



A Grower's Year:

~40 Decisions to Optimize Yield, Highly Dependent on Weather



Planning
NOV–MAR

Pre-Planting
MAR–APR

Planting
APR–MAY

In-Season
JUN–AUG

Harvest
AUG–NOV

Equipment
Seed selection
Crop selection

Fertility mgmt.
Water mgmt.

Logistics
Practices

Scouting
Pest & disease
Soil Fertility

Logistics
Timing
Sell grain

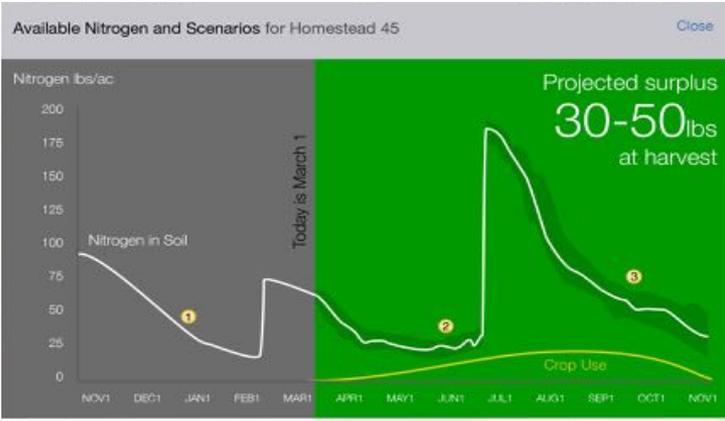
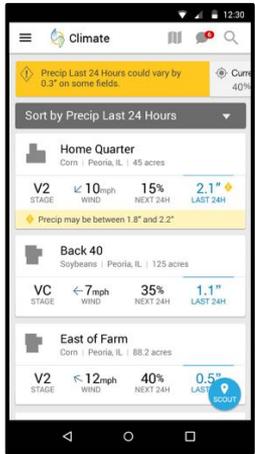
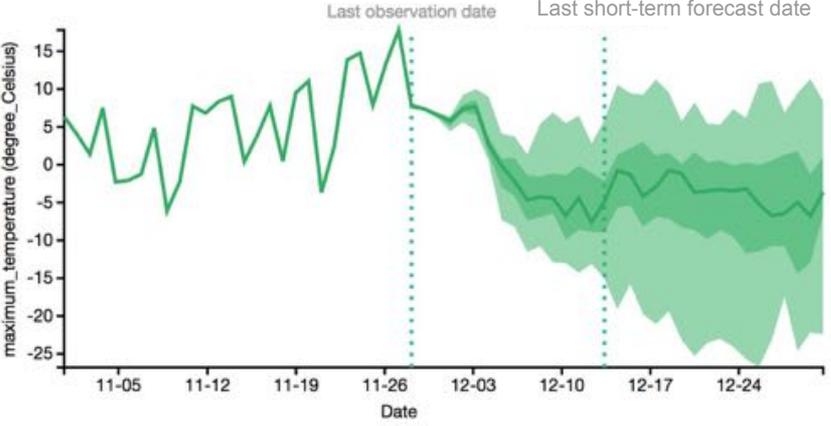


1	Weather	70+ bu/acre	27%
2	Nitrogen	70 bu/acre	26%
3	Hybrid	50 bu/acre	19%
4	Previous Crop	25 bu/acre	10%
5	Plant Pop.	20 bu/acre	8%
6	Tillage	15 bu/acre	6%
7	Growth Reg.	10 bu/acre	4%

Total = 260 bu 100%

[source](#)

Goal: Historical Weather + Forecasts for Every Point in Time & Space



- 1 Normal wet spring with rain in late March results in little nitrogen (N) loss.
- 2 Sidedress applications are very effective in remedying nitrogen deficiency, perhaps a sidedress in June.



S2S Data Needs

Must-have

Standard compliant format (netCDF, GRIB)

Standard access methods (APIs, FTP)

Standard variables (temp, dew point, rh, precip, winds, pressure, radiation, etc.)

Global coverage

Basic documentation, published papers

Forecasts + reforecasts

10+ ensemble members

<= 100km, <= daily resolution

Nice-to-have

Point or bounding-box specific APIs to subset data

Ag-relevant vars (snowpack, soil moisture, date of last spring / first fall frost, etc.)

Indices: ENSO, PDO, MJO, NAO, AO, etc.

Weekly/monthly summaries

Higher (downscaled) spatio-temporal res.

Vertical profiles (temp, wind, rh, etc.)

30+ ensemble members

Documentation on data quality, accuracy, limitations

Love-to-have

Multi-model ensembles

Forecasts of weather extremes

Hourly data

Reproducible skill assessment notebooks

Software libraries for forecast calibration

Training, workshops



Thank You

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