



**HOTSPOT AG**



Farming in the  
SGMA Era

James Nichols

# Farming in the SGMA Era

- SGMA has changed how we farm
  - The cost of groundwater can be up to \$500/acre-ft
  - Additional costs include:
    - Electricity for groundwater pumping
    - Labor
    - Burden of technology adoption

# Farming in the SGMA Era

## SGMA compliance poses many challenges

### PLANNING

Developing an organizational water plan is difficult

2023 WATER PLAN

- 2.7 AC-FT TARGET

FIELD 1 - 75 ACRES ALMONDS

- DUAL LINE DRIP: 0.04 INCHES/HR
- YEARLY ET: 46 INCHES
- 1,150 TOTAL HRS TO APPLY (287 AC-FT)

FIELD 2 - 50 ACRES PISTACHIOS

- DUAL LINE DRIP: 0.035 INCHES/HR
- YEARLY ET: 46 INCHES (1,314 HOURS)
- 192 AC-FT

- 479 TOTAL AC-FT NEEDED
- 141 SURFACE H<sub>2</sub>O NEEDED

### EXECUTION

Water mismanagement can lead to costly yield and quality impacts for years



### REPORTING

Water Accounting is tedious and time consuming

Marzo 2015

|    | A     | H | J | E | E | COG | F | EW | B | HRS |
|----|-------|---|---|---|---|-----|---|----|---|-----|
| D  |       |   |   |   |   |     |   |    |   |     |
| 5  |       |   |   |   |   |     |   |    |   |     |
| 6  |       |   |   |   |   |     |   |    |   |     |
| 7  |       |   |   |   |   |     |   |    |   |     |
| 8  |       | X | X |   |   |     | X | X  |   | 10  |
| 9  |       |   |   |   |   |     |   |    |   | 10  |
| 10 |       |   |   |   |   |     |   |    |   | 10  |
| 11 |       |   |   |   |   |     |   |    |   | 10  |
| 12 |       |   |   |   |   |     |   |    |   | 10  |
| 13 |       |   |   |   |   |     |   |    |   | 10  |
| 14 |       |   |   |   |   |     |   |    |   | 10  |
| 15 |       |   |   |   |   |     |   |    |   | 10  |
| 16 |       | X | X |   |   |     | X | X  |   | 10  |
| 17 | 0     |   |   |   |   |     |   |    |   | 11  |
| 18 | 5 1/2 |   |   |   |   |     |   |    |   | 11  |
| 19 | 3     |   |   |   |   |     |   |    |   | 11  |
| 20 | 4     |   |   |   |   |     |   |    |   | 11  |
| 21 |       |   |   |   |   |     |   |    |   | 11  |
| 22 | Dom   | X | X |   |   |     | X | X  |   | 11  |
| 23 |       |   |   |   |   |     |   |    |   |     |
| 24 | 4     |   |   |   |   |     |   |    |   | 11  |
| 25 | 4 1/8 |   |   |   |   |     |   |    |   | 11  |
| 26 |       |   |   |   |   |     |   |    |   |     |
| 27 |       |   |   |   |   |     |   |    |   |     |
| 28 |       |   |   |   |   |     |   |    |   |     |
| 29 |       |   |   |   |   |     |   |    |   |     |
| 30 |       |   |   |   |   |     |   |    |   |     |

# Pre-SGMA Era

- HotSpot AG began as a Nichols Farms project in 2013
- Originally scoped to monitor water applications
- Evolved into a tool to help growers plan, execute, and report irrigation and fertilizer applications



# Nichols Farms Home HIJ

## Challenges

- Lacked knowledge of crop water usage
- Weekly Target Irrigation Amounts Missed Due to:
  - System Complexity
  - High Labor Requirement
  - Delayed reporting



# Nichols Farms Home HIJ

## Solutions

- Confidence in irrigation plan
- Precise Irrigation Applications
  - Simplified Operations
  - High Labor Requirement
  - Realtime Reporting

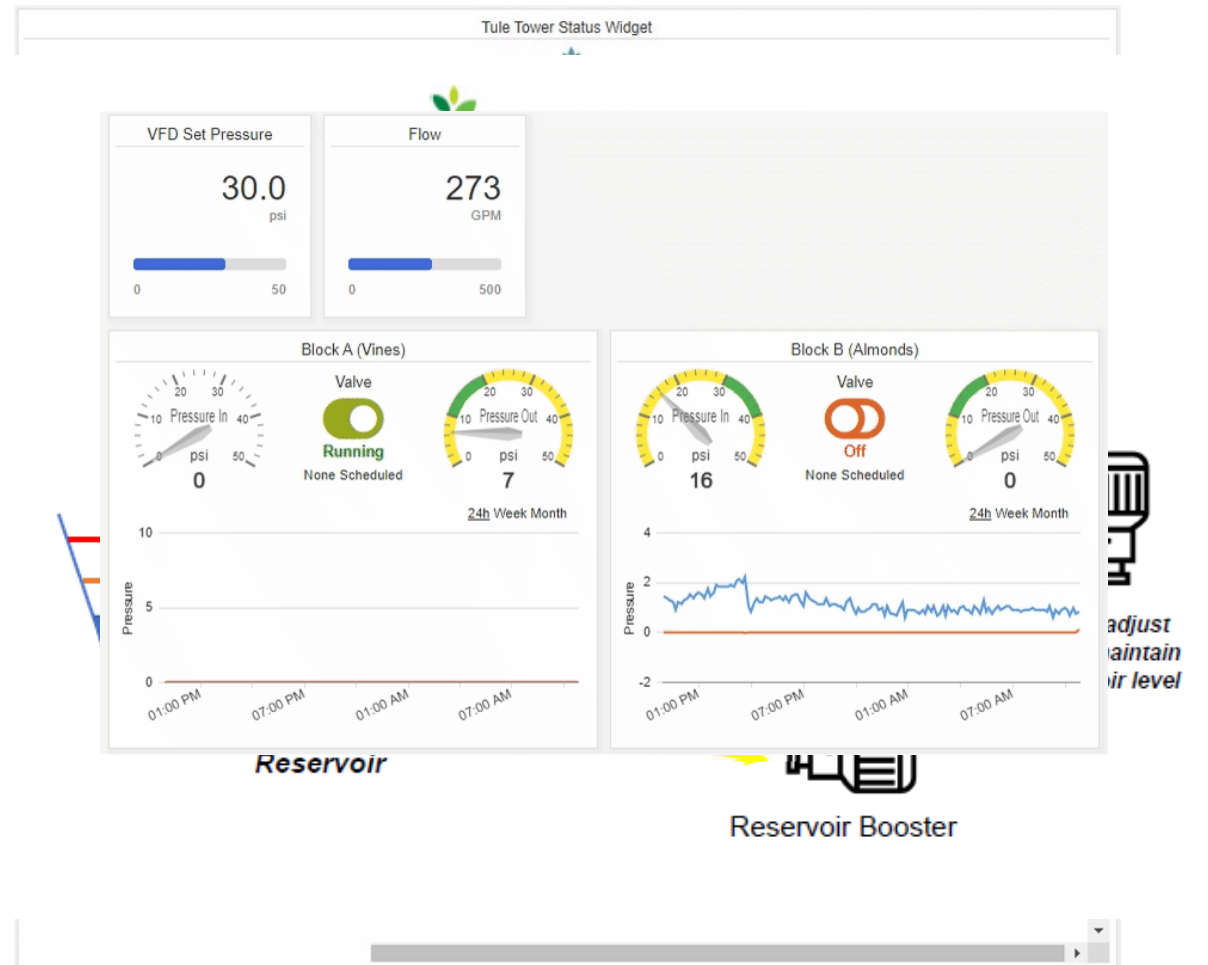


Measures daily actual crop water usage (ETa), water stress, irrigation applied, and provides irrigation suggestions

# Nichols Farms Home HIJ

## Solutions

- Confidence in irrigation plan
- Precise Irrigation Applications
  - Simplified Operations
  - Efficient Labor Utilization
  - Realtime Reporting and Record Keeping



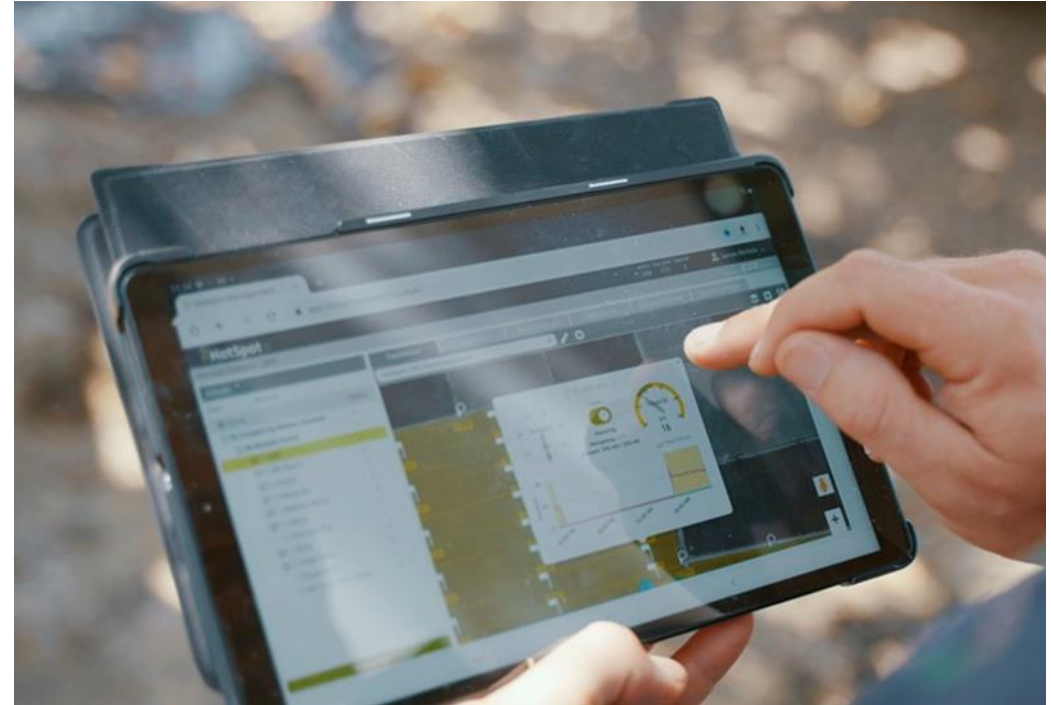


# Nichols Farms Home HIJ

## Solutions

- Confidence in irrigation plan
- Precise Irrigation Applications
  - Simplified Operations
  - Efficient Labor Utilization
  - Realtime Reporting and Record Keeping

## Remote Irrigation Management



Accessible in UTVs, pickups, tractors and during a morning cup of coffee

# Nichols Farms Home HIJ

## Solutions

- Confidence in irrigation plan
- Precise Irrigation Applications
  - Simplified Operations
  - Efficient Labor Utilization
  - Realtime Reporting and Record Keeping

Irrigation Summary [Download CSV](#)

| Date            | H North     |           |            | J North     |           |            |
|-----------------|-------------|-----------|------------|-------------|-----------|------------|
|                 | Actual (in) | Plan (in) | Difference | Actual (in) | Plan (in) | Difference |
| 2023-06-05      | 0.00        |           |            | 0.00        |           |            |
| 2023-06-06      | 0.30        | 0.31      | -3%        | 0.30        | 0.31      | -3%        |
| 2023-06-07      | 0.44        | 0.46      | -5%        | 0.30        | 0.31      | -3%        |
| 2023-06-08      | 0.31        | 0.31      | 1%         | 0.31        | 0.31      | 0%         |
| 2023-06-09      | 0.31        | 0.31      | 0%         | 0.31        | 0.31      | 0%         |
| 2023-06-10      | 0.00        |           |            | 0.15        | 0.15      | 0%         |
| 2023-06-11      | 0.00        |           |            | 0.00        |           |            |
| week 23 summary | 1.36        | 1.38      | -2%        | 1.36        | 1.38      | -1%        |
| 2023-06-12      | 0.00        |           |            | 0.00        |           |            |
| 2023-06-13      | 0.28        | 0.31      | -8%        | 0.30        | 0.31      | -3%        |
| 2023-06-14      | 0.59        | 0.61      | -3%        | 0.30        | 0.31      | -3%        |
| 2023-06-15      | 0.30        | 0.31      | -3%        | 0.29        | 0.31      | -6%        |
| 2023-06-16      | 0.30        | 0.31      | -3%        | 0.59        | 0.61      | -3%        |
| 2023-06-17      | 0.45        | 0.46      | -3%        | 0.31        | 0.31      | 0%         |
| 2023-06-18      | 0.31        | 0.31      | 0%         | 0.31        | 0.31      | 0%         |
| week 24 summary | 2.22        | 2.30      | -3%        | 2.09        | 2.14      | -2%        |
| 2023-06-19      | 0.37        | 0.36      | 2%         | 0.34        | 0.34      | 0%         |

# Funding Opportunity

## IAN VIETTI

Director of Conservation  
Innovative AG Services

**Phone**

559-799-3285

**Mail**

[ivietti@innovativeag.net](mailto:ivietti@innovativeag.net)

**Website**

[www.innovativeag.net](http://www.innovativeag.net)



# Testimonials



## Charlie Abee

AG Irrigation Professor  
College of the Sequoias

"HotSpot AG is an automation and monitoring system **developed by a farmer for farmers**. The system gives you key pieces of information that are useful to you as a grower to help you make informed decisions that affect your bottom line."



## Blake Mauritsen

Partner  
ANB Ranches

"Being able to monitor our total system remotely, gives me and our employees more time to focus on other ranch needs. I **feel more comfortable now that our fields are receiving the water they need.**"



## Larry Dotson

Senior Engineer  
Kaweah Delta Water Conservation District

"The products and services supplied by HotSpot AG are **timely and relevant solutions** to acquiring remote data for productive improvements in operations and maintaining records."

# Contact Steven Soares To Schedule Your Demo!

## STEVEN SOARES

Senior Customer Success Manager



## TRAINING CENTER

Located at 1502 Idaho Ave, Hanford, CA 93230



**Phone:** 559-415-5933

**E-Mail:** [ssoares@hotspotag.com](mailto:ssoares@hotspotag.com)

**Website:** [www.hotspotag.com](http://www.hotspotag.com)