ScootScience
Presented by
AON

Who am I?

Grant Cavanaugh

PhD AgEcon

Ex-Nephila (Lloyd's)

Scoot CIO

Who am I?

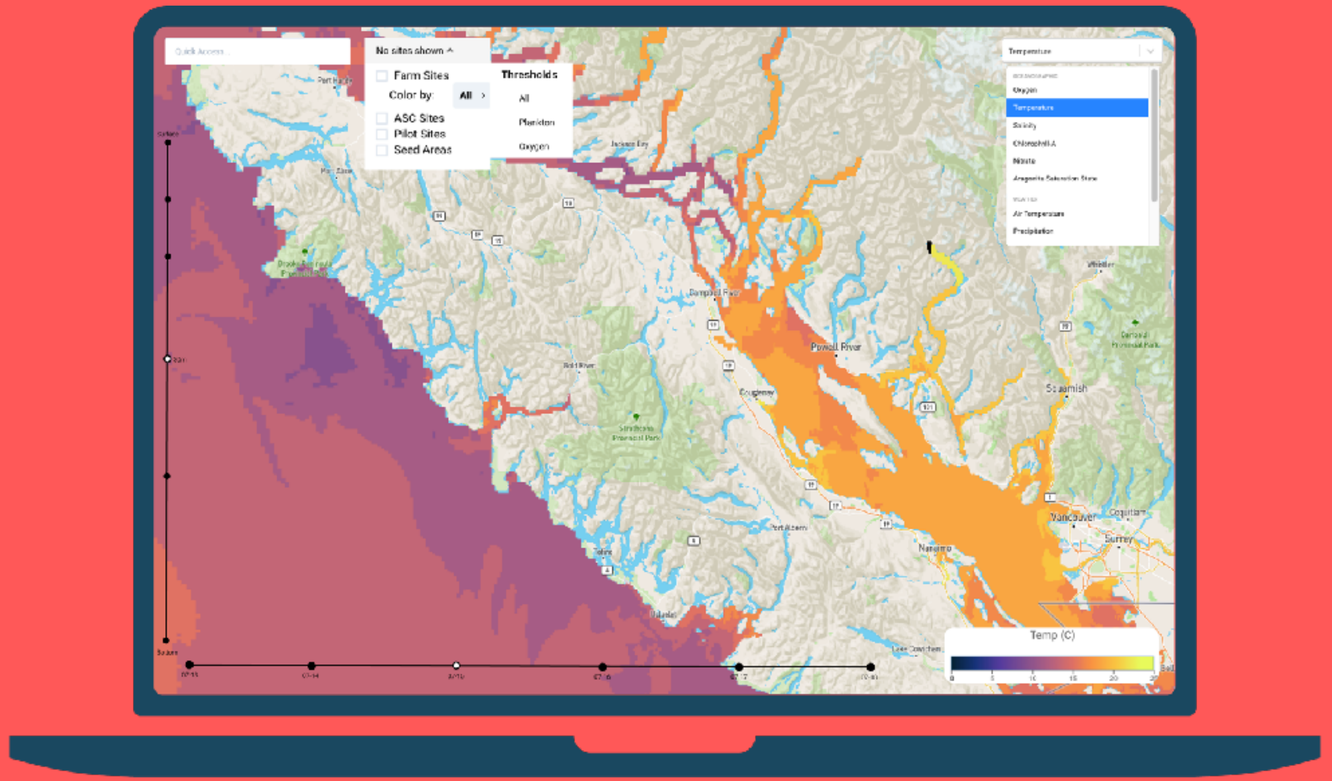
PhD from program specialized in innovative risk transfer…often on behalf of the World Bank

Underwriter for one of the largest books of international reinsurance for agriculture in India

Today, helping bridge between Scoot's true ocean experts and markets (insurance + finance)

SEASTATE

The complete picture of your ocean conditions.

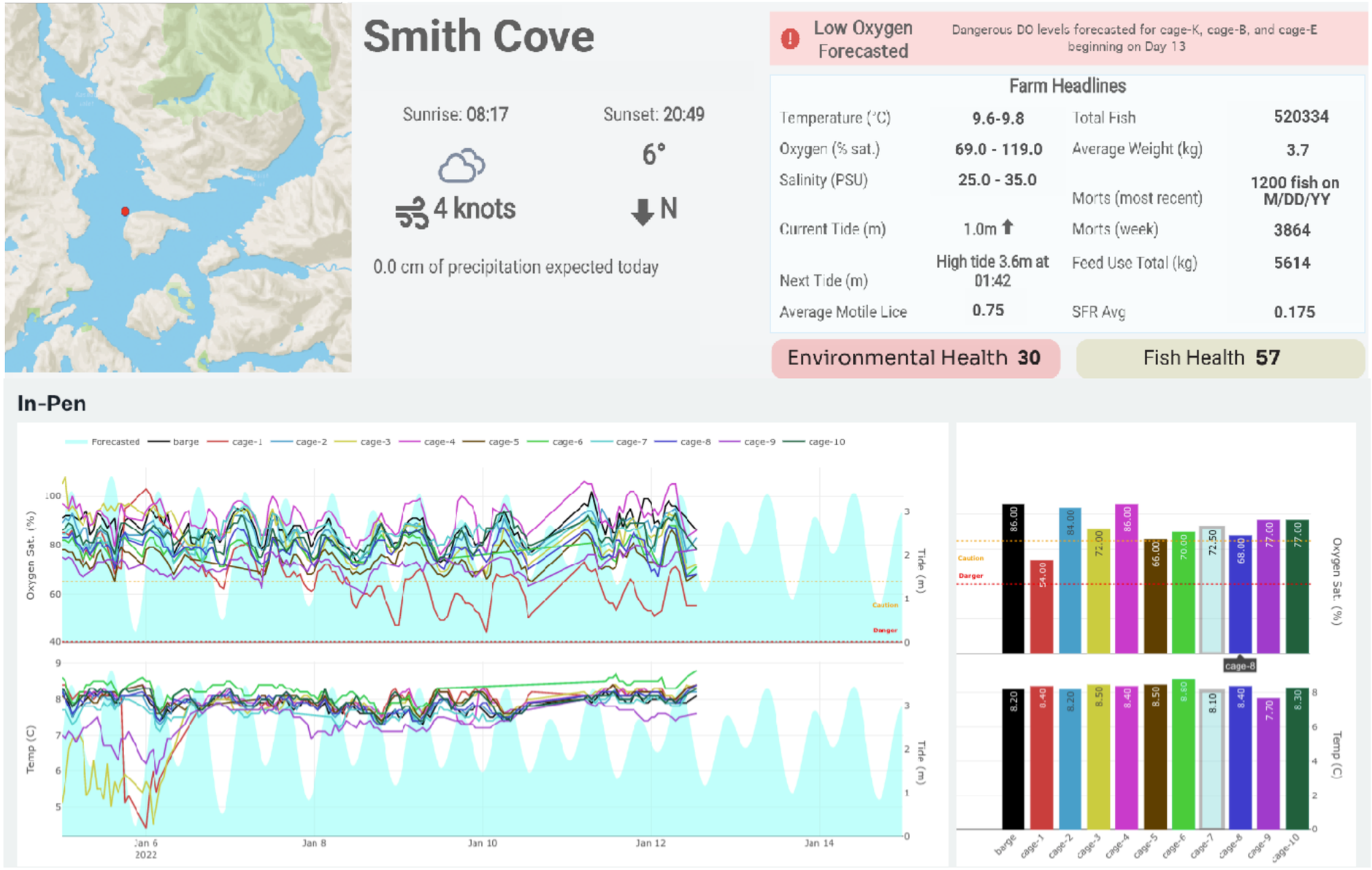


SEASTATE

At a glance

- Comprehensive, platform-agnostic integration of site data
- Real-time notifications across teams of dangerous conditions
- Map based rendering of farm conditions
- Physics-based ocean modelling
- Site-specific forecasts (oxygen, temp, salinity)
- Integrated fish welfare index
- Secure data entry forms for manual data collection

The dashboard



Example event

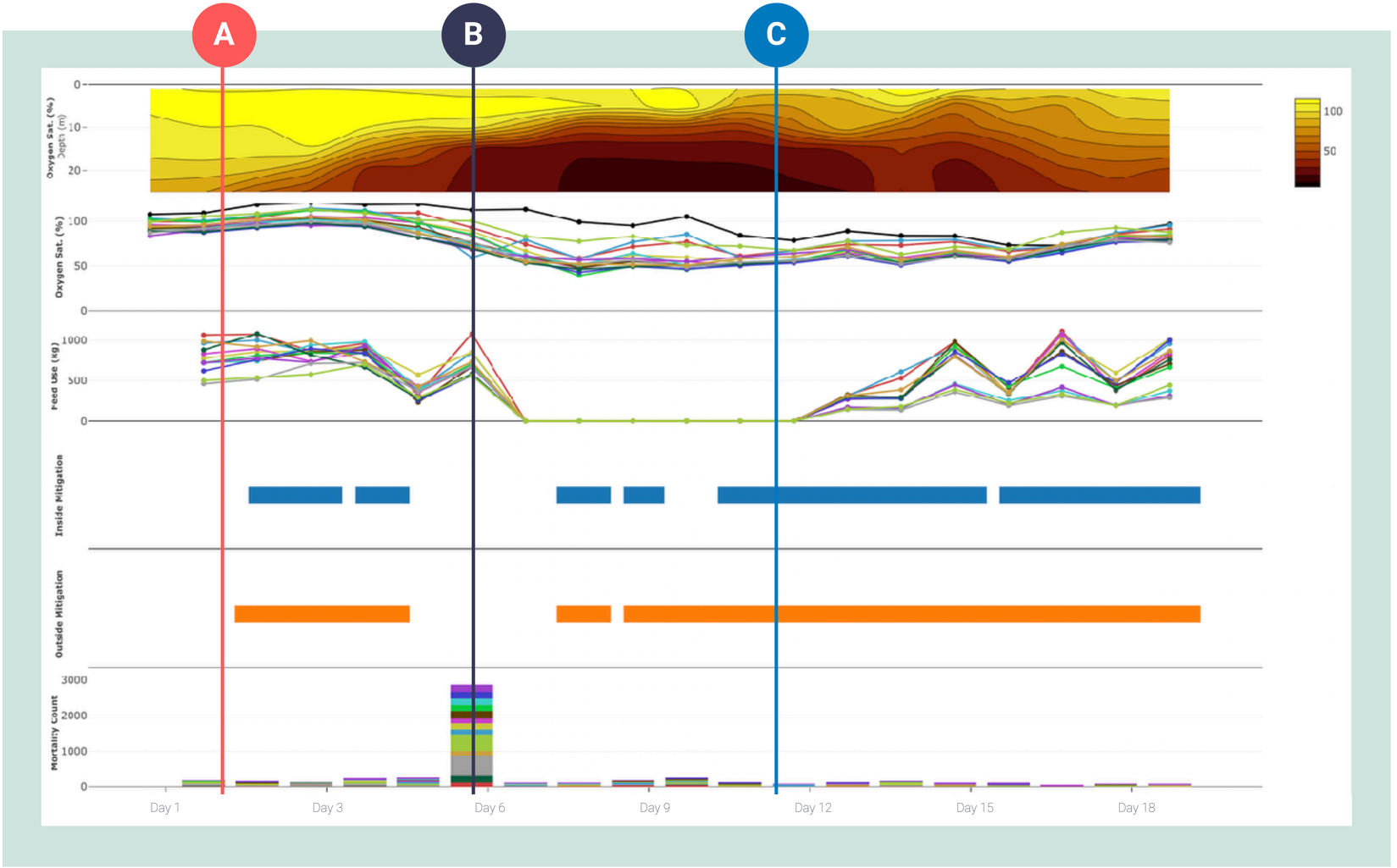
A **3 day forecast (Minimum)**

- When to stop feeding
- When to place functional feed order
- Ensure mitigation equipment and protocols are ready

B **Minimize mortality by understanding the timing and magnitude of ocean change**

C **When to start feeding again**

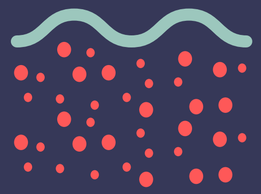
- When to start the recovery is as important as the onset of the event



Forecasting and analytics

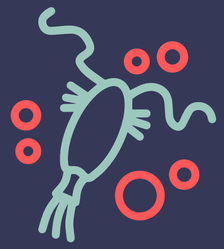
Put your foundational ocean data to work.

Temperature



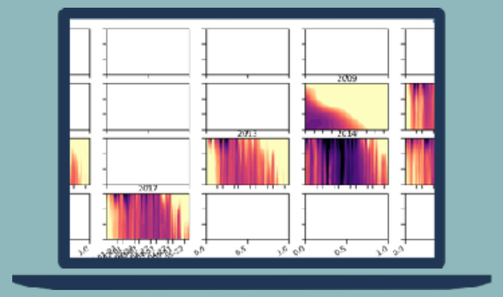
Salinity

Oxygen



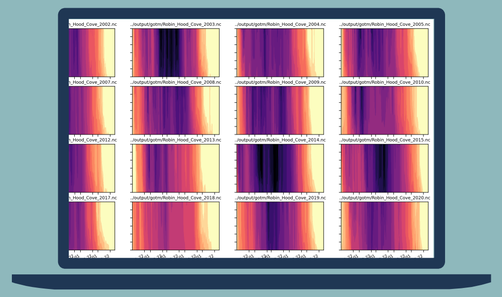
Plankton

Existing Data Seeding New Models



Sparse site data

Oceanographic tools



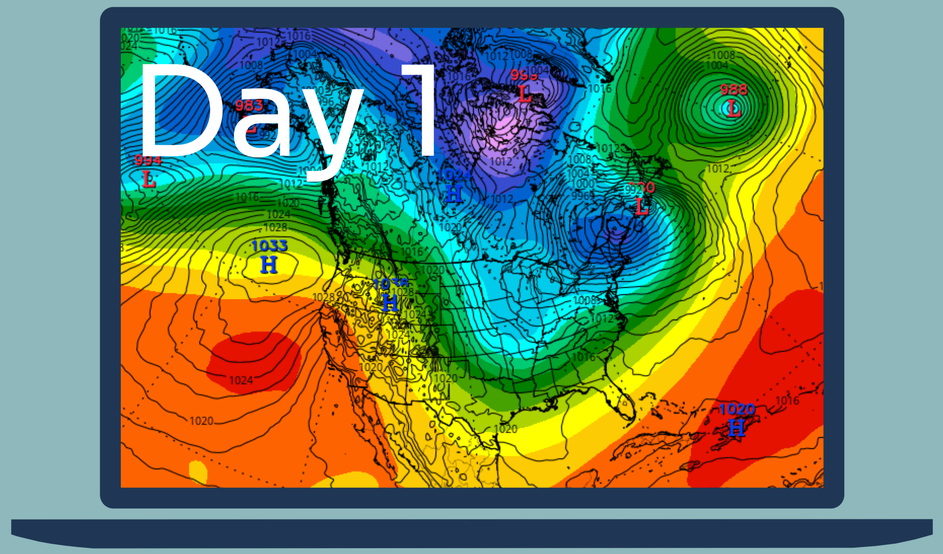
Full historic record

Modeling example:

Site	2
Day	1
Depth	°C
0m	0.32
5m	2.0

Day 1 of coverage: COMPANY measures temperatures (Scoot verifies)

Modeling example:



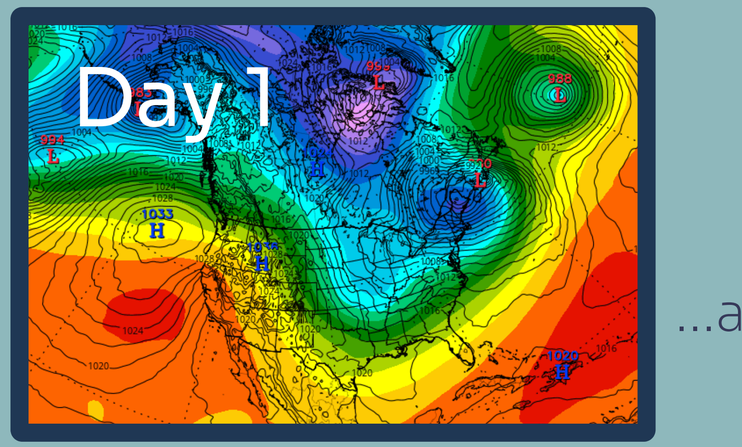
Day 2: Scoot gets weather for Day 1

Modeling example:

Site	2
Day	1
Depth	°C
0m	0.32
5m	2.0

COMPANY's day 1 conditions...

...seed oceanographic model...



...and day 1 weather...

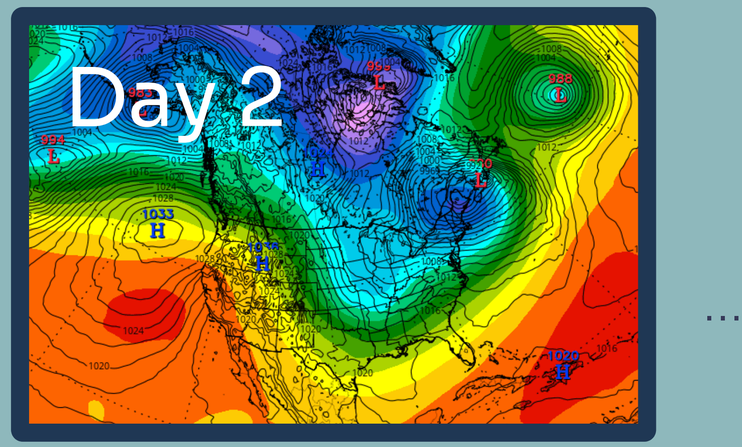
Site	2
Day	2
Depth	°C
0m	-0.11
5m	1.28

...to make model's day 2 conditions

Modeling example:

Site	2
Day	2
Depth	°C
0m	-0.11
5m	1.28

Model's day 2 conditions...



...and day 2 weather...

Site	2
Day	3
Depth	°C
0m	0.63
5m	0.75

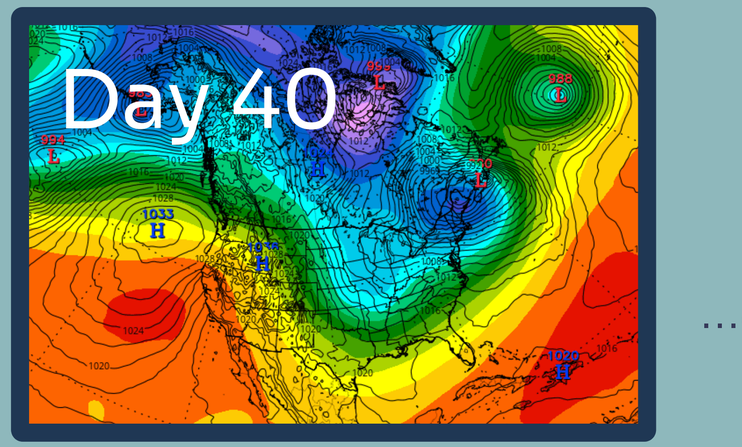
...day 3 conditions...

...and so on...

Modeling example:

Site	2
Day	40
Depth	°C
0m	-0.45
5m	-0.3

Model's day 40 conditions...



...and day 40 weather...

Site	2
Day	41
Depth	°C
0m	-0.68
5m	-0.52

...day 41 conditions

Modeling example:

Site	2
Day	41
Depth	°C
0m	-0.68
5m	-0.52

Day 41: Parametric trigger hit…payout of site deductible

Low basis risk

Correctly predicted all historic events

Site	Year	Date of Season's First Event	Date of Season's First Event in Model	Difference in days
SITE1	2014	2014-02-08	2014-02-11	3
SITE2	2003	No COMPANY data	2003-02-19	No COMPANY data
SITE2	2014	2014-02-09	2014-02-08	1
SITE3	2003	No COMPANY data	2003-02-19	No COMPANY data
SITE3	2014	2014-02-08	2014-02-08	0
SITE3	2015	2015-03-14	2015-03-15	1
No other years had a day with 0 & 5m temp below -0.5C in either the site records or the model				

Thank you.

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