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GLOBAL RESOURCES NETWORK

May 18, 2018

"Smart" Farming: the Privatization of Information and the Implications of Data-Driven Agriculture

Irena Knezevic

Assistant Professor in Communication, Culture and Health
Carleton University

THE *NEW*
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Overview

- Industrial food system

- Big data and digital "precision" tools

- Social implications

- Implications for researchers and research repositories

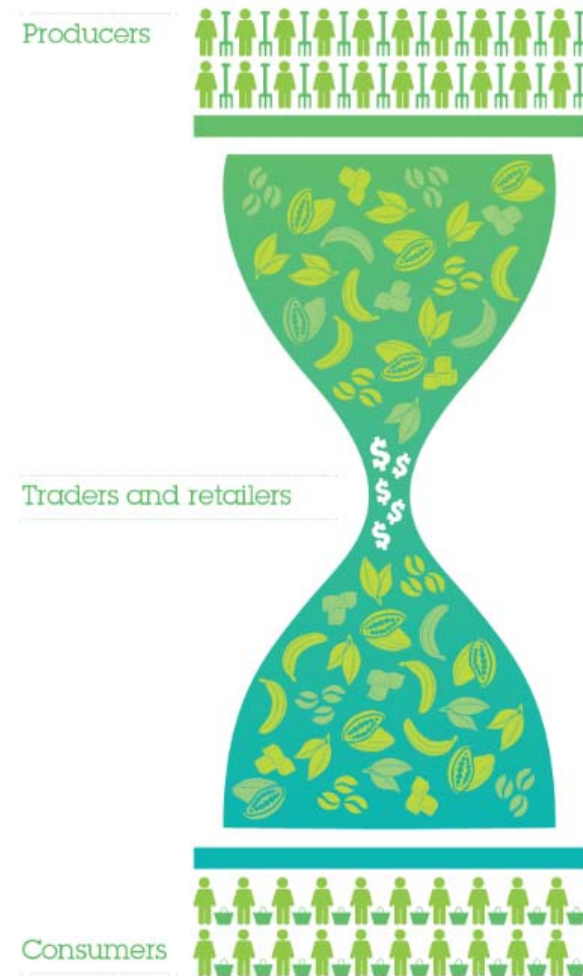- Recommendations

The industrial food system

- Concentration of power

- Techno-solutionism

- Privatization of agricultural research

- Financialization of agri-food markets
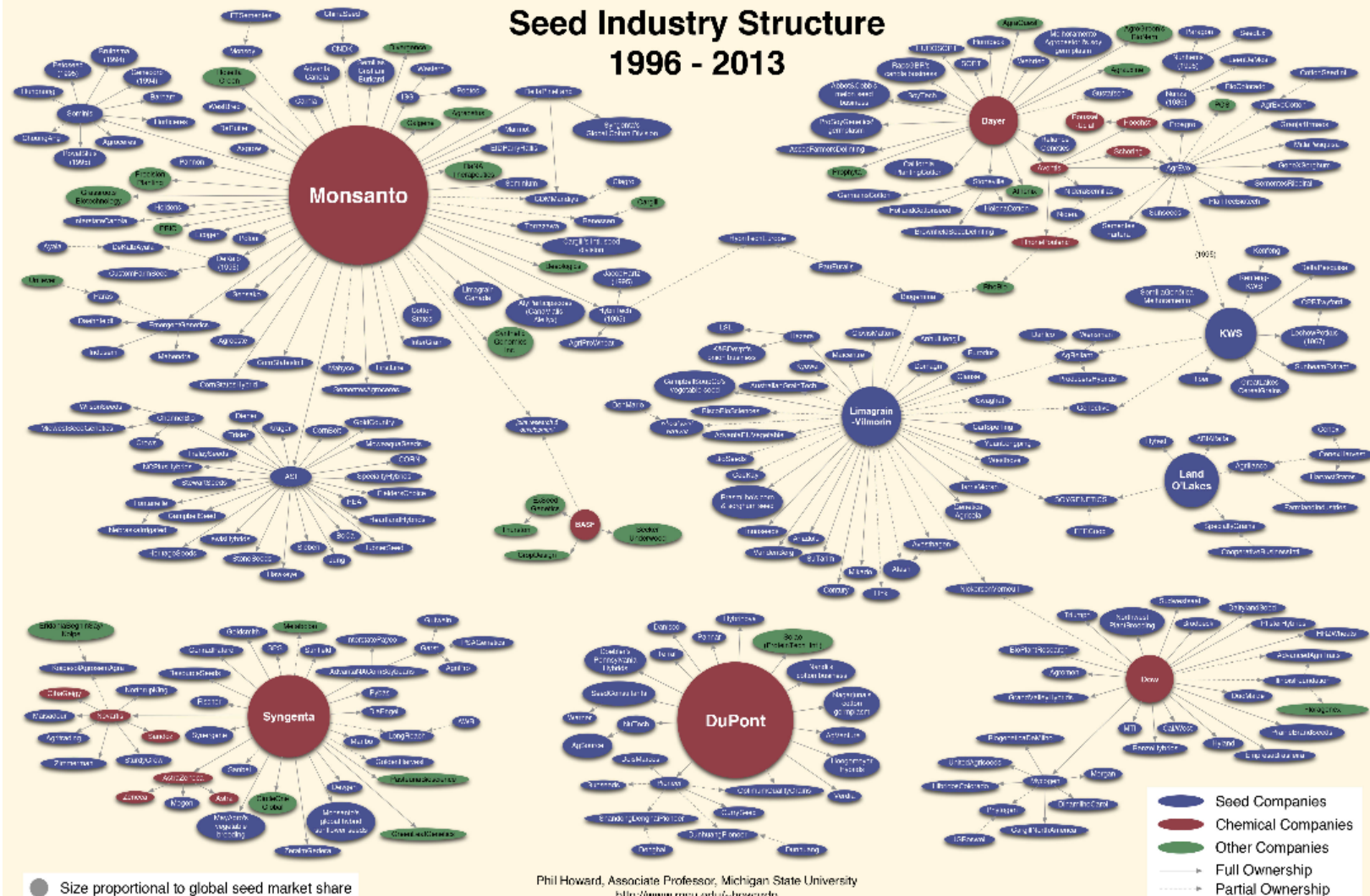
These small farmers grow around **70%** of the planet's food

Producers

Traders and retailers

Consumers

https://medium.com/@fairtrade

Seed Industry Structure
1996 - 2013

Size proportional to global seed market share

Phil Howard, Associate Professor, Michigan State University
http://www.msu.edu/~howardp

Seed Companies
Chemical Companies
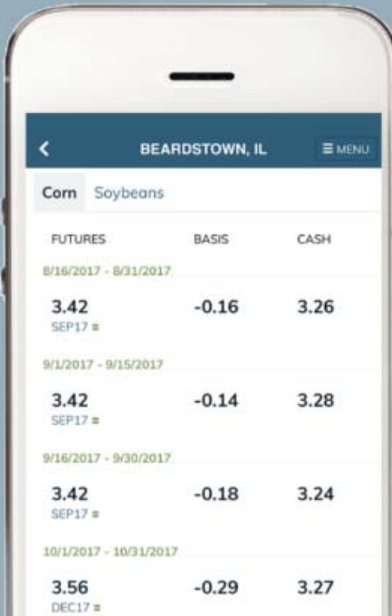Other Companies
Full Ownership
Partial Ownership

Big data and digital "precision" tools

- "Data-driven farm of the future" (Climate Corp.)

- "Our algorithms could help farmers feed the world." (Paul Turner, the CEO of mobile management platform AgDNA)

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Corn   Soybeans

FUTURES	BASIS	CASH
8/16/2017 - 8/31/2017		
3.42 SEP17 ≡	-0.16	3.26
9/1/2017 - 9/15/2017		
3.42 SEP17 ≡	-0.14	3.28
9/16/2017 - 9/30/2017		
3.42 SEP17 ≡	-0.18	3.24
10/1/2017 - 10/31/2017		
3.56 DEC17 ≡	-0.29	3.27

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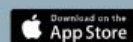
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DuPont Acquires Ag Software Company Granular to Accelerate Digital Ag Strategy and Help Farmers Operate More Profitable Businesses

8.9.17

CONTACTS

Susan Mantey
+1 614-902-0836
susan.mantey@pioneer.com

Transaction Reflects DuPont's Commitment to Shaping the Agtech Market

Granular's CEO Sid Gorham to Lead Digital Agriculture for DuPont

WILMINGTON, Del, Aug. 9, 2017 – DuPont announced that it has signed a definitive agreement to acquire San Francisco-based Granular, Inc., a leading provider of software and analytics tools that help farms improve efficiency, profitability and sustainability. Granular also operates AcreValue.com, the leading digital marketplace for farmland real estate. Sid Gorham, Granular's co-founder and CEO, will continue to lead Granular and will lead Digital Agriculture for DuPont, which includes responsibility for Encirca® services, DuPont's agronomic software business.

"This acquisition is an important component of our commitment to leading and shaping the agtech market," said DuPont Executive Vice President James C. Collins, with responsibility for DuPont's Agriculture segment. "We believe DuPont's agronomy expertise, deep customer relationships and market reach will accelerate Granular's business growth and help us deliver more value to growers around the world."

With its focus on developing innovative solutions to help growers build strong, sustainable businesses, DuPont is creating a digital agriculture ecosystem to support information sharing, services and commerce. This acquisition will enable the business to connect growers, analytics and public and private data to advance our

OTHER PRESS RELEASES

Corteva Agriscience™, Agriculture Division of DowDuPont™ Executive Outlines Future Strategy ◉

DowDuPont™ Agriculture Division to Become Corteva Agriscience™ as It Progresses Toward Becoming a Stand-Alone Company ◉

DuPont Agriculture Executive Outlines 2017 Growth Strategy ◉

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UPCOMING EVENTS

How We Got Acquired by Syngenta, by Ag Connections' Co-Founder Murdock

🕒 JUNE 17, 2016   👤 LOUISA BURWOOD-TAYLOR

Launched in 1998, Ag Connections was one of the first software programs designed specifically to help farmers manage their operations through cloud-based data storage and analysis. Its main product Land.db helps farmers creates crop plans with their agronomic consultants, manages their inventory, and helps them to understand the field-level profitability of their operations. It also helps with regulatory compliance, land mapping, and decision-making with a multi-user interface.

After a multi-year contract with Syngenta, the Swiss agribusiness acquired Ag Connections in October last year. We caught up with Rick Murdock, co-founder of Ag Connections, to find out more about the acquisition, and the journey to that point.

EDITOR'S LETTER

Precision Ag Technology

Data Management

Improve application rates, fuel economy, input placement, and land stewardship with John Deere displays and StarFire™ receivers. This well-supported precision technology can be put to work quickly so you'll get fast results -- and a fast payback.

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Remote Management

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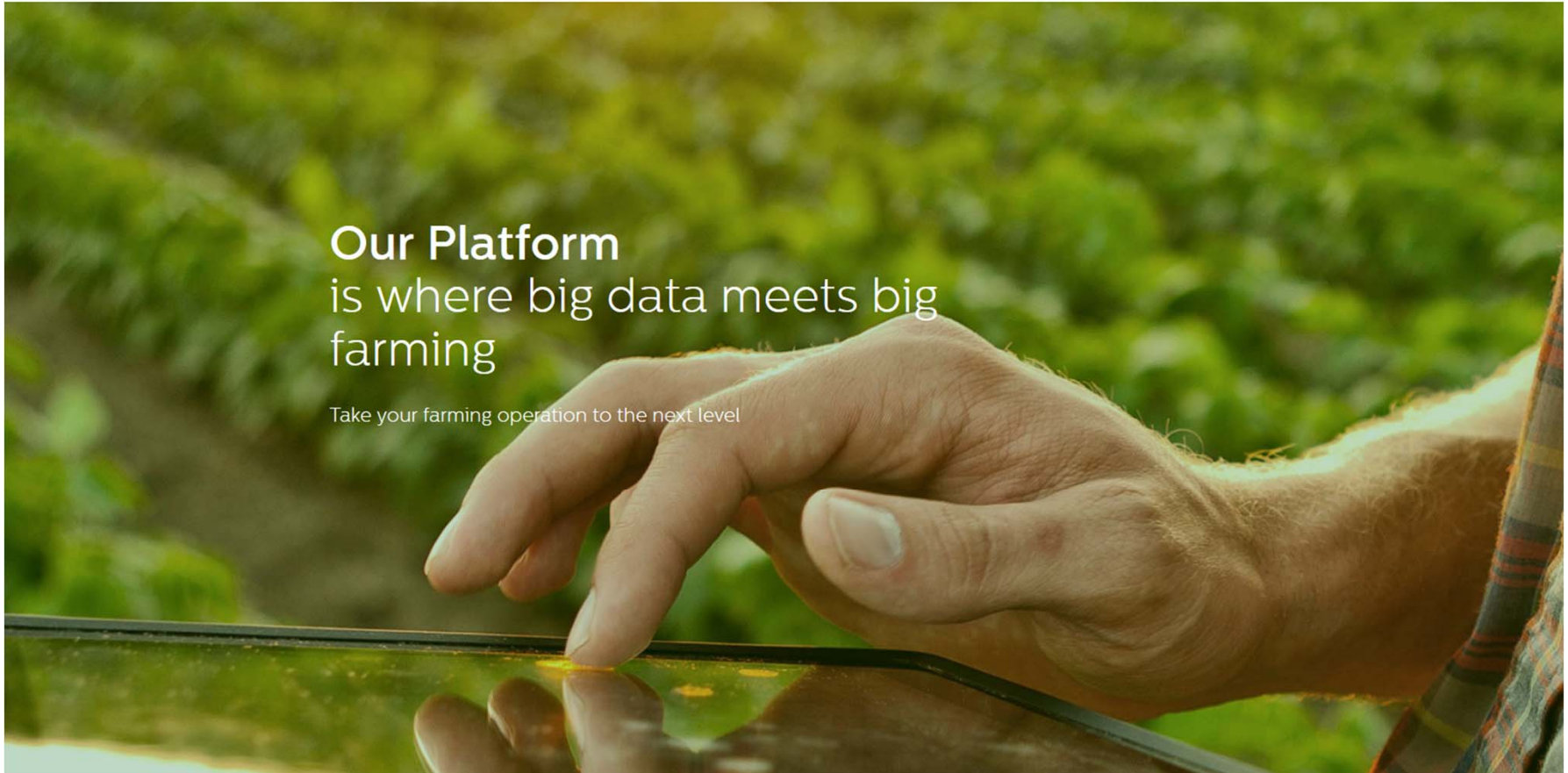**Learn more about remote management**

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Farming & Agriculture

Sentera and AgDNA announce ag data integration via the John Deere Operations Center

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sentera   **Sentera LLC**   + Follow   JOHN DEERE   **John Deere**   + Follow

Sentera and AgDNA announce completion of API integration work that allows users to seamlessly share real-time in-season precision ag information using the John Deere Operations Center. Integration with the Operations Center helps Sentera and AgDNA customers make better decisions and drive optimal action, from sensor to on-field equipment. The digital insights delivered by the integrated capability help advisors and growers gather data, run analytics, manage protection and nutrition strategies, build management zones, and push prescriptions seamlessly to John Deere on-field equipment, all within the Operations Center.

Accurate Data, Improved Decisions

High-precision real-time sensor data is captured and analyzed with Sentera analytics, sensors, and software, then delivered to the Operations Center. The AgDNA system accesses the data to perform additional processing, combining Sentera data with other types of information already available within the Operations Center.

"Integration with AgDNA and the Operations Center lowers barriers to accessing high accuracy Sentera sensor data and analytics products, and provides better, faster inputs to the AgDNA product suite's own data analysis engine. The result is greater productivity and more accurate prescriptions," remarked Eric Taipale, Sentera CEO. "Together with John Deere and AgDNA, we continue to help our customers drive value back into their operations and positively impact their ROI."
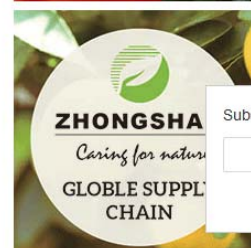
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John Deere and The Climate Corporation Expand Options for Farmers

Deere to acquire Precision Planting; The Climate Corporation, a subsidiary of Monsanto, to gain connectivity to John Deere equipment

MOLINE, IL and SAN FRANCISCO, CA (November 3, 2015) – Deere & Company (NYSE: DE) and The Climate Corporation, a subsidiary of Monsanto Company (NYSE: MON), have signed definitive agreements for Deere to acquire the Precision Planting LLC equipment business and to enable exclusive near real-time data connectivity between certain John Deere farm equipment and the Climate FieldView™ platform. The agreements represent the industry's first and only near real-time in-cab wireless connection to John Deere equipment by a third party.

Social implications

- Opting-out

- Privacy

- Transparency

- Access

- Cultural appropriateness

- Public-private partnerships.

Social implications

- "I'm not saying the ag data transparency is the answer because you can get self-accredited and just tell farmers up front that you are going to use their data to their advantage. It doesn't stop them from doing that. It's just a self-declaratory process. But at least then they would know that, and they could choose whether or not they want to share or not."

(GIS/remote sensing specialist)

Social implications

- "You, as a chicken farmer, at a farm level, [have] a responsibility to navigate that and understand your legal grounds over the ownership of that information and that data. It's very messy, it's very confusing, a lot of these contracts for data agreements are huge and they can't read them or they don't have the time to."

(land resource specialist)

Social implications

- "All of this data input, whether it's about soil, water, or whatever, is going into specialized equipment – who owns it? Whether it's John Deere or Massey [Ferguson], who owns that data and who has access to it? All of the sudden we are not sure which company is going to control the access to data about 'farmer John's' land. They will know exactly his input costs, how much he's yielding, they will know everything. And what will they do with that data? Will they sell it to a seed company, or another fertilizer company? Who is going have access to that information, so that they can do analysis?"

(farmer)

Social implications

- "I just wish the data that's being produced by that [process] was,… the famers had more control over how that gets used. I think it's going to the… the benefits of that data are not necessarily being seen by the farmers."

(software developer)

- "So I think there's really important… difference with farm OS is that it's [an] *open source* system rather than this being a proprietary software package that's owned by one company or one organization."
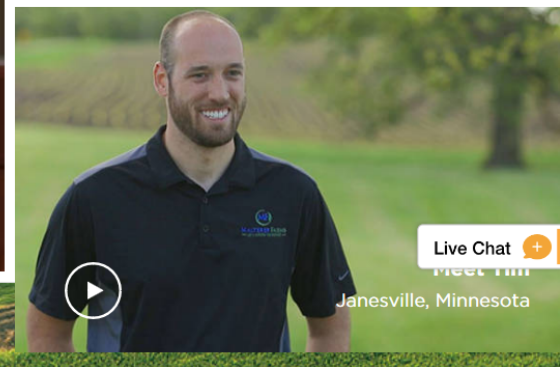
(software developer)

Social implications

- "So the farm hack movement is really all about making tools that are geared for small scale farmers. There's also a DIY mentality behind it that is making tools provide a service that is lacking, but also making them accessible in term of making the blueprint or designs of the tools accessible, making different ways the tools are built, the tools are readily available, all those sorts of things."

(farmer and software developer)

What Farmers Are Saying
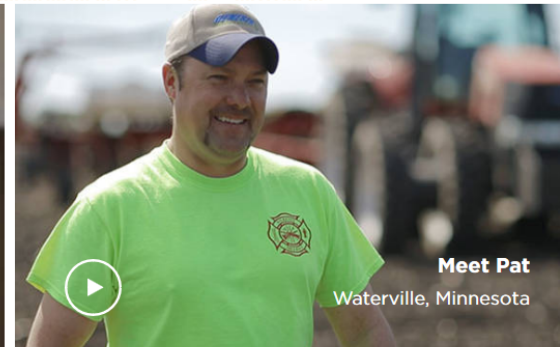
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Waterville, Minnesota

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Live Chat +

Meet Tim
Janesville, Minnesota

Agriculture and Agri-Food Canada

Canada

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Scientific achievements in agriculture

Using research drones to increase potato production

A team of scientists from Agriculture and Agri Food Canada in New Brunswick is using drone technology and specialized cameras to help improve potato yields. It is a collaborative project between government, producers, McCain Foods and several regional organizations.

Check out the video to see how a bird's eye view can help growers of this important root crop.

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Scientific achievements in agriculture

Agri-Geomatics: The big data revolution in agriculture (video)

This video tells the story of the technology behind precision farming and the techniques that were used to cut the Canada 150 logo. Aside from enabling the creation of celebratory field art in a wheat field, the real value of agri-geomatics is seen in its daily use on farms. Learn more about the revolution in farming today.

Also, view the *Canada 150: It's Just the Beginning* video to join us in celebrating our country!

Share this video

Implications for researchers and repositories

- Data generation

- Access to data

- Ability to contribute to policy development

Implications for researchers and repositories

- "You have to start to look at is what are the types of data that farmers are using. What are the types of data, not necessarily the farmers are using, but agri business are using… the provinces and feds are using. What are the types of data industry is using. What are the types of data are the academics using. We all use different stuff."

    (geospatial/mapping researcher with Stats Canada)

Implications for researchers and repositories

- "But yeah, privacy is an issue. Privacy actually limits us."

    (geospatial/mapping researcher with Stats Canada)

- "There's one thing that needs to be addressed but more, the more pressing thing I think is who owns most of this information and who owns most of the platforms and mediums in which most of the information is generated. That's by and large still a couple people or a couple companies. If you look more from a perspective of who is creating the content, well users are creating content, [but] who is benefiting?"

    (farmer and software developer)

Implications for researchers and repositories

- "Now we have to have the skin in the game to be able to talk the language to provide good customer service with our data. But we are very early days in having a policy that is at this level yet. I think everyone for the most part is playing catch-up. Except for the big organizations that have big legal teams that do this kind of work."

(land resource specialist)

Recommendations

- Consider and advocate for:

  - social and environmental innovation (e.g., data co-ops)

  - opt-in technologies – privacy by design

  - algorithmic transparency

- Invest in public research and research in the public interest

- Develop clear protocols on data sharing and use

Agroclimate Impact Reporter Map Selector

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Region

Prairie

Type

- Progress Made on Harvest Operations
- Impact of Drought Conditions on Agricultural Operations
- Monthly Change in Drought Conditions
- Agricultural Water Shortages
- Livestock Feed Shortages due to Drought
- Impact of Flooding/Excessive Moisture on Agricultural Operations

Year 2017   **Month** October

Previous   Next

Retrieve map   Clear