

Agriculture Technology Job Creation From the Future to the Valley

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Bank of America



Bank of America Merrill Lynch U.S. Bank of America
America Lynch Trust Merrill Lynch

Food Foresight Priority Trends 2013

Preamble: Underestimated challenges linger



1. Rising middle class in developing countries demand more protein and produce while the U.S. faces growing economic insecurity and agriculture feels societal pressure to change practices

2. Big data emerges as powerful source of value from farm to retail



3. Game changers: Science, technology, pressure to contain health costs

4. Evolving consumer definitions of value ramp up demand opportunities



FUTURE OF...BIG DATA....JOBS

It is estimated that by 2020, there could be four times more digital data than all the grains of sand on Earth

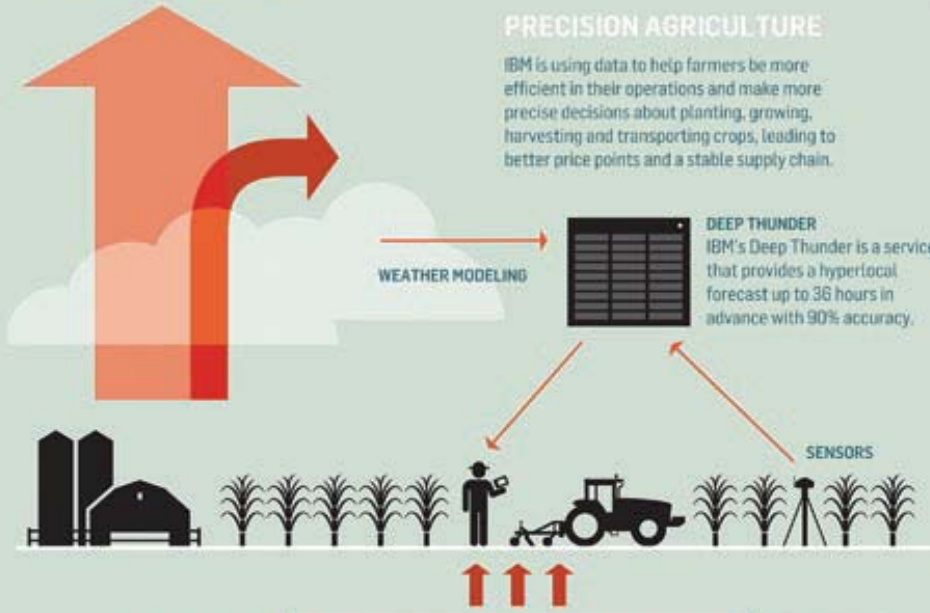


INCREASING CROP YIELDS

90%

of all crops losses are due to weather.

Weather-related crop damage could be reduced by 25% using predictive weather modeling and precision agriculture techniques.



PRECISION AGRICULTURE

IBM is using data to help farmers be more efficient in their operations and make more precise decisions about planting, growing, harvesting and transporting crops, leading to better price points and a stable supply chain.

DEEP THUNDER
IBM's Deep Thunder is a service that provides a hyperlocal forecast up to 36 hours in advance with 90% accuracy.

WEATHER MODELING

SENSORS

FEEDING FUTURE GENERATIONS

How weather affects agriculture and what IBM can do with precision weather forecasts to help farmers

TRANSPORTATION

50%

of food ready for harvest never reaches the consumer's mouth.

By understanding the effect of weather on transportation networks, companies can make better decisions on which routes will be the fastest to transport their food.



THE IMPACT

As farmers reduce waste and increase crop yields, consumers will feel the positive economic impact at the grocery store.



GROWING

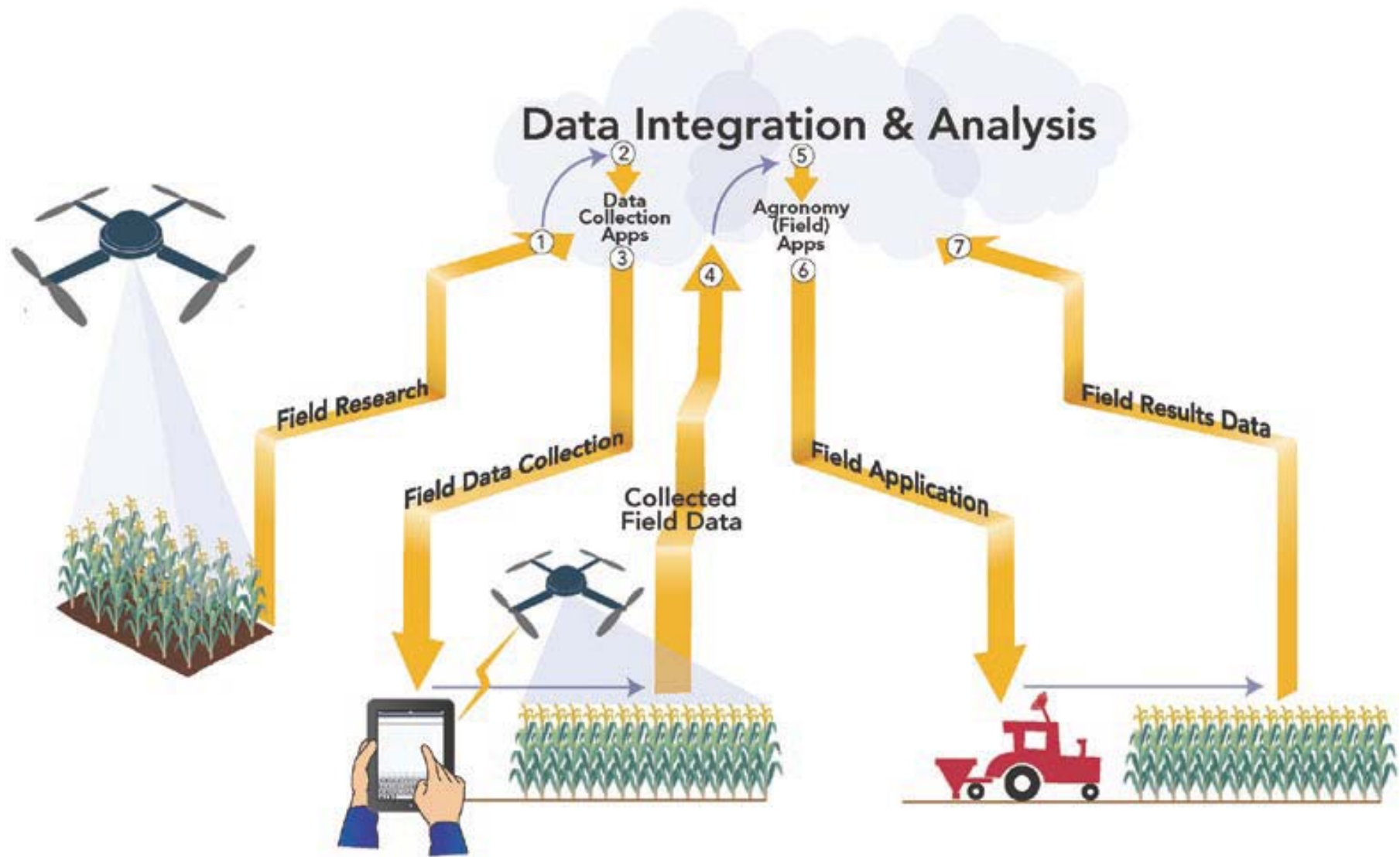
70%

of fresh water worldwide is used for agriculture purposes.

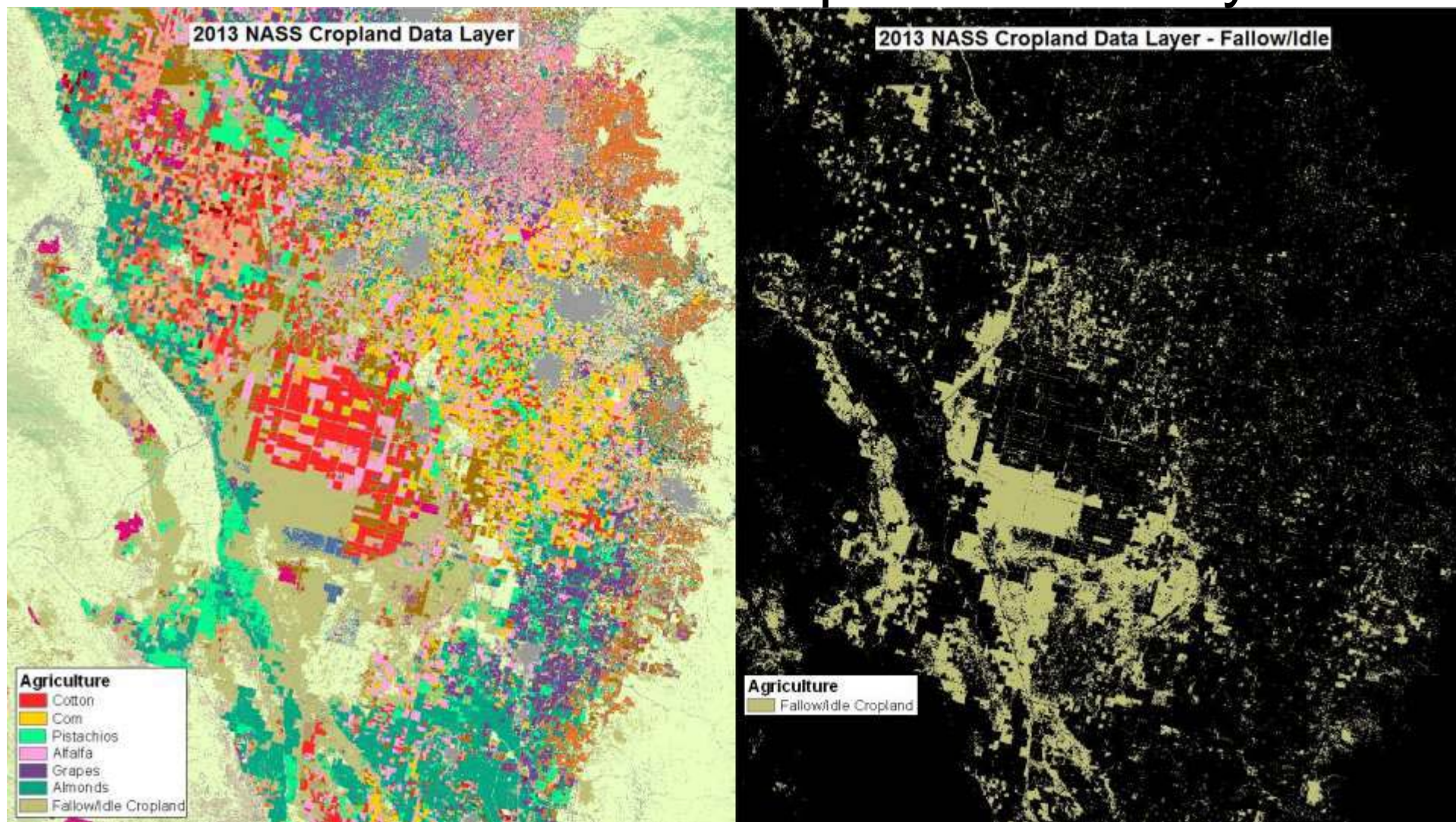
If farmers know when and where it's going to rain they can better schedule their irrigation and know when they should put down fertilizer, to avoid run off.

For more information on IBM's Deep Thunder and how it can help farmers visit www.ibm.com/hasresearch





2013 USDA-NASS Cropland Data Layer



FARM OF THE FUTURE STRATEGIC PLAN 2012-2017

Agriculture and
Industrial Science
(AIS)
DEPARTMENT



WEST HILLS COLLEGE
COALINGA