WELCOME TO AQUAMART!

NEBRASKA WATER CHALLENGES AND PERSPECTIVES

JUNE 6 2018

MOISST CONFERENCE UNL

NEWBA
Nebraska Water Balance Alliance
Water for Generations

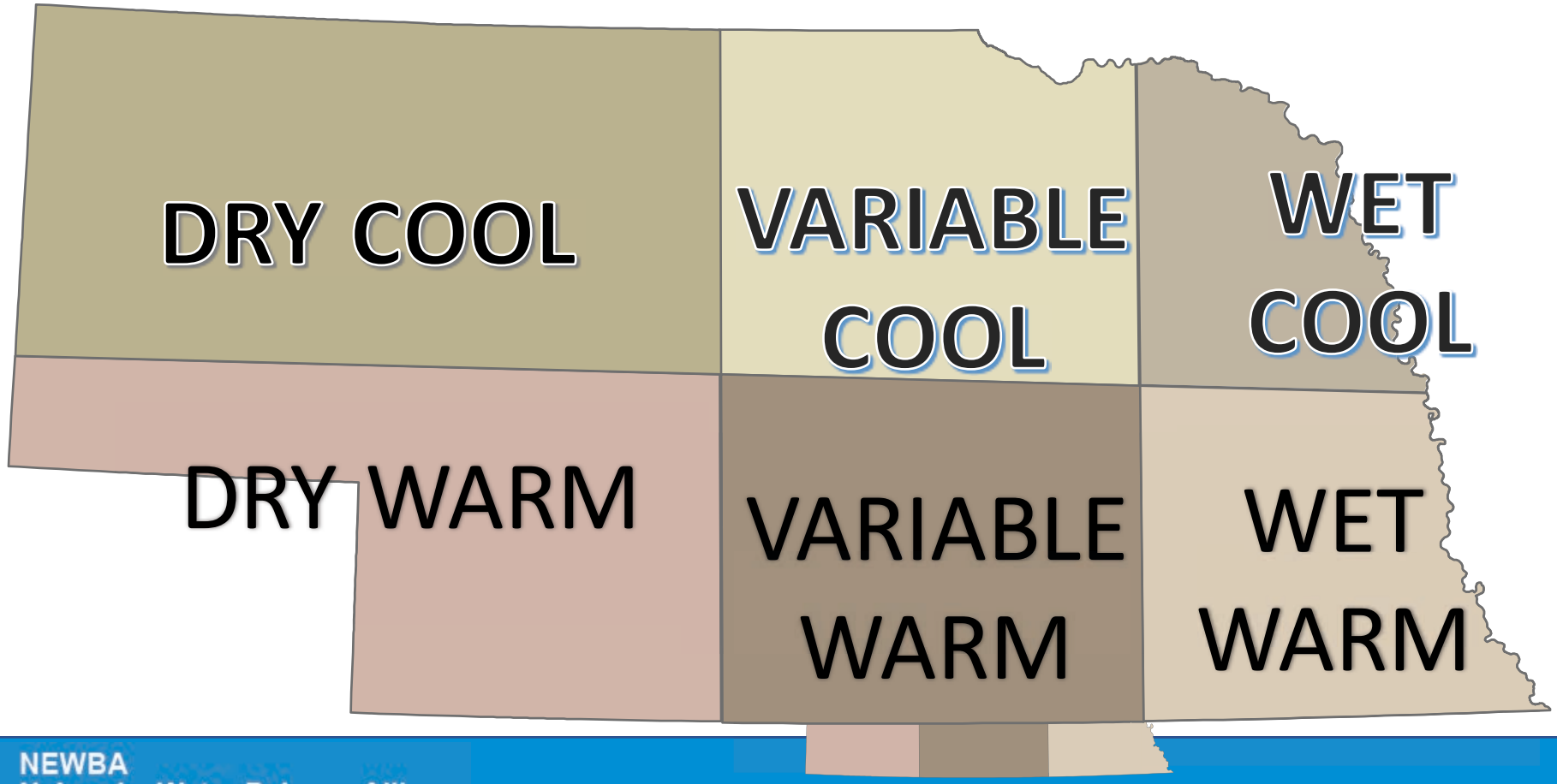
AKA

TOUCHY FEELY SOCIAL SCIENCE CRAP THAT ALWAYS GETS IN THE WAY OF MY STUFF

AQUAMART™

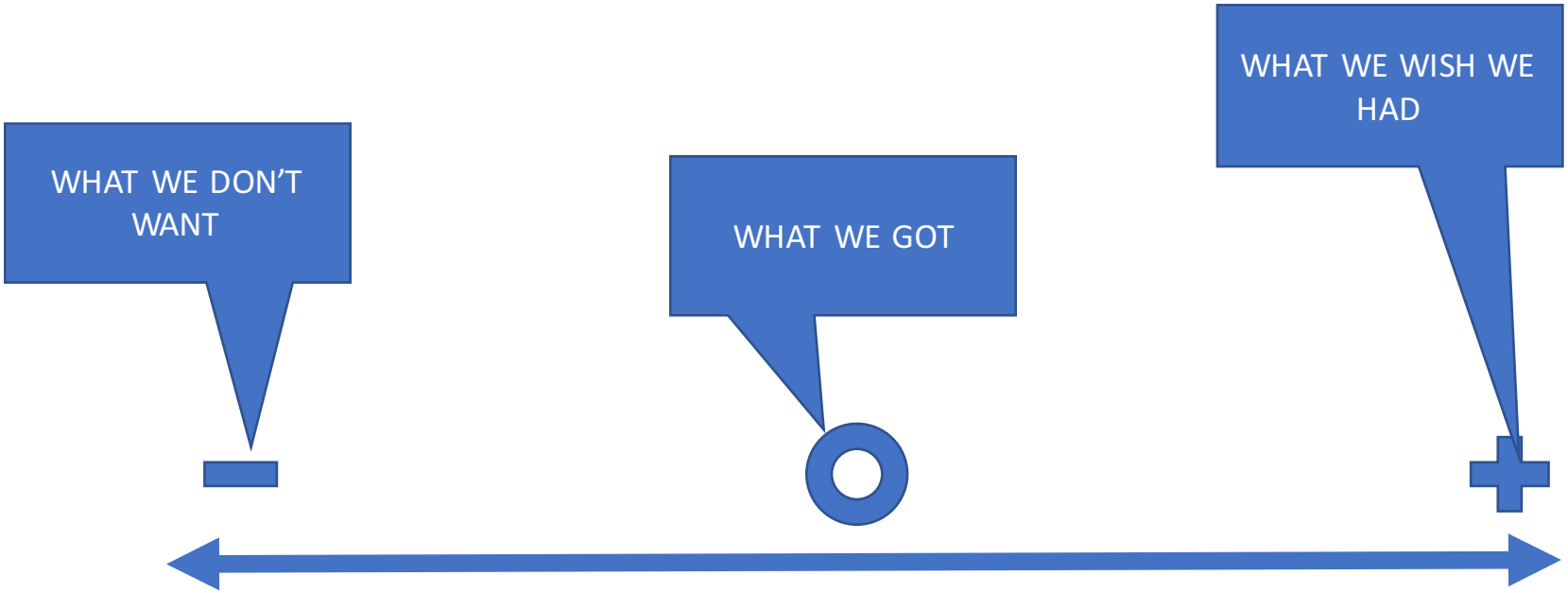
- Vision: “Aquamart promotes improved water utilization, proactive and collaborative water management, and effective water leadership in Nebraska.”

- Goal: “Develop a blueprint for cooperative water management at the grassroots level across the state to demonstrate the benefits of improved water conservation for all Nebraskans.”



NEWBA
Nebraska Water Balance Alliance
Water for Generations

FORMULATING RISK…



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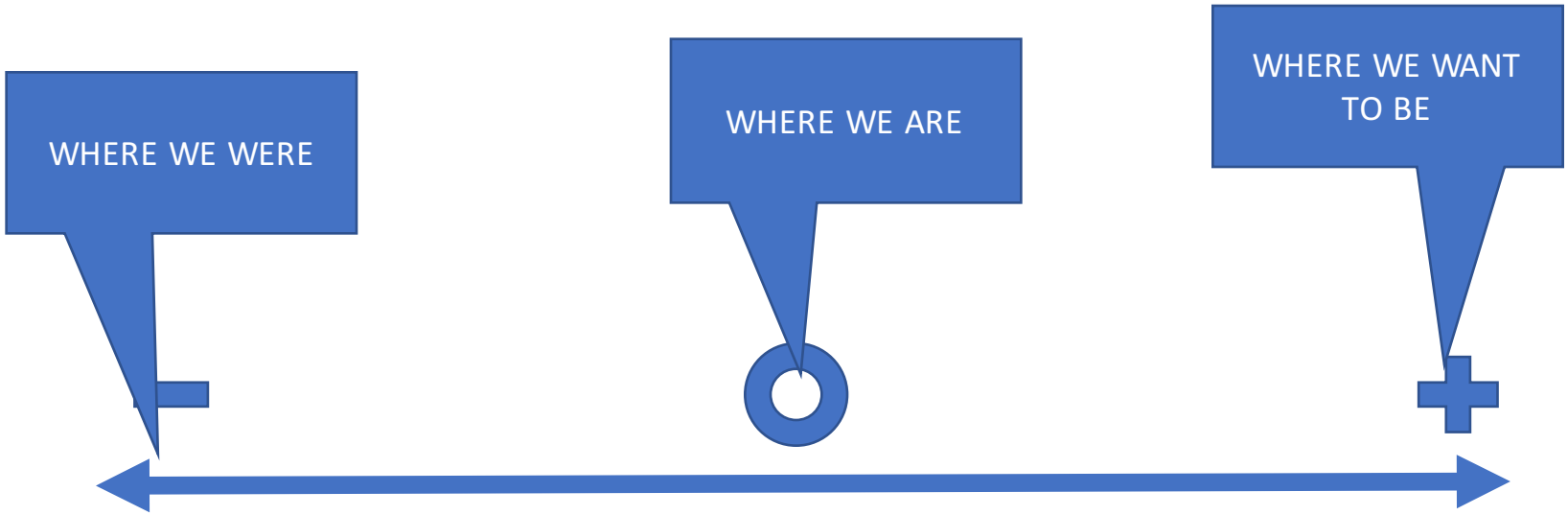

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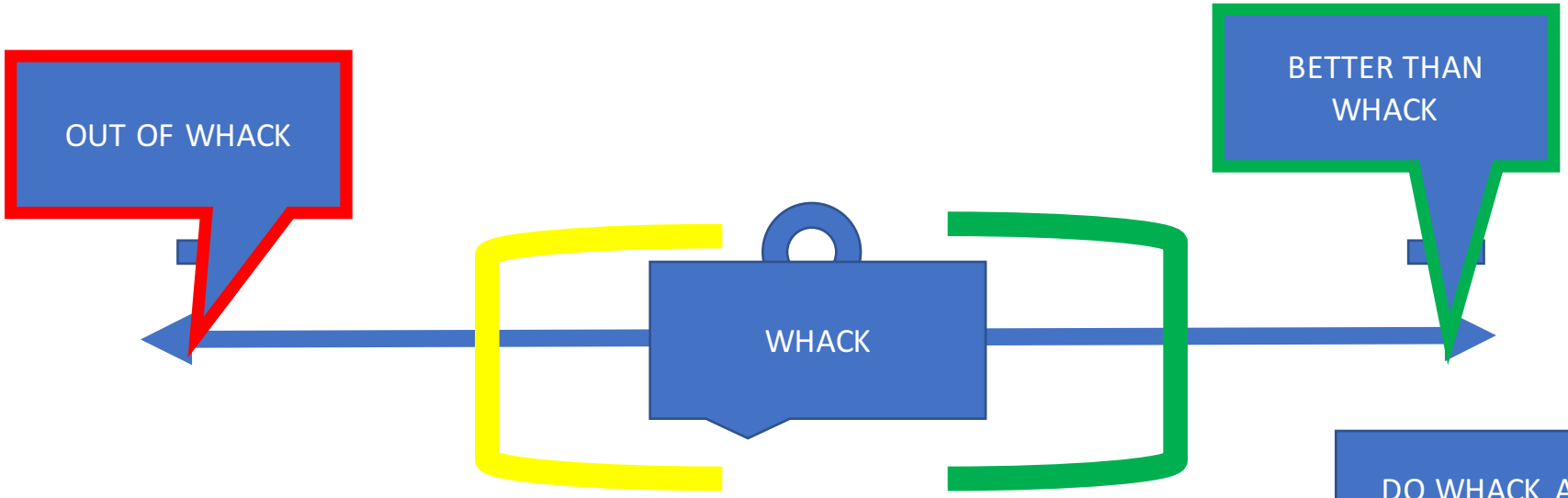


THE HOCK-HEASTON HYPOTHESIS

A producer at 1 Roric is completely self evaluated with the latest practices and technology in farm based water management

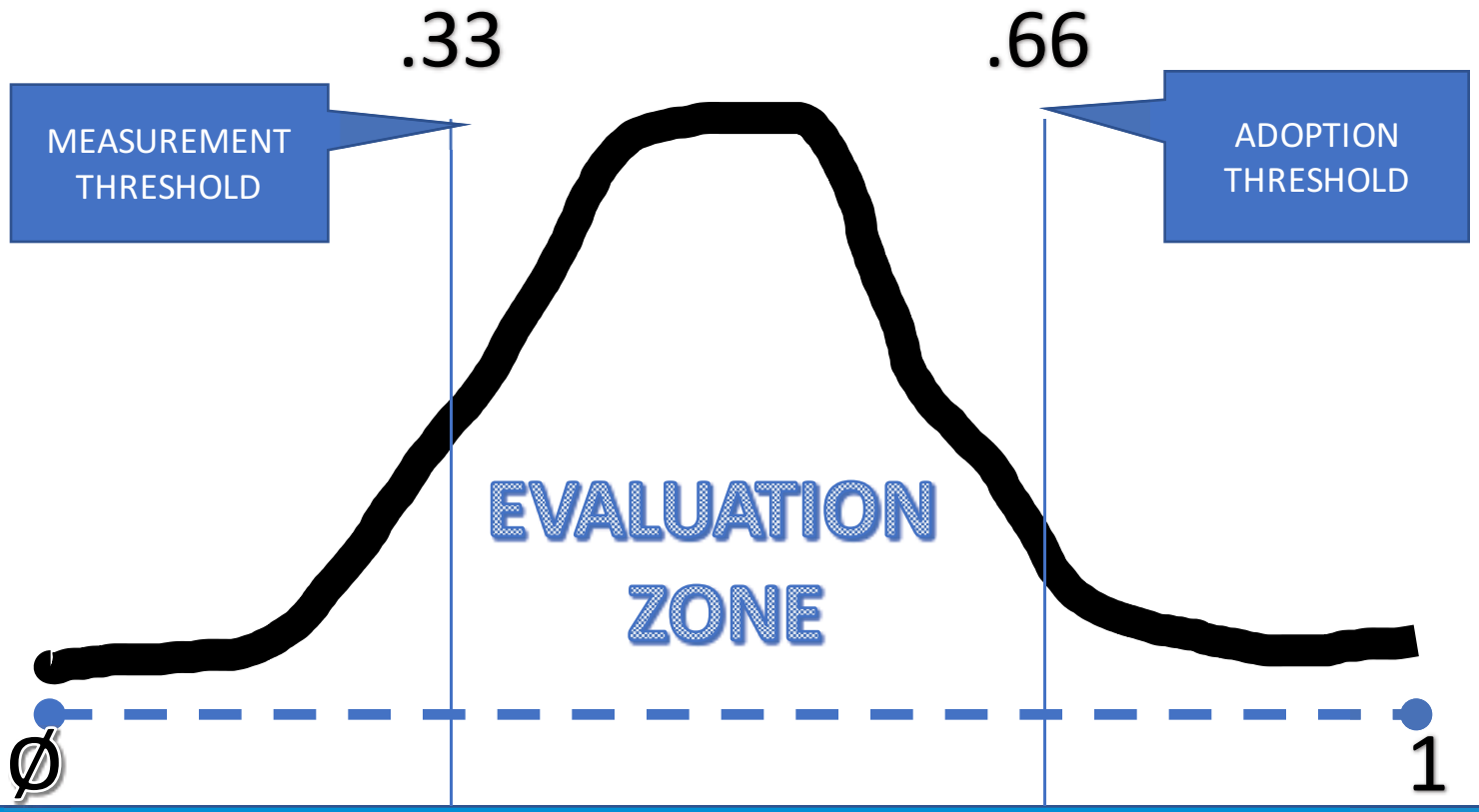
A producer at 0 Roric is completely uninitiated with farm water management at any level.

THE HOCK-HEASTON HYPOTHESIS

On the Roric scale from 0 to 1 all farm water managers exist.

The closer to 1 they are the more tolerant to experimentation and measurement they are with farm water management.

The closer to 0 they are the less tolerant to experimentation and measurement they are with farm water management.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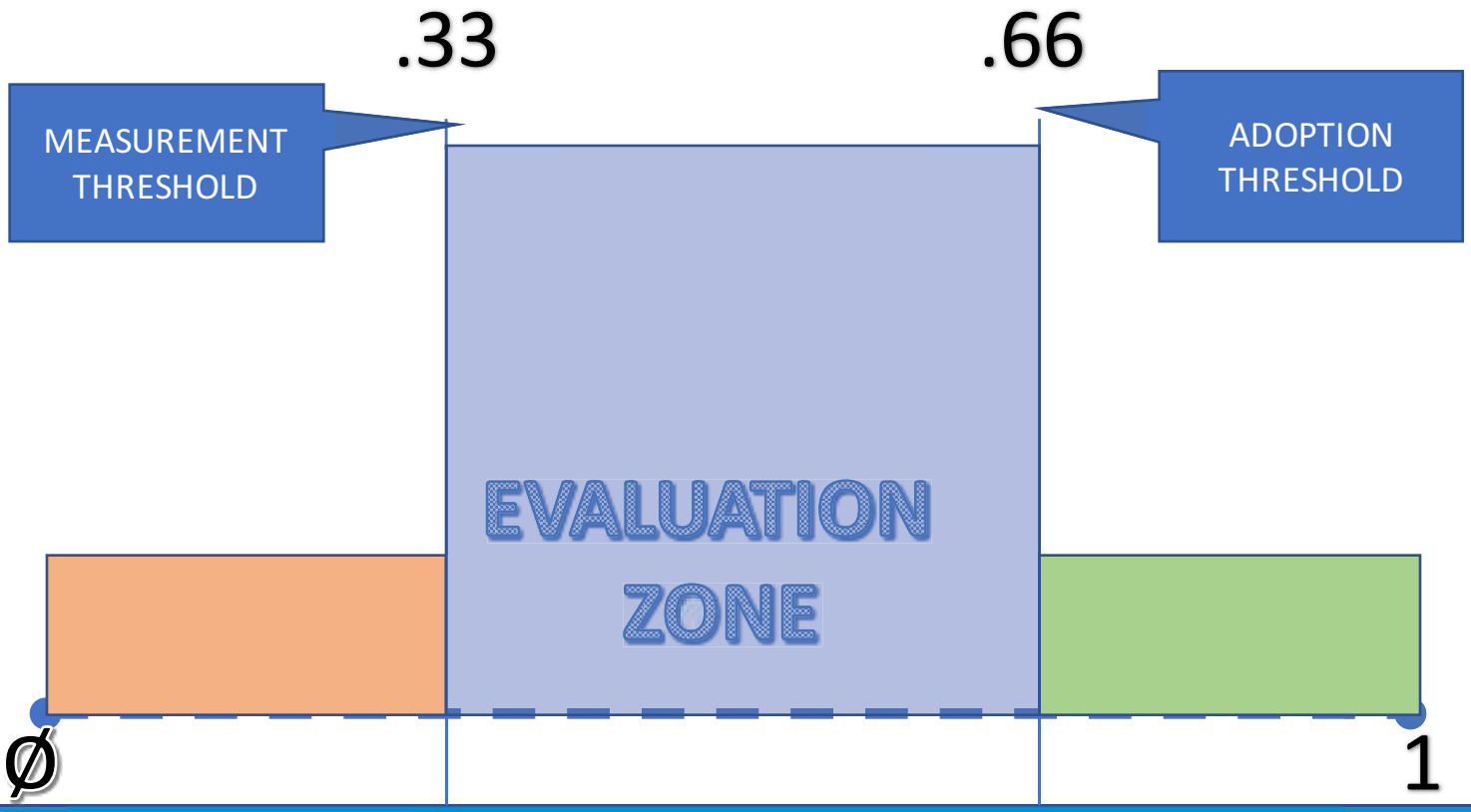
MEASUREMENT THRESHOLD
ADOPTION THRESHOLD
EVALUATION ZONE
Ø
1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MEASUREMENT THRESHOLD
ADOPTION THRESHOLD
EVALUATION ZONE
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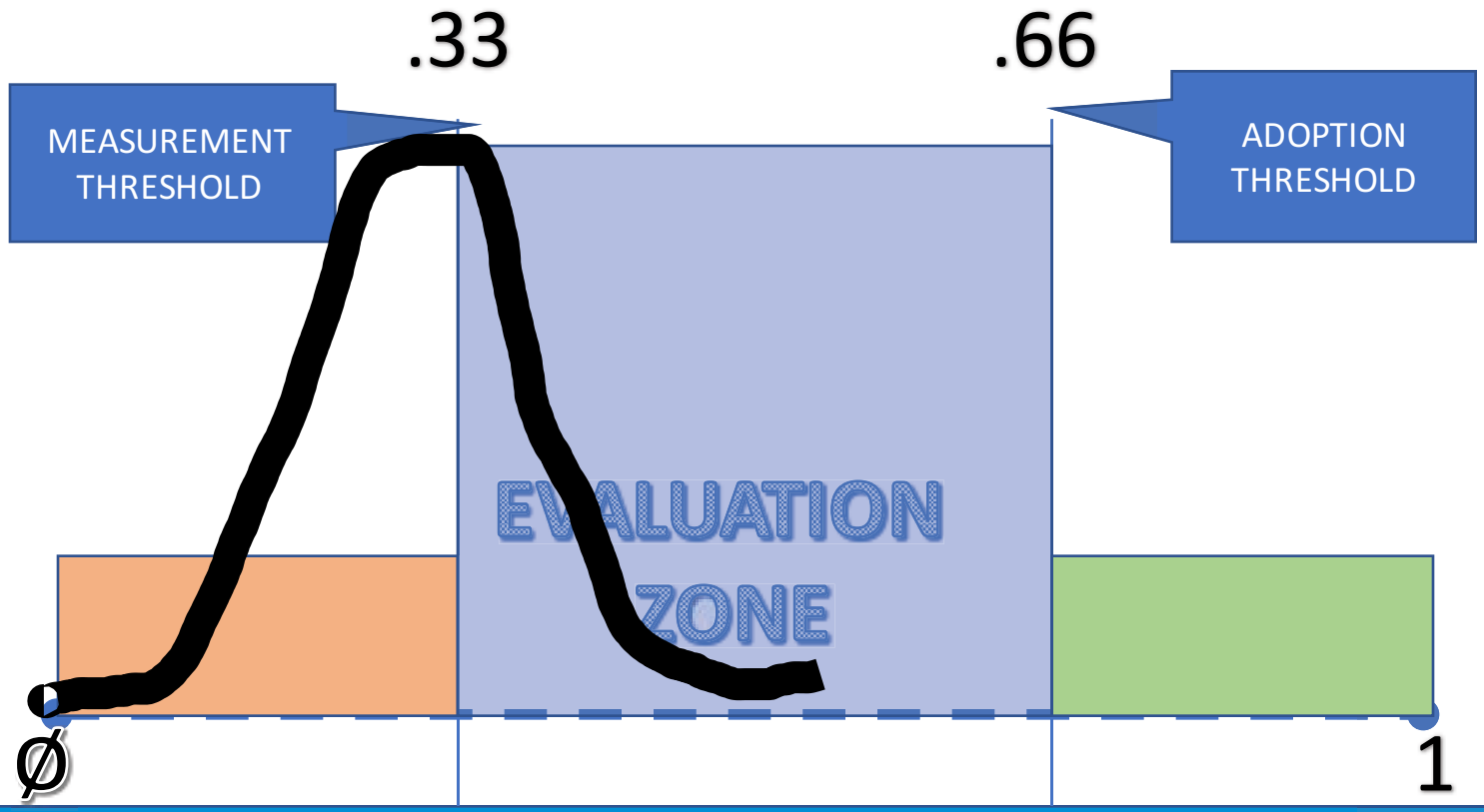
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MEASUREMENT THRESHOLD
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EVALUATION ZONE
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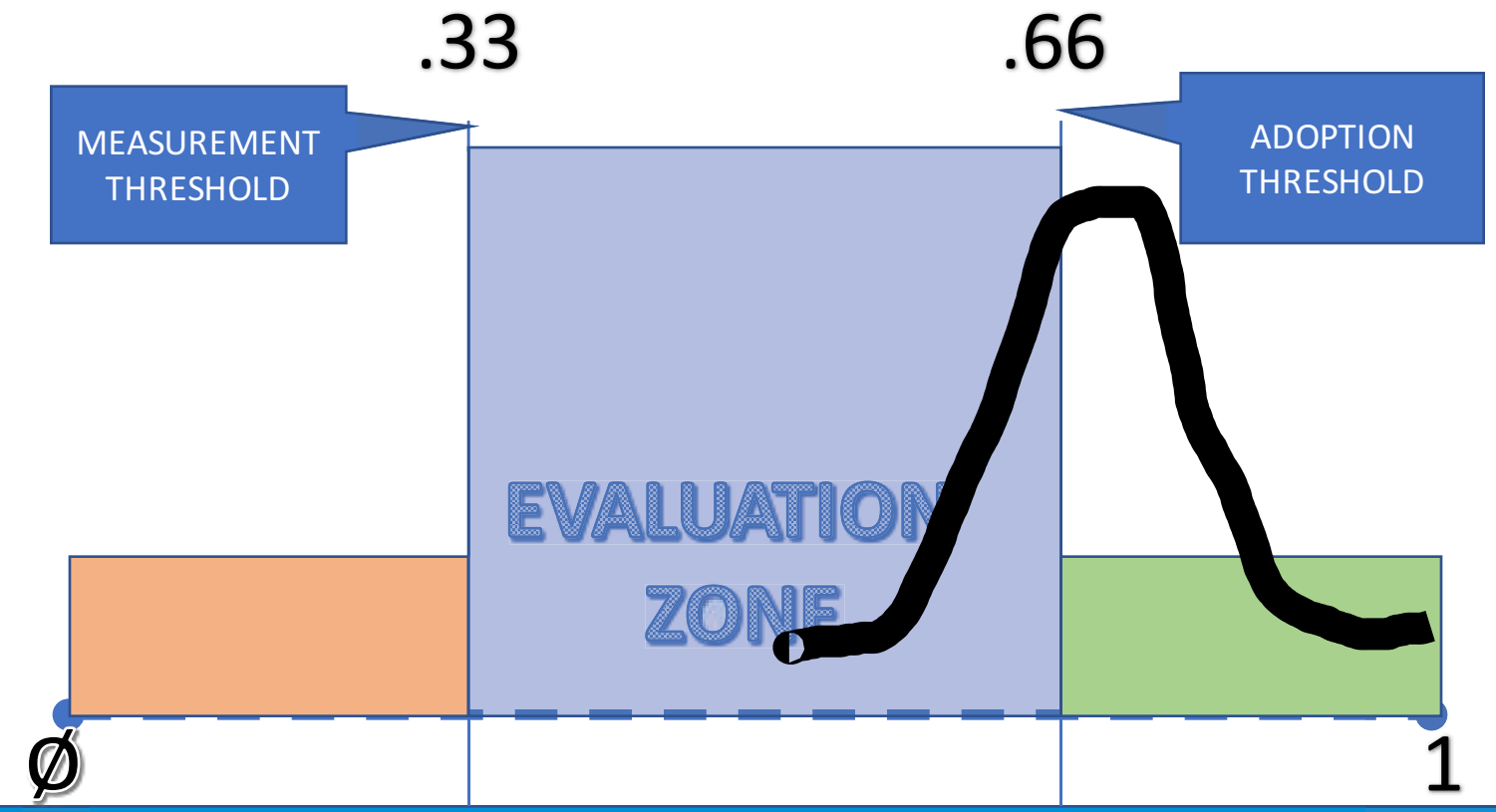
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ADOPTION THRESHOLD
EVALUATION ZONE
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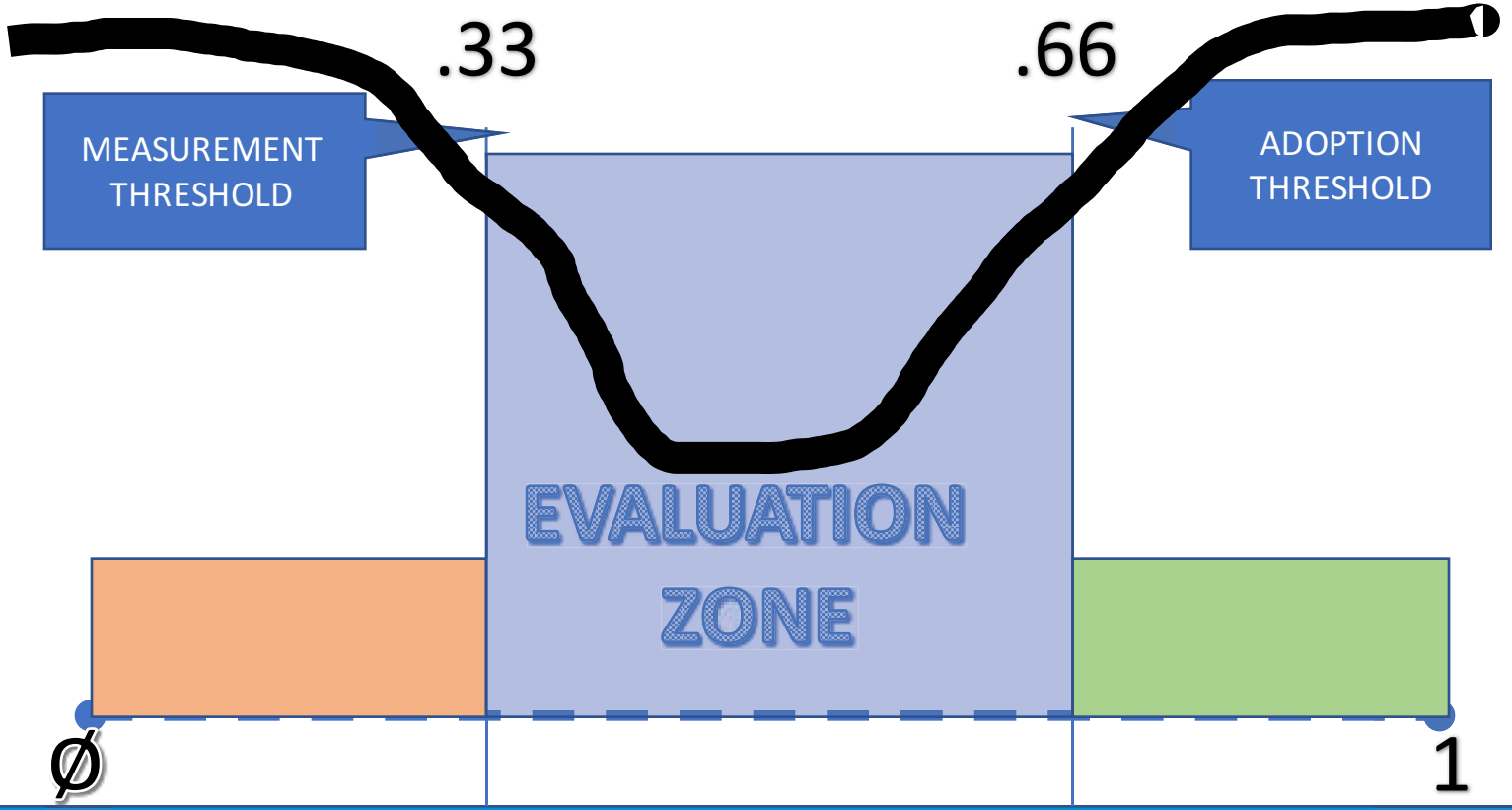
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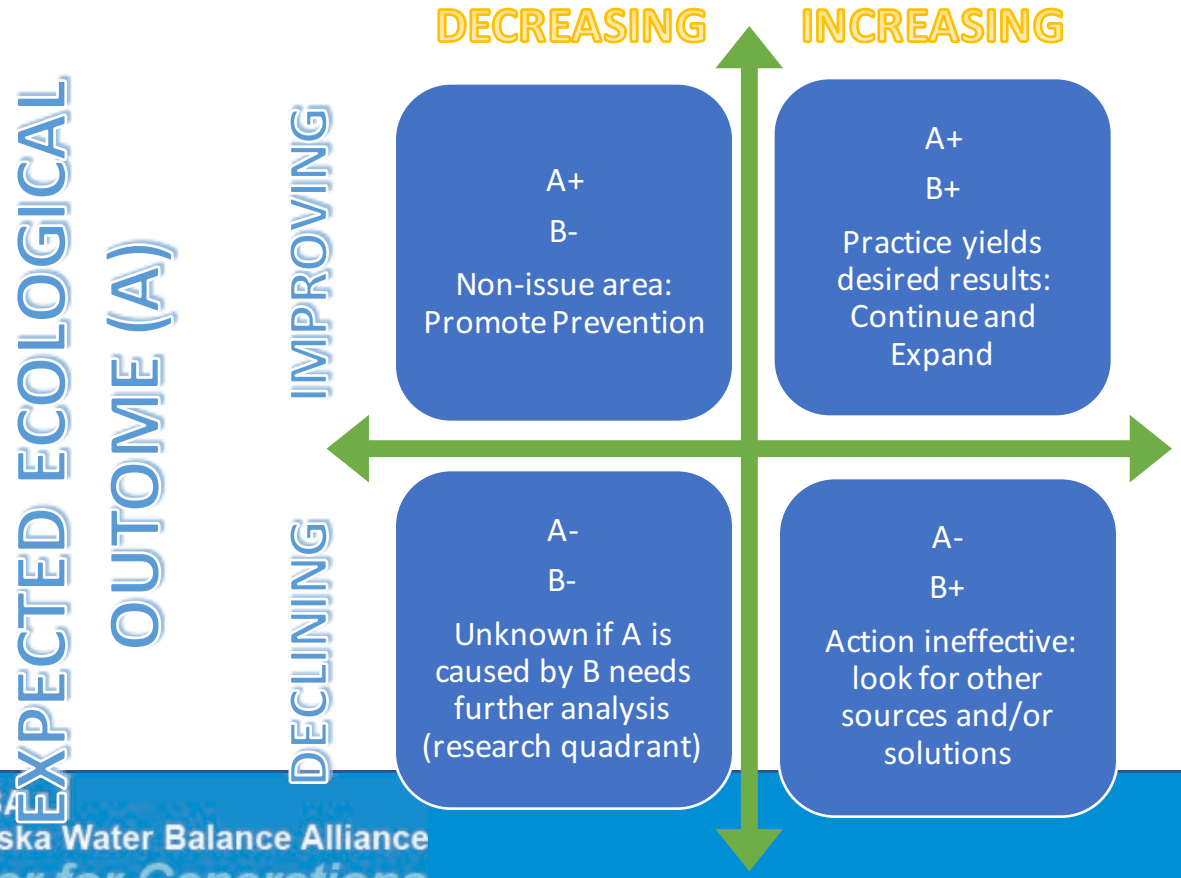
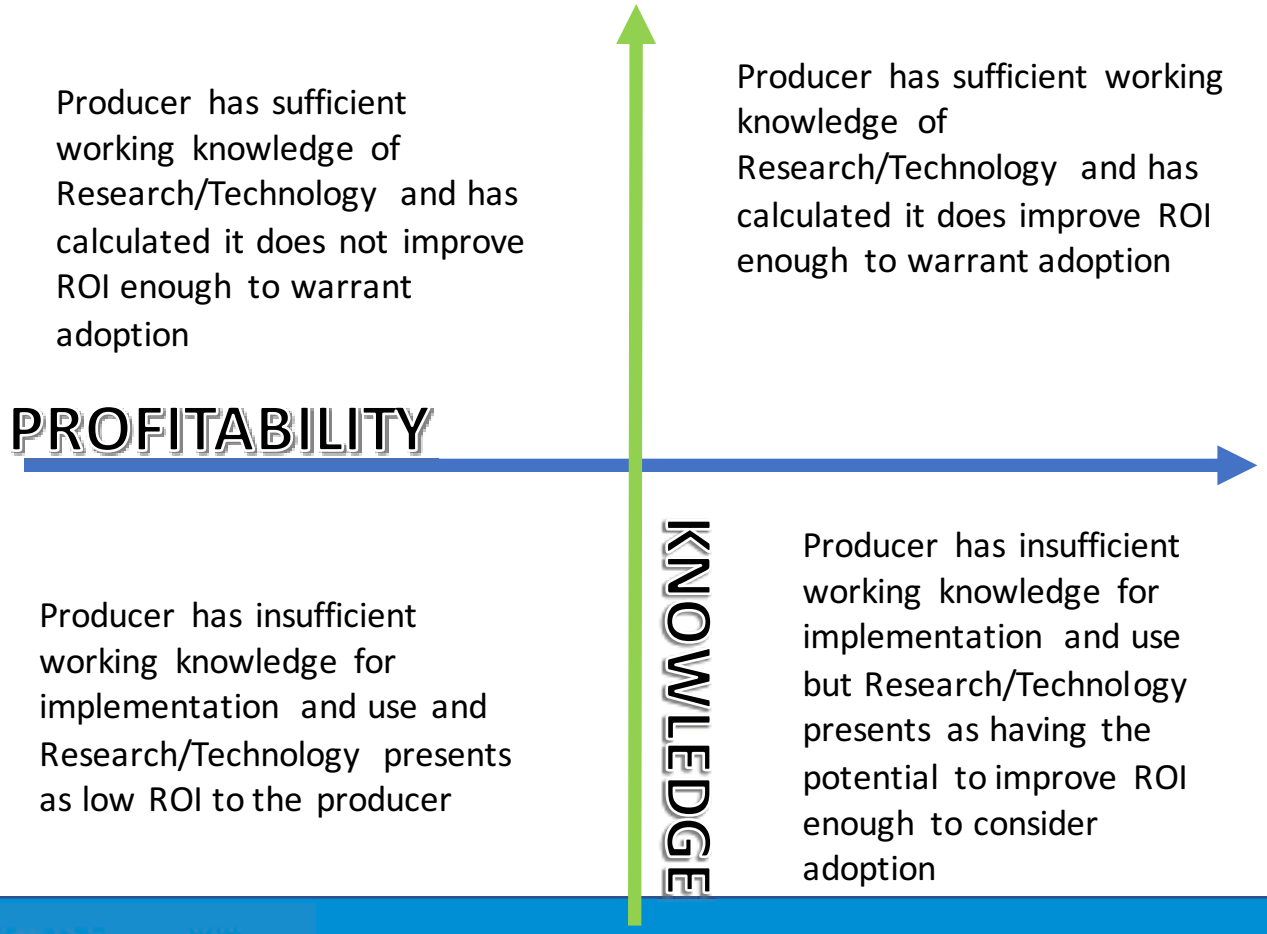
MEASUREMENT THRESHOLD
ADOPTION THRESHOLD
EVALUATION ZONE
Ø
1

CONSERVATION PRACTICE (B)



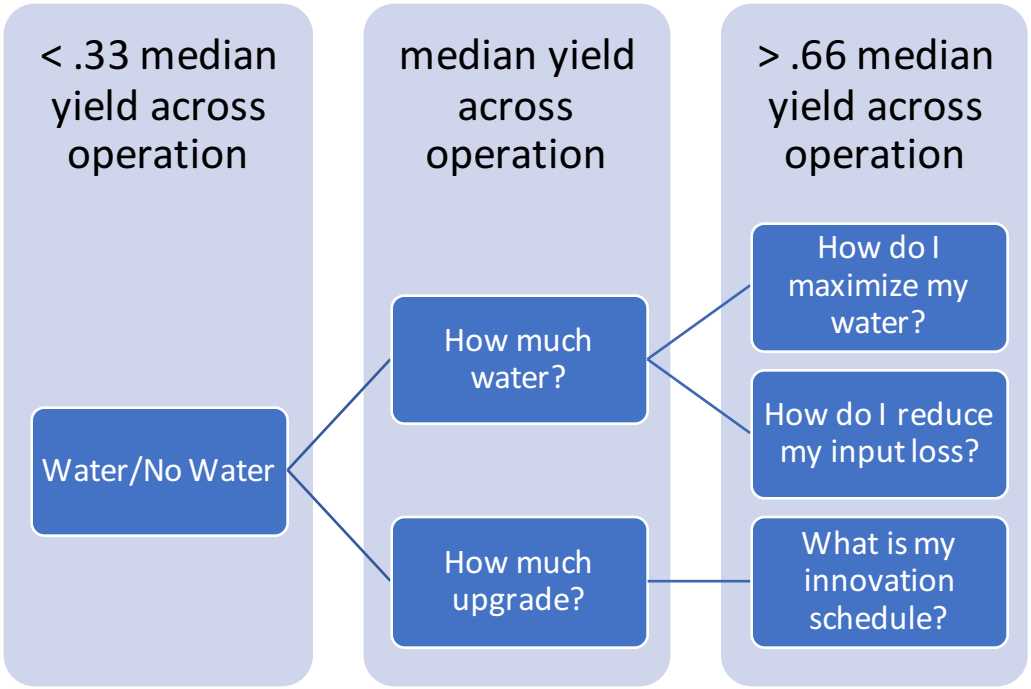

Producer has sufficient working knowledge of Research/Technology and has calculated it does not improve ROI enough to warrant adoption
Producer has sufficient working knowledge of Research/Technology and has calculated it does improve ROI enough to warrant adoption
PROFITABILITY
KNOWLEDGE
Producer has insufficient working knowledge for implementation and use and Research/Technology presents as low ROI to the producer
Producer has insufficient working knowledge for implementation and use but Research/Technology presents as having the potential to improve ROI enough to consider adoption

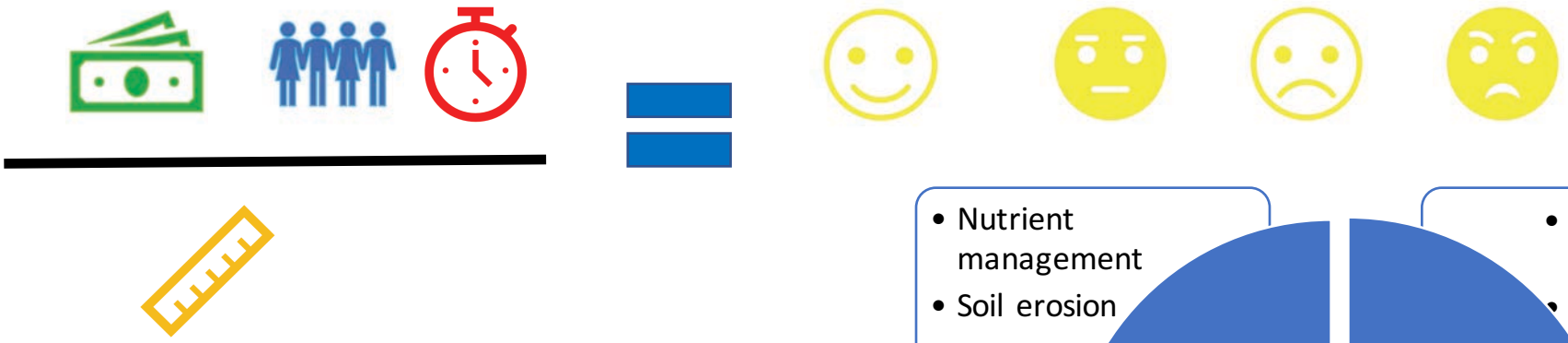
Farm based precision

- On Farm Weather Stations
- Real-time water pumping
- Variable rate irrigation
- Soil probes

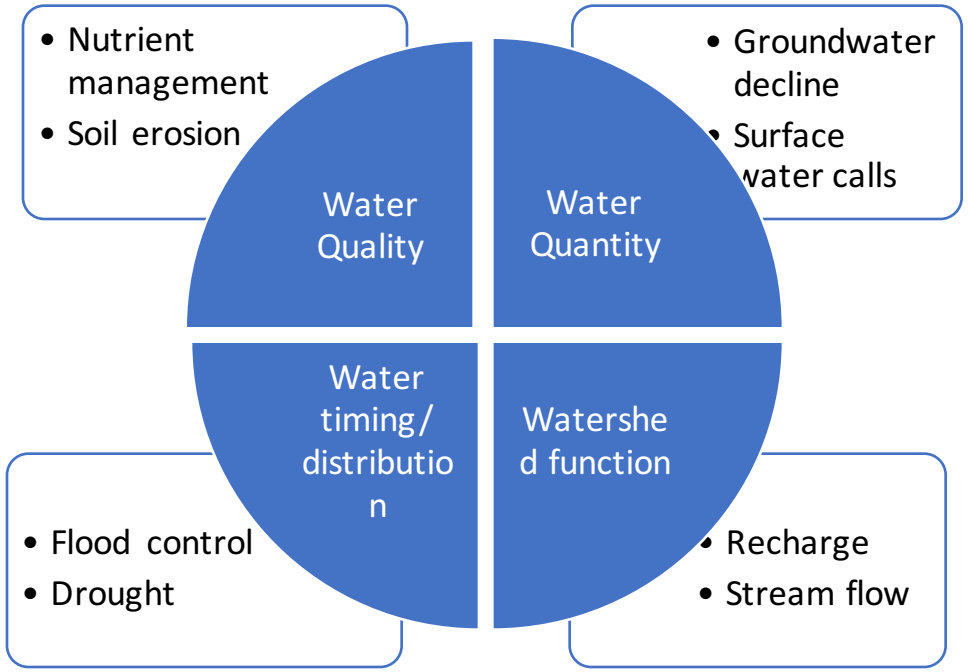
- Evaporation Transpiration
- Plant reflectivity
  - ✓Water needs
  - ✓Nutrient indicator
  - ✓Plant progression and maturation

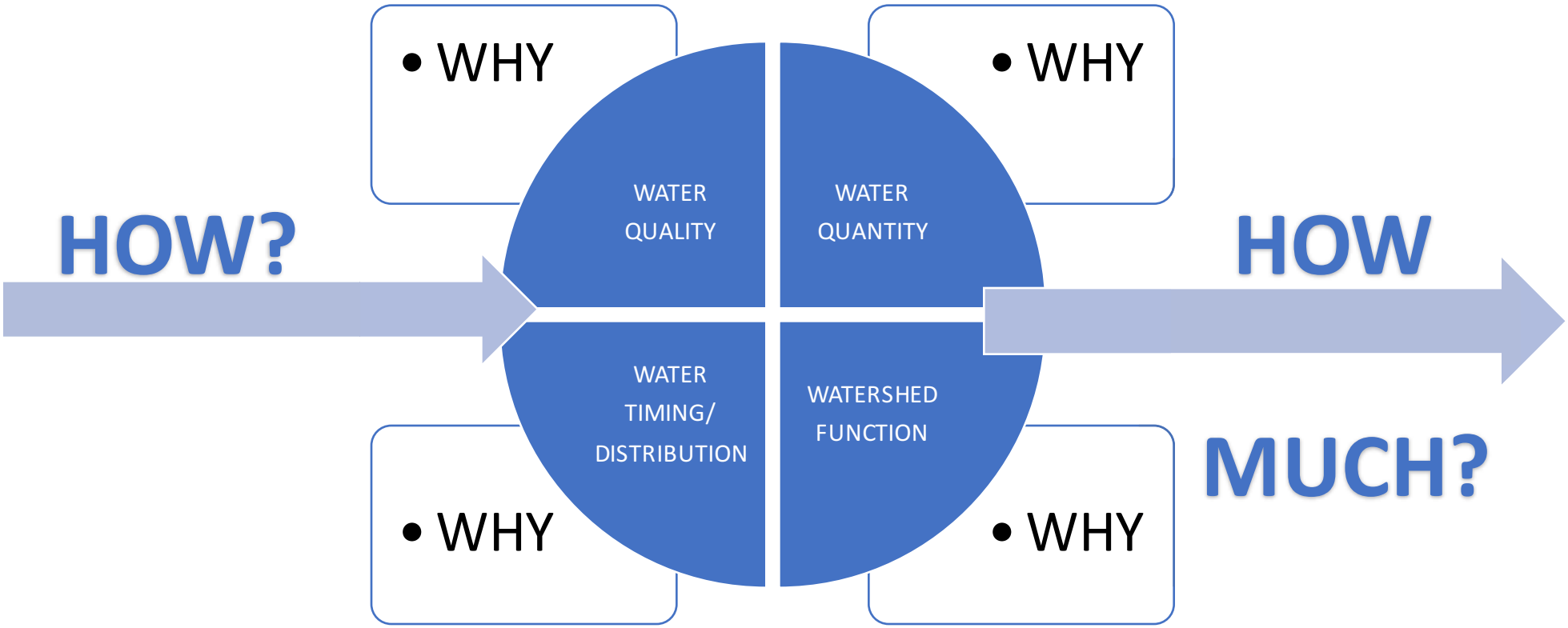
Performance dictates decision making complexity

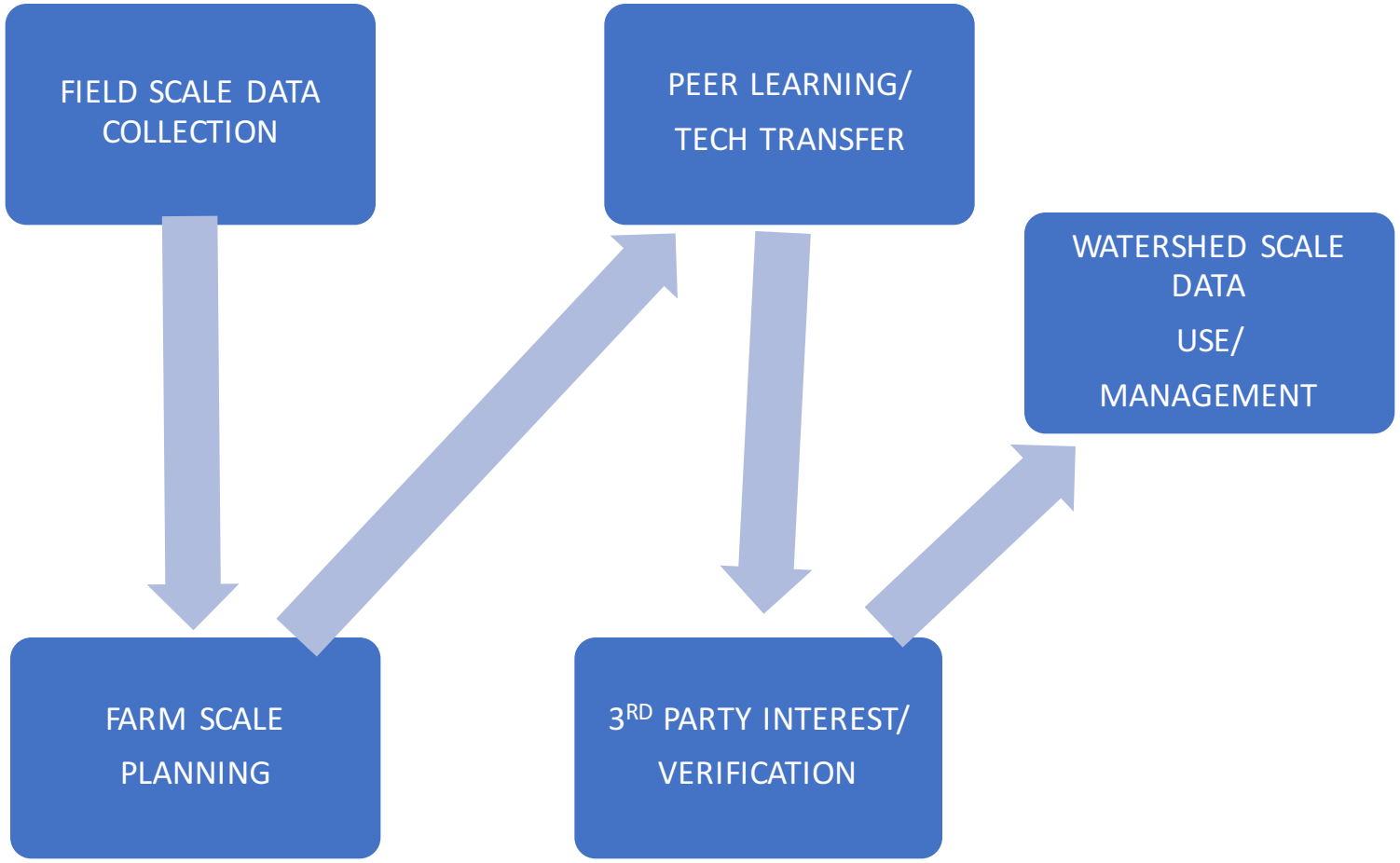




THE HOW


• Nutrient management
• Soil erosion
• Groundwater decline
• Surface water calls
Water Quality
Water Quantity
Water timing/ distributio n
Watershe d function
• Flood control
• Drought
• Recharge
• Stream flow


• WHY
• WHY
HOW?
WATER QUALITY
WATER QUANTITY
HOW
WATER TIMING/ DISTRIBUTION
WATERSHED FUNCTION
MUCH?
• WHY
• WHY


FIELD SCALE DATA COLLECTION
PEER LEARNING/ TECH TRANSFER
WATERSHED SCALE DATA USE/ MANAGEMENT
FARM SCALE PLANNING
3RD PARTY INTEREST/ VERIFICATION

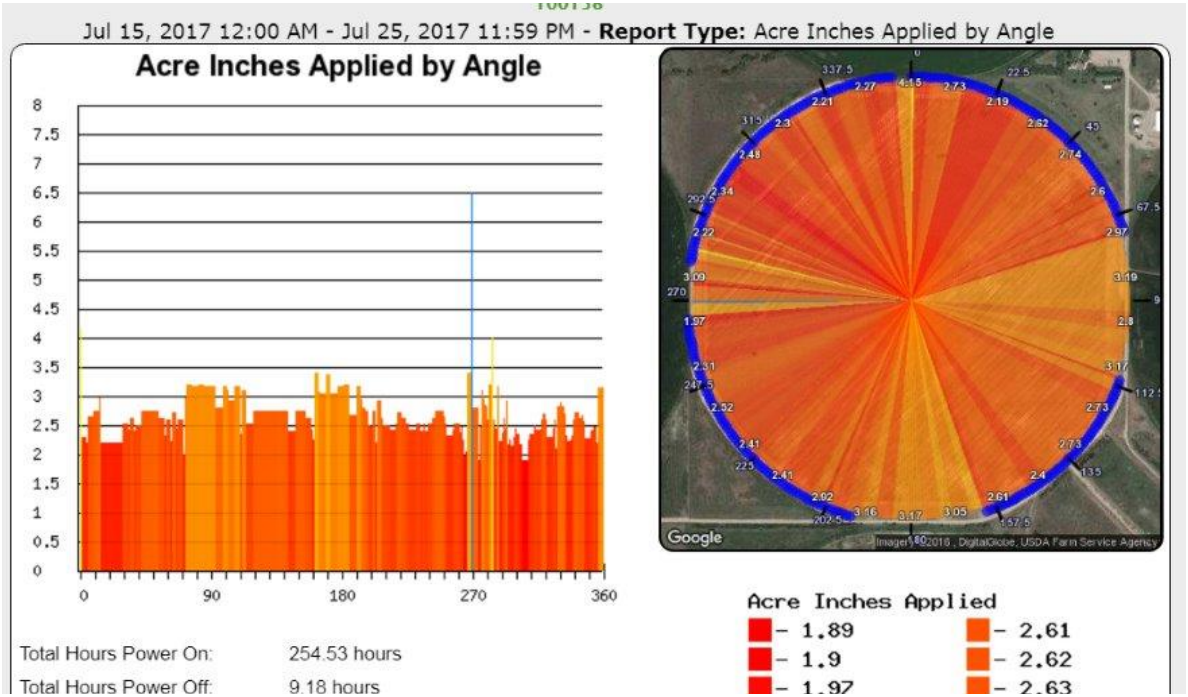

REGULATORY DATA
CONFIRMATION OF COMPLIANCE
AG PERFORMANCE DATA
APPLICATION OF RESEARCH
RESEARCH DATA
VERIFICATION OF POLICY
NEBRASKA WATER

NEEDS

QUALITY DATA INPUT/OUTPUT

DATA SECURITY AND ANONYMITY

CONTINUED MANAGEMENT AND OPERATION

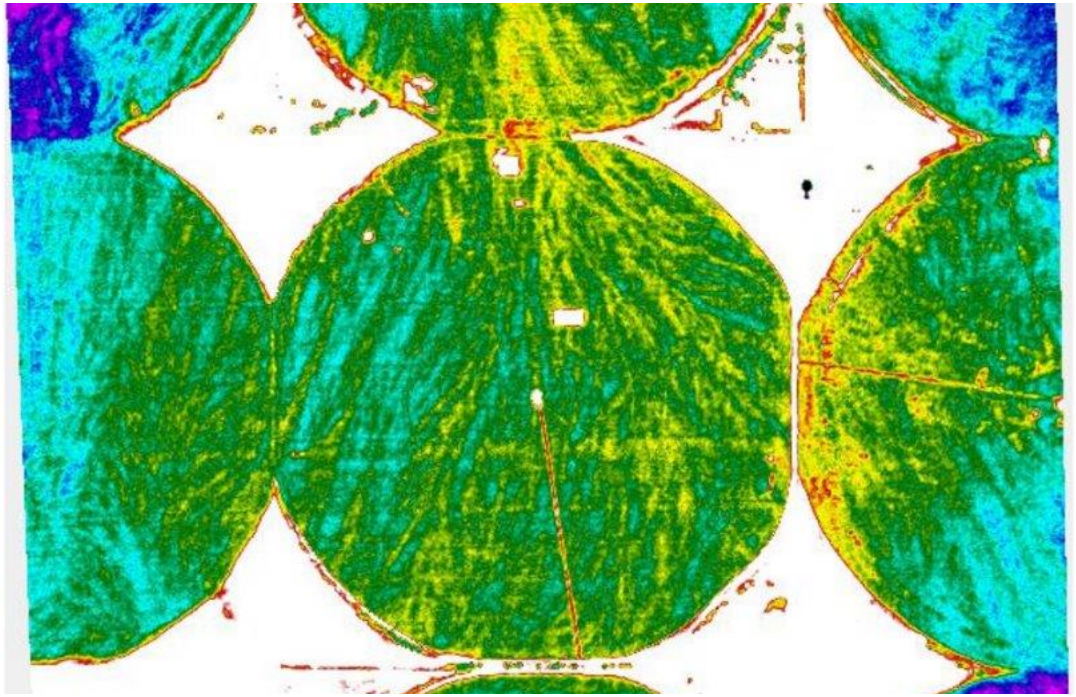


What's to learn?

- Ag water management is ***not*** linear
- Effective water management is about creating stages of engagement that match the producers
  - Understanding
  - Capacity to act

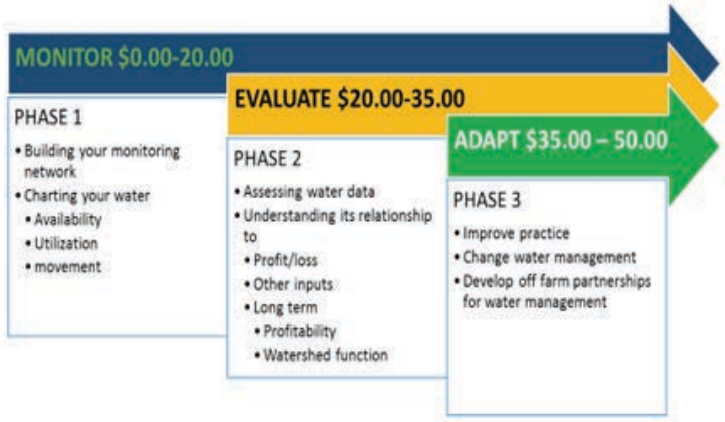
What's to learn?

- Because producer understanding is highly variable and non-linear, standardized regulation is challenging.
- Success is about getting the tools to the producer to evaluate their own actions and understand the cost benefit of their own water management



MEASURING PERFORMANCE

- FIELD SCALE
- WATERSHED SCALE
- STATE LEVEL
- INTEREST BASED
- COLLABORATIVE
- PROACTIVE
- VOLUNTARY



AQUA MART

STEPWISE SOLUTIONS

- SOLID PLANNING
- DEPENDABLE TECHNOLOGY
- COLLABORATIVE ENGAGEMENT
- RESULTS ORIENTED
- BRINGING UNDERSTANDING TO DIFFERENT SCALES


CITATION II
Maryland

WHICH IS IT?

WWW.NEBRASKAWATERBALANCE.COM

QUESTIONS?


DECODING NEBRASKAN FACIAL EXPRESSIONS
HAPPY
SAD
ANGRY
EXTATIC
ENGAGED
APATHETIC
FRIENDLY
DECEASED