

Intelligently adding intelligence

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0. CONTENT

1. Introduction
2. Thought process behind the pilot
3. How it works
4. Results



1. INTRODUCTION

- Paper outlines a pilot salt forecasting tool using long range forecast data
- Salt crises prompted the research and pilot
- Decision making is based on data, experience and intelligence.
- Refinement and accuracy comes at a cost.
- How much accuracy is needed for a given decision?
- Where is the intelligence best added?



2. WINTER, DATA & DECISIONS

- Based upon UK experience
- Recent data proliferation for near time events and decisions
- Data has driven decision support tools
- What about longer range decisions?
- How can we use inaccurate information to get useful results.

3. LONG RANGE FORECASTING

*Long-range predictions are unlike weather forecasts for the next few days. The nature of our atmosphere means it **is not possible to predict the weather on a particular day months to years ahead.** At this range we have to acknowledge that **many outcomes remain possible**, even though only one can eventually happen. Over the course of a whole season, year or decade, however, factors in the global weather system may act to make **some outcomes more likely than others.***

UK Met Office

4. UNCERTAINTY AND SYSTEMS THINKING

Uncertainty is everywhere and you cannot escape from it.

Dennis Lindley – British Statistician

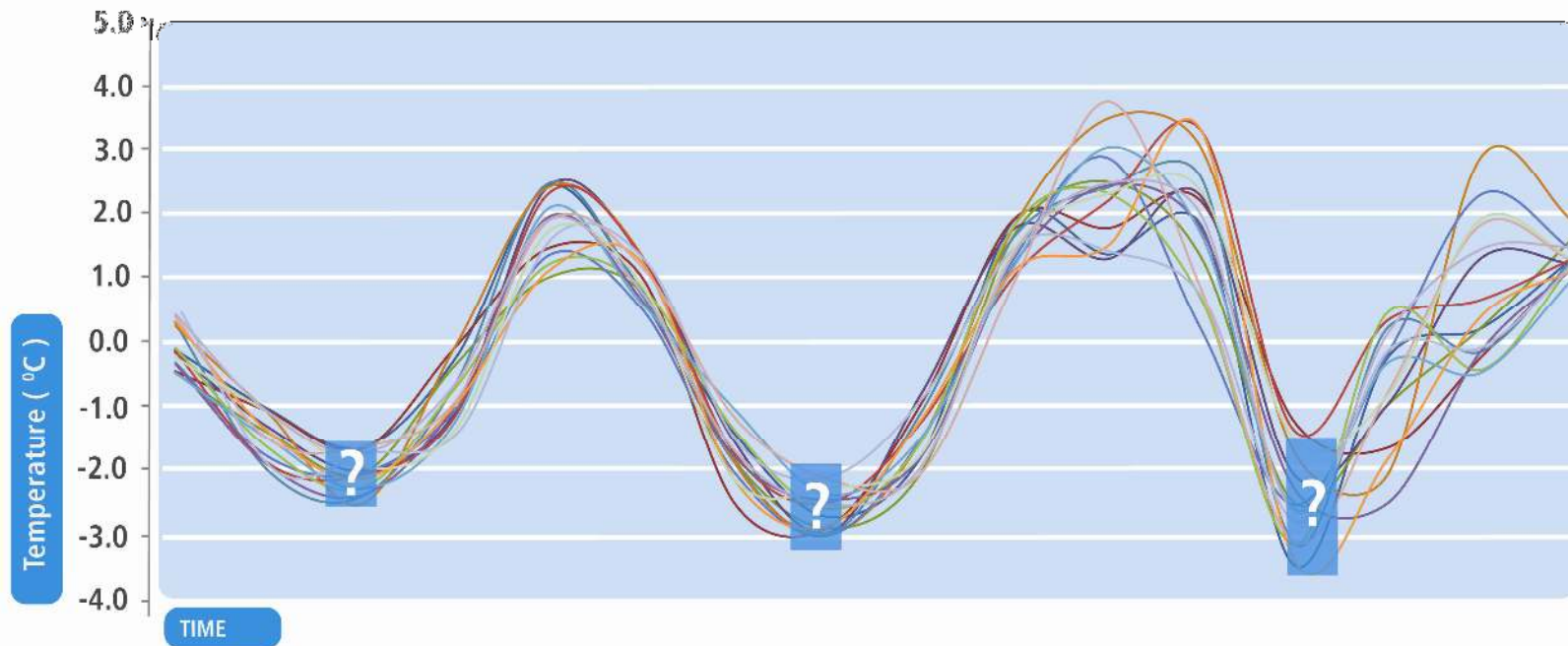
To understand things we take them apart and study the pieces. To improve things we try to improve pieces individually. It is rather like trying to get a horse to run faster by teaching each of the legs to perform a more efficient movement The systems approach focuses on the inter-relationships, how the horse's legs relate to each other and back to the horse.

Balle

5. PUTTING THE SYSTEM TOGETHER

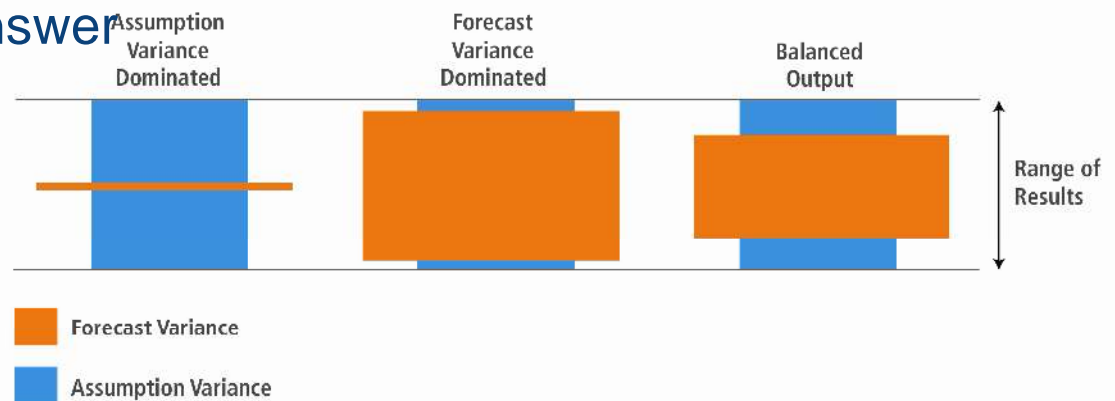


6. UNCERTAINTY

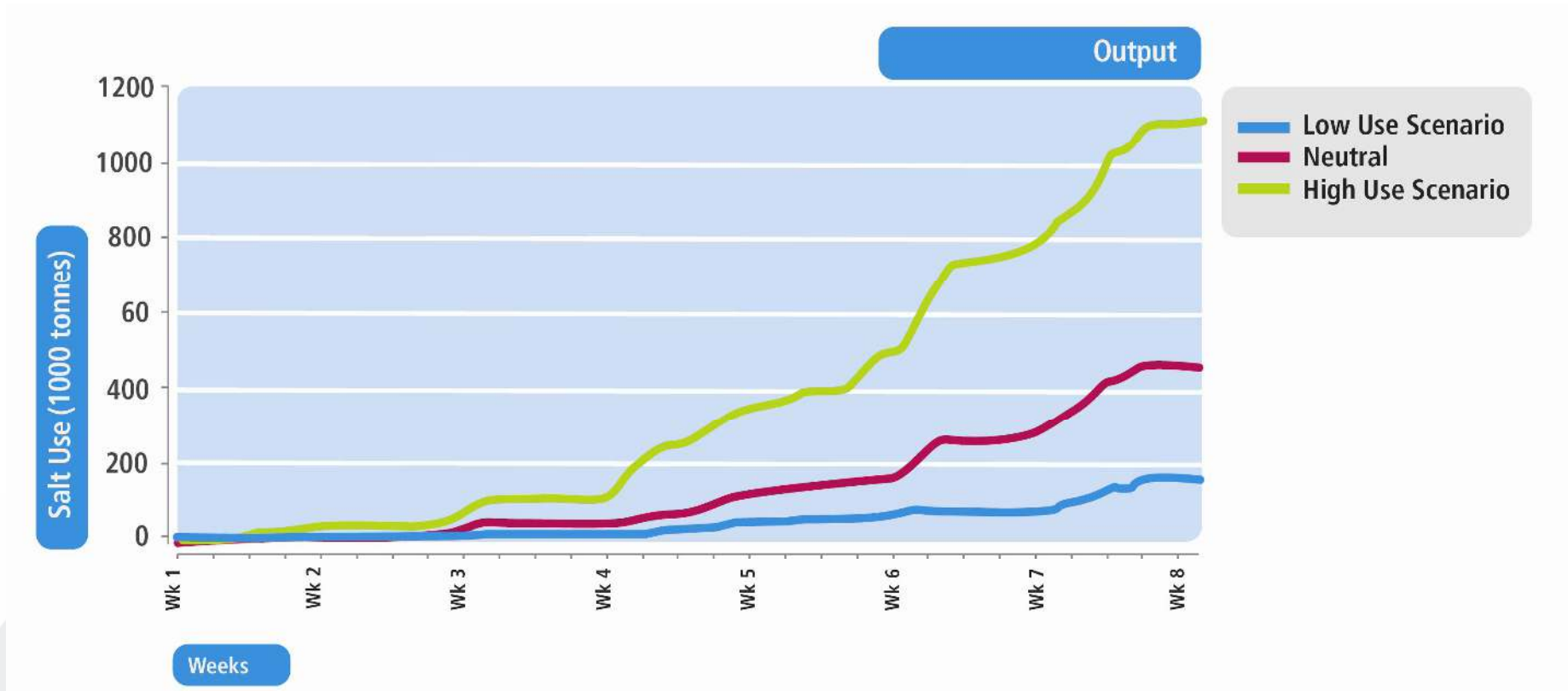


7. BUT WHAT DO WE KNOW

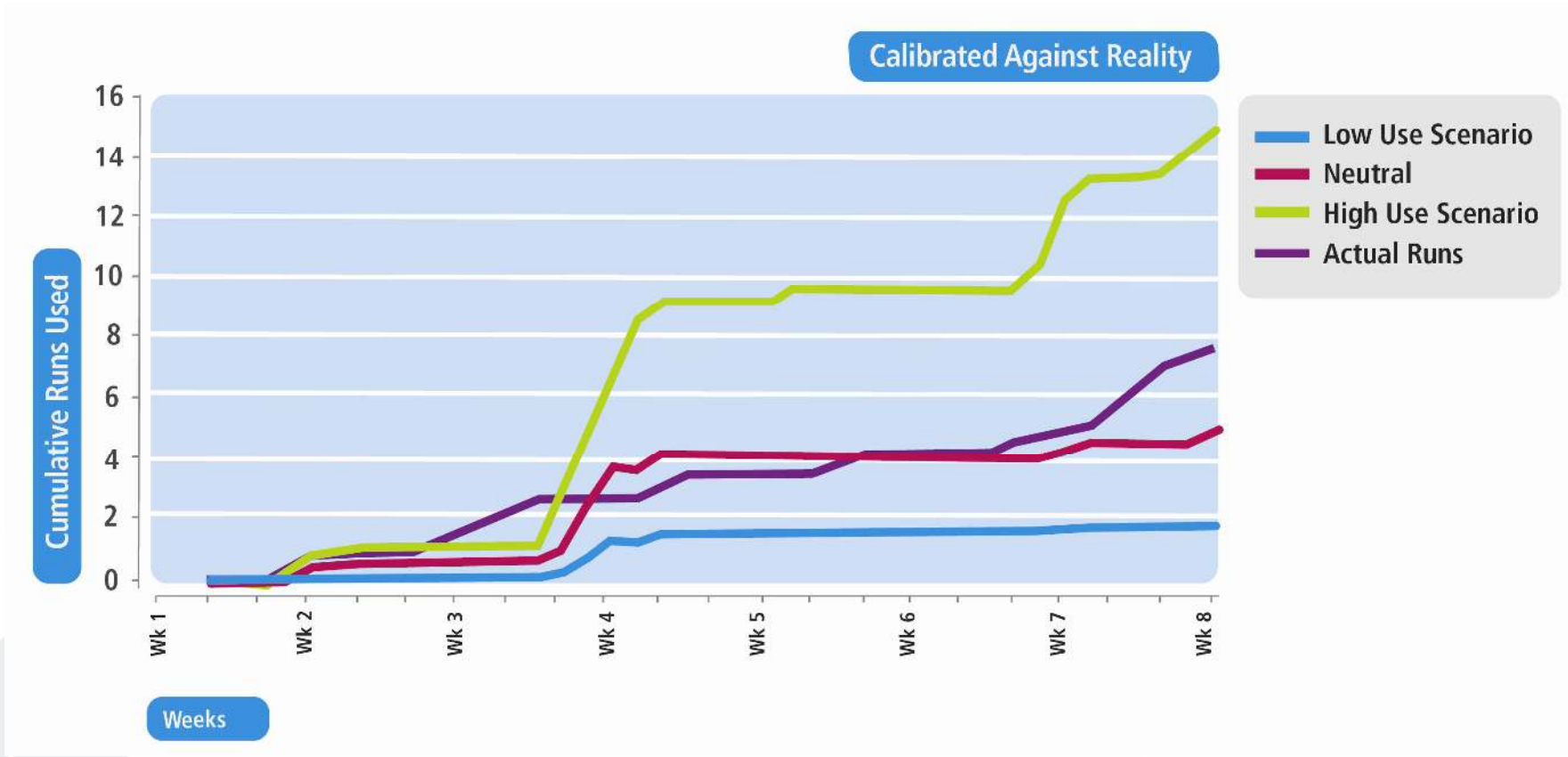
- Forecast has a range of scenarios
- Decisions result in different scenarios
- Combination gives range and most likely.
- Not interested in absolute answer
- Embrace the uncertainty



8. OUTPUT



9. CALIBRATION



10. IN USE



11. FUTURE PLANS


- Pilot with coarse data completed with interesting results
- Future plans
 1. Determine operational benefits of such a tool
 2. Identify suitable partner to take the pilot further
 3. Implement with refined data
 4. Pilot within a 'live' environment

12. Discussion opportunity

Poster Session

Friday 09:00-11:00

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Paul Williams PAPER 156 / TOPIC 4 / SESSION 6

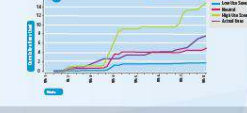
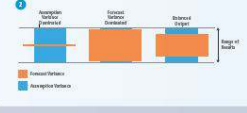

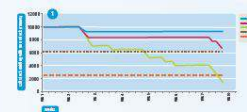
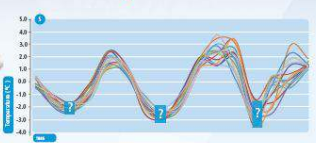

Intelligently Adding Intelligence...

> **What if you could predict your salt usage months ahead?**

Uncertainty is everywhere and you cannot escape from it. Dennis Lindley - British Statistician

Long-range predictions are unlike weather forecasts for the next few days. The nature of our atmosphere means it is not possible to predict the weather on a particular day months to years ahead. At this range we have to acknowledge that many outcomes remain possible, even though only one can eventually happen. Over the course of a whole season, year or decade, however factors in the global weather system may act to make some outcomes more likely than others. UK Met Office

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Forecasting

- Decision Making
- Scenario uncertainty
- Clear usage
- Salt forecast

Approach...



- Long range (GPI and T5) model data
- Min forecast horizon
- Min temperature and precipitation data
- High resolution, low decision scenarios

Practicality...

- Forecast has a range of scenarios
- Decisions result in different scenarios
- Combination gives range and most likely
- Min forecast horizon
- Min forecast horizon

Future plans...

- Determine operational benefits of such a tool
- Identify suitable partners to take the pilot further
- Implement with real world data
- Place within a 'big environment'



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