

Decision Making With Uncertainty: Anticipatory Governance

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Uncertainty in Growth Rates

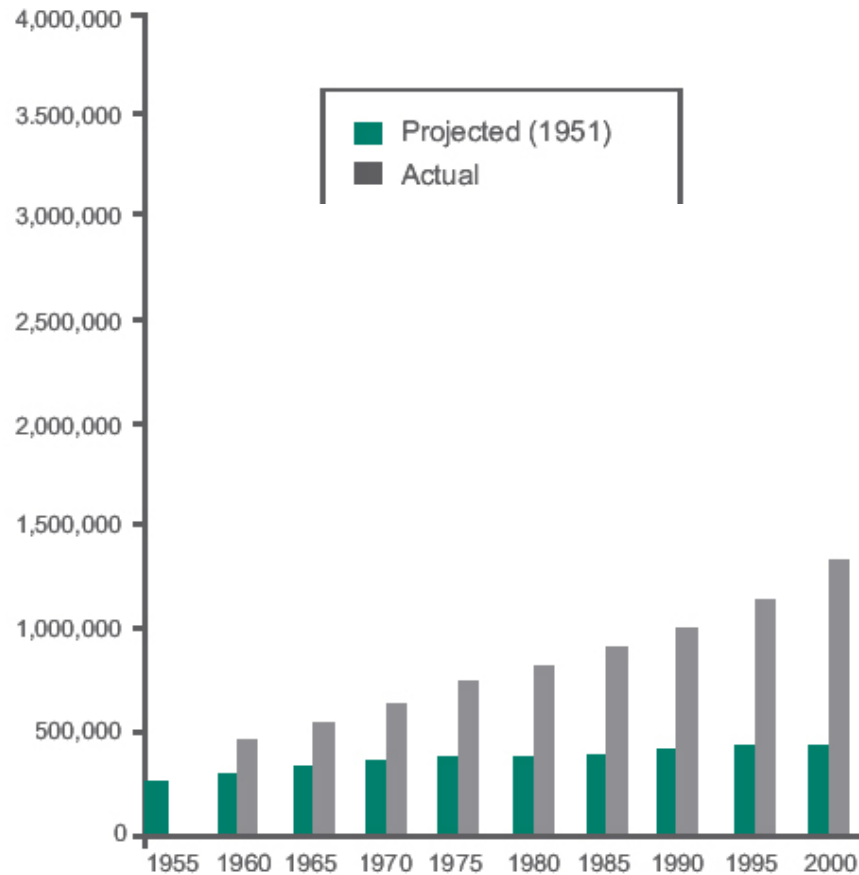
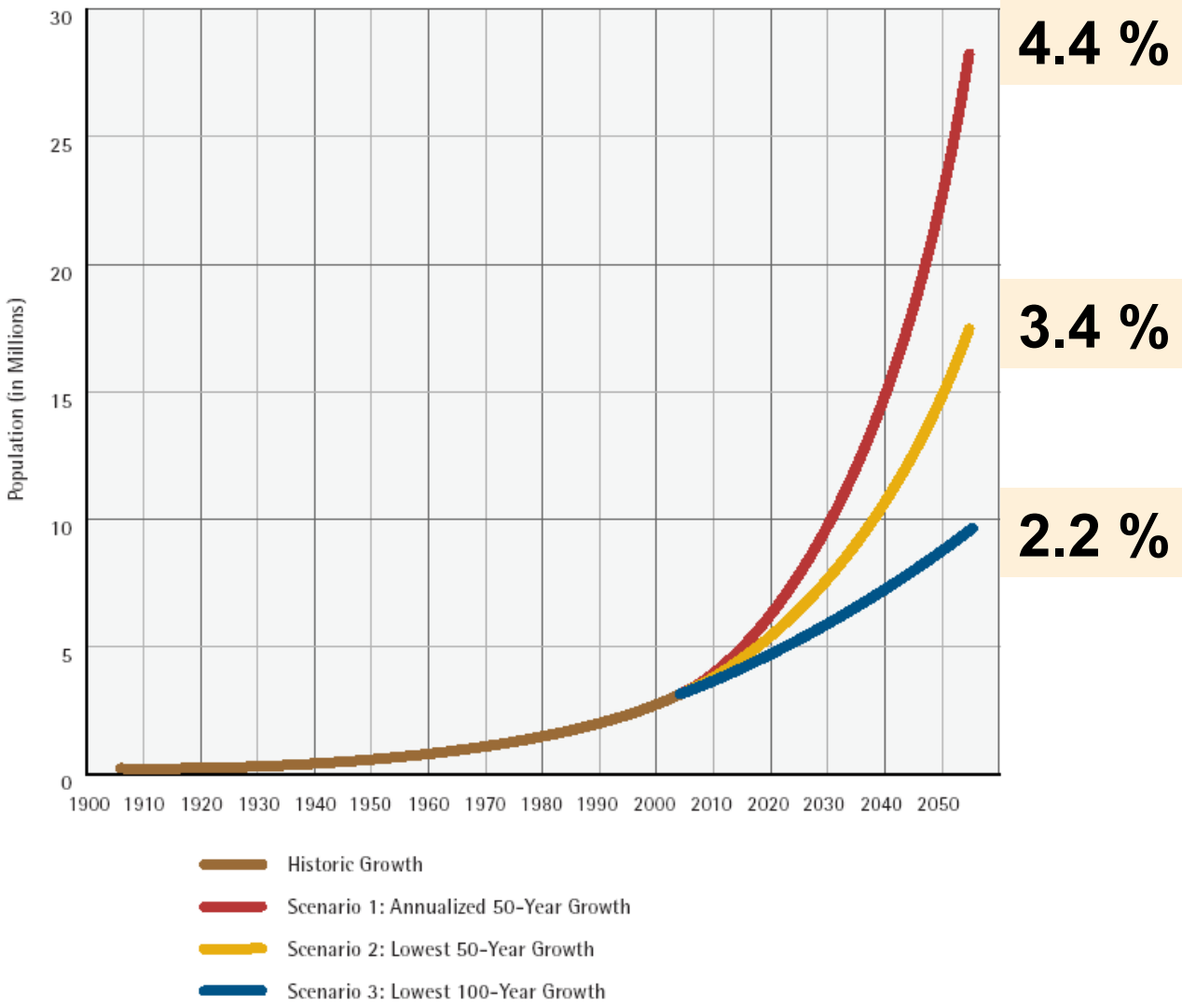


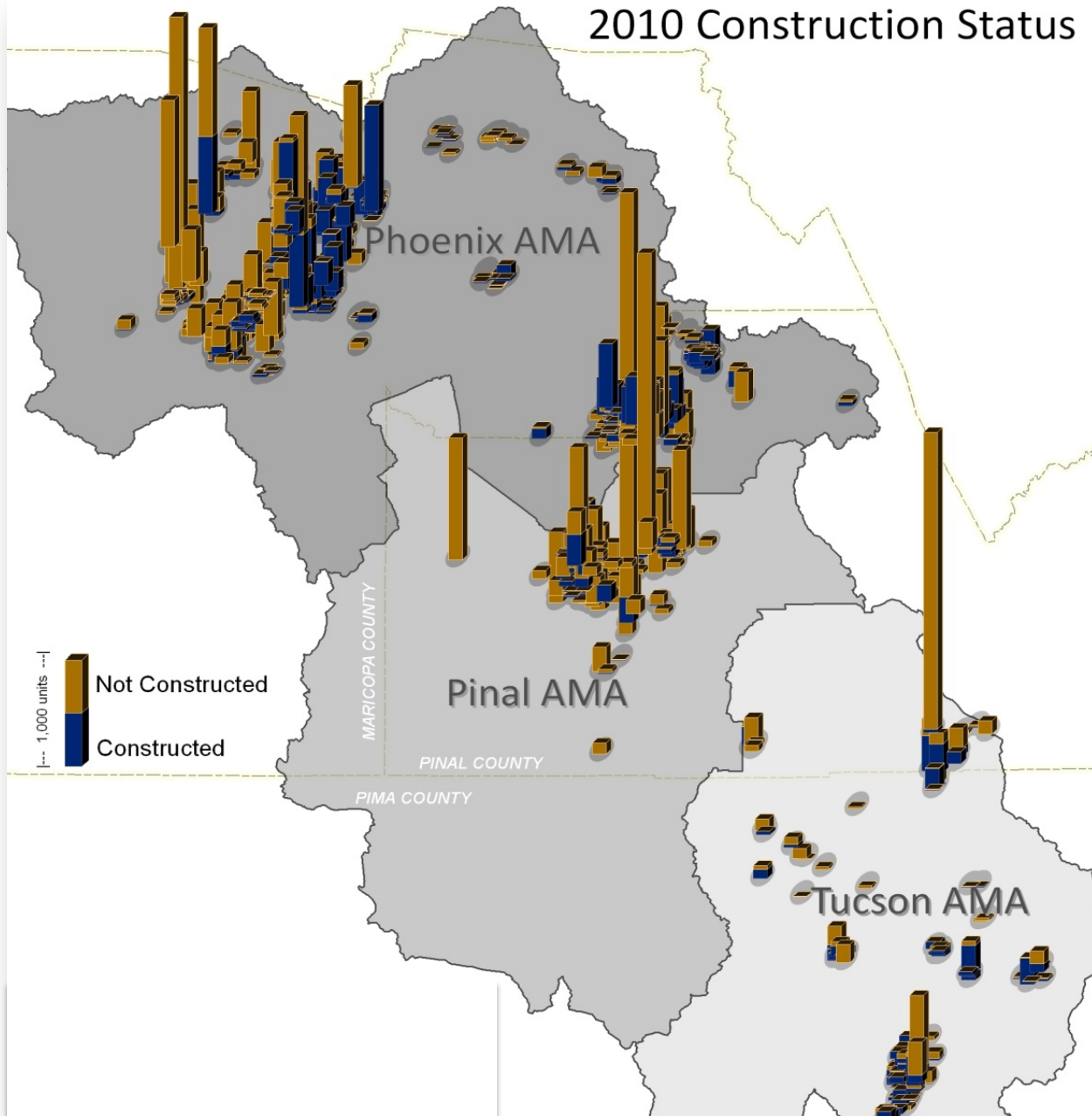
Figure 5-3. Range of Population Projections

Chart 1: Historical Growth and Scenarios of Future Regional Growth



Source: (2003)Greater Phoenix 2100 Regional Atlas

2010 Construction Status



Why uncertainty so disturbing?

- Traditional Public Sector Planning Paradigm
 - “Predict and Plan”
 - Predict a future state and plan how to best respond to that.
 - Pick a desired future state and predict what plan will get us to that state.

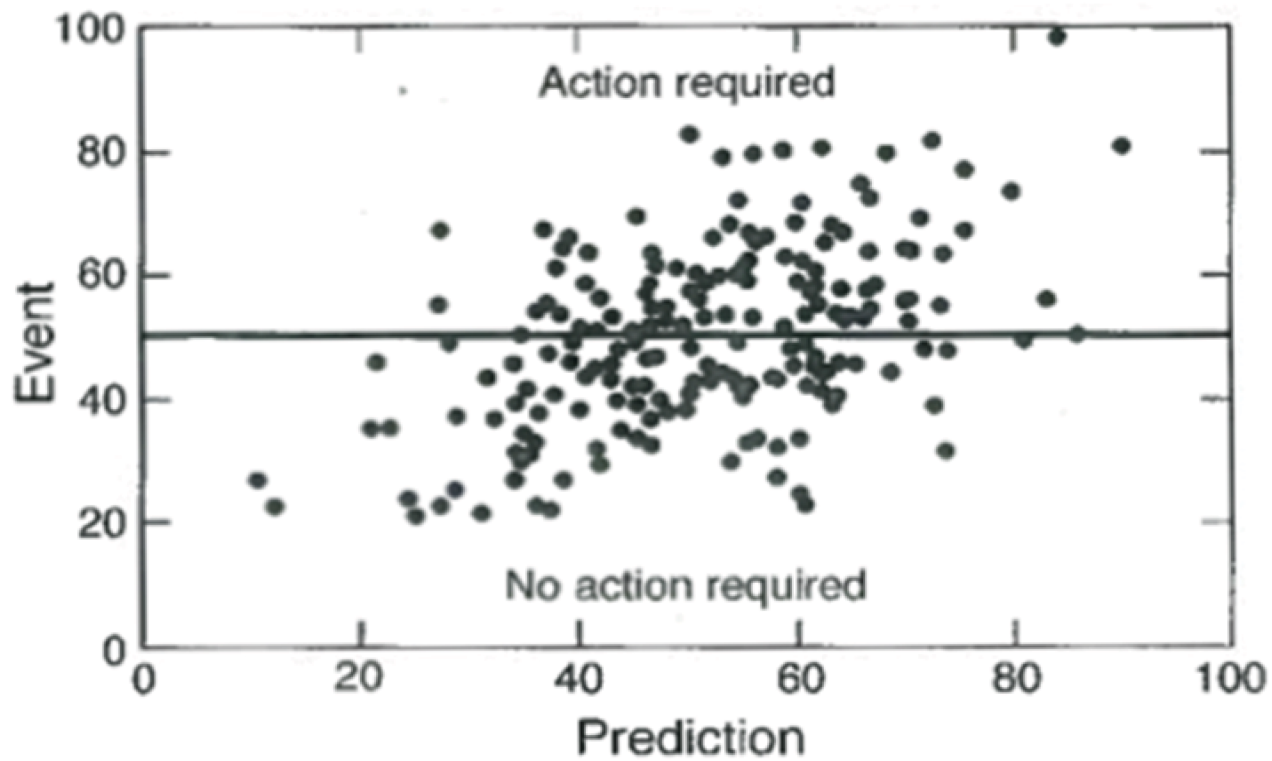


Fig. 3.2 The action/no-action criterion.

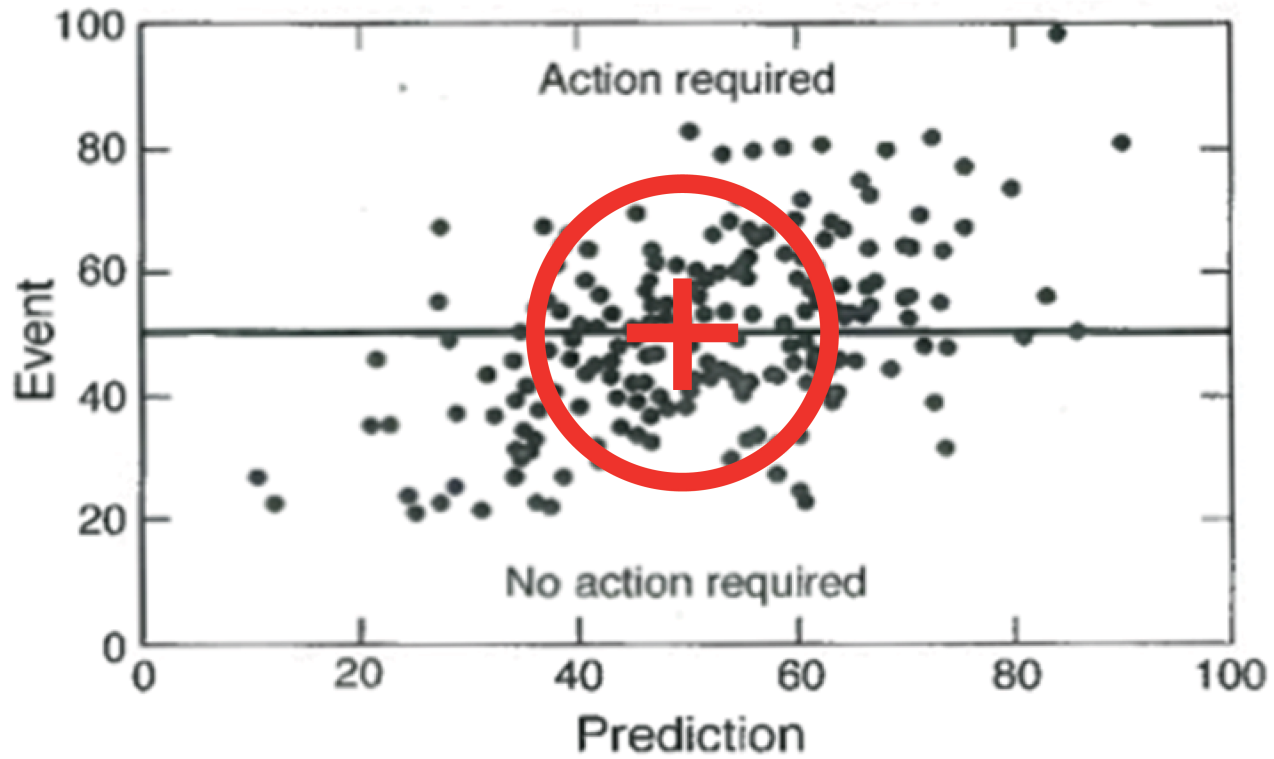


Fig. 3.2 The action/no-action criterion.

Traditional Planning

- Predict and Plan worked well when
 - social and environmental systems were stationary
 - planning horizon relatively short 10 - 20 years
 - funding and resources were relatively abundant
 - consequences of failure were not disastrous
- Politicians like
 - Simple solutions with results in their term
 - Silver Bullets

Uncertainty – Key Factors/Drivers

- Biophysical factors
 - Natural resources, hydrologic & climate processes*
- Built environment & Land use factors
 - Buildings, infrastructure, technology, urban pattern*
- Governance & Institutional factors
- Human Behavior
 - Consumption levels, travel patterns, etc.*
- Economic Factors
 - Population, household income, employment rates*
- Feedback Mechanisms and Interrelationships

Human Cognition

- This is not how humans always plan.
- Human brain is wired to think about alternative futures and adapt as things change.

Anticipatory Governance

- Anticipate a wide range of possible futures
- Develop multiple strategies
- Monitor changing conditions over time
- Over time act appropriately as anticipated

(Quay 2010)

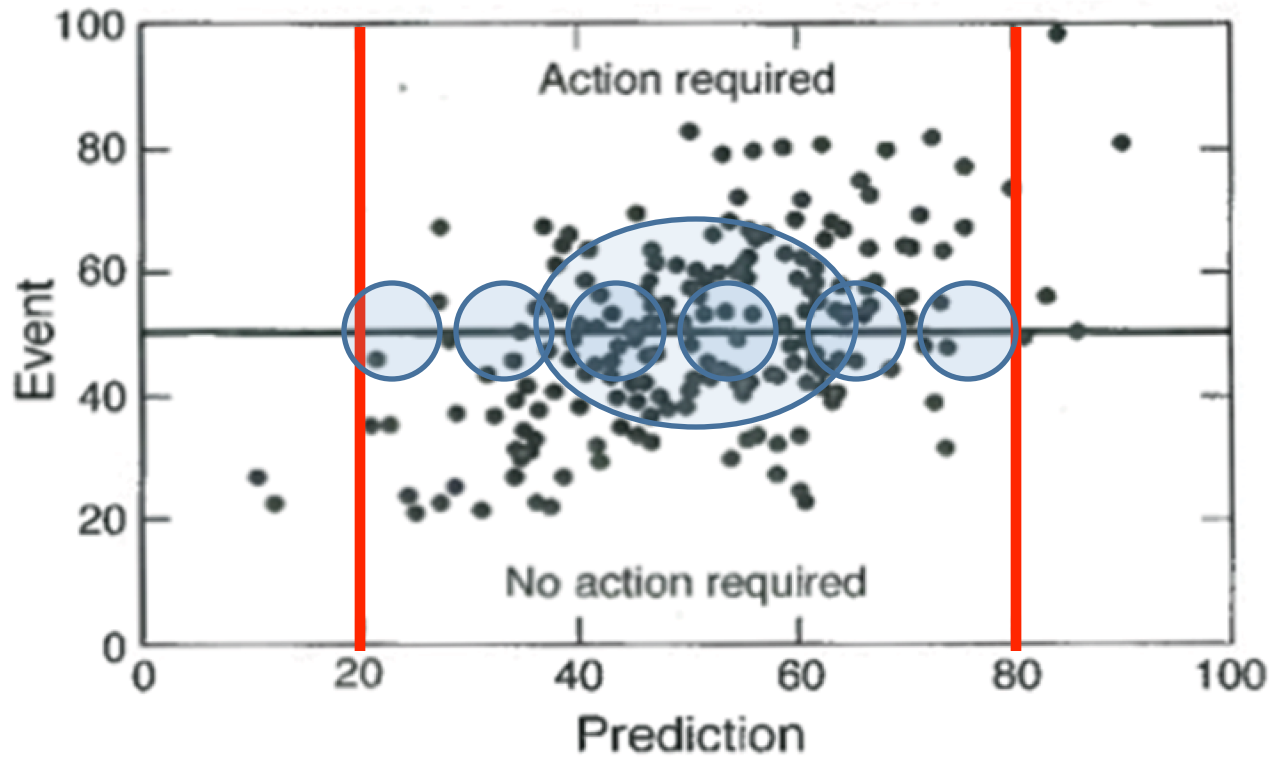
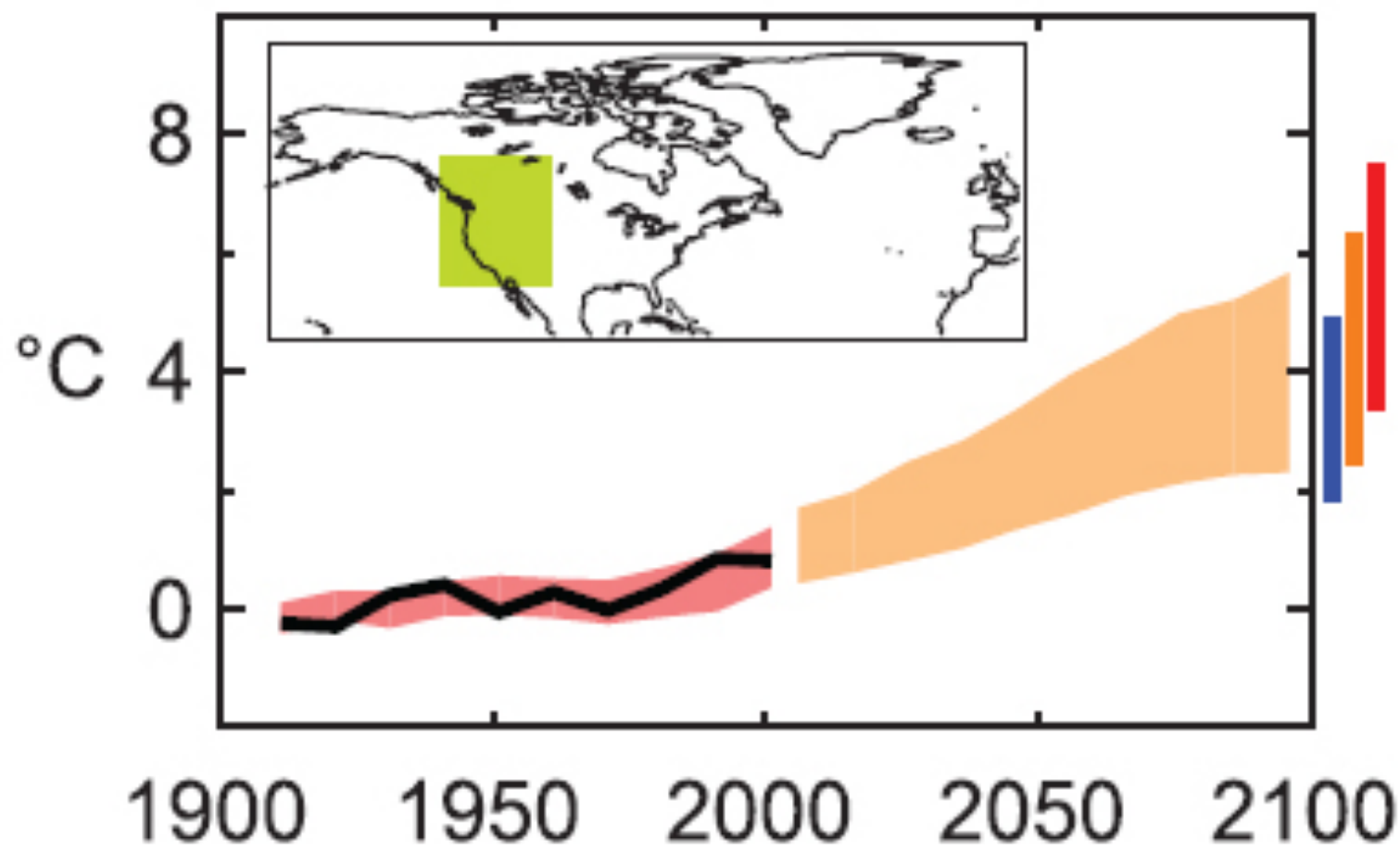


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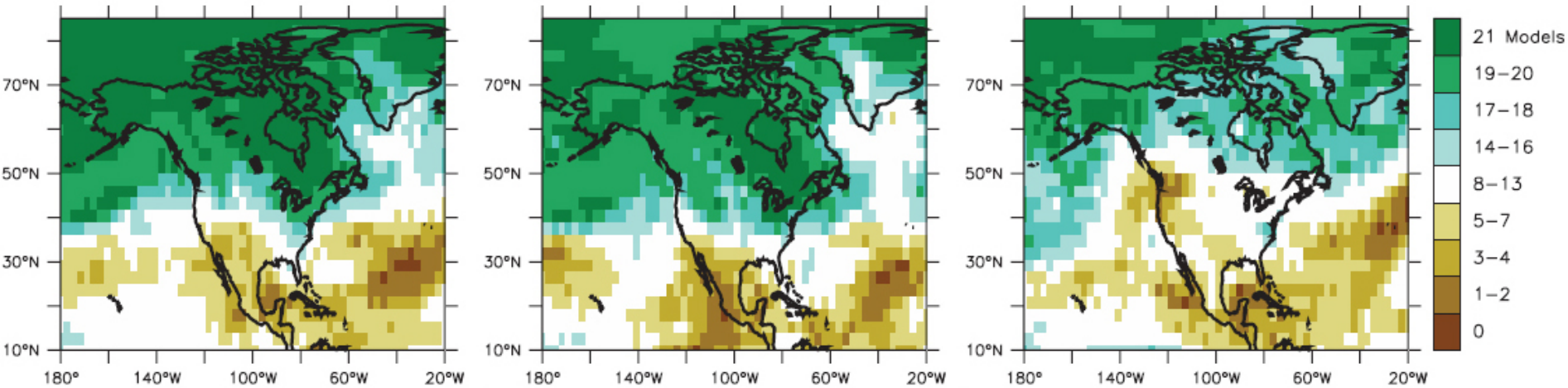
WNA



Annual

Winter

Summer



Model Agreement on Precipitation

Anticipatory Governance

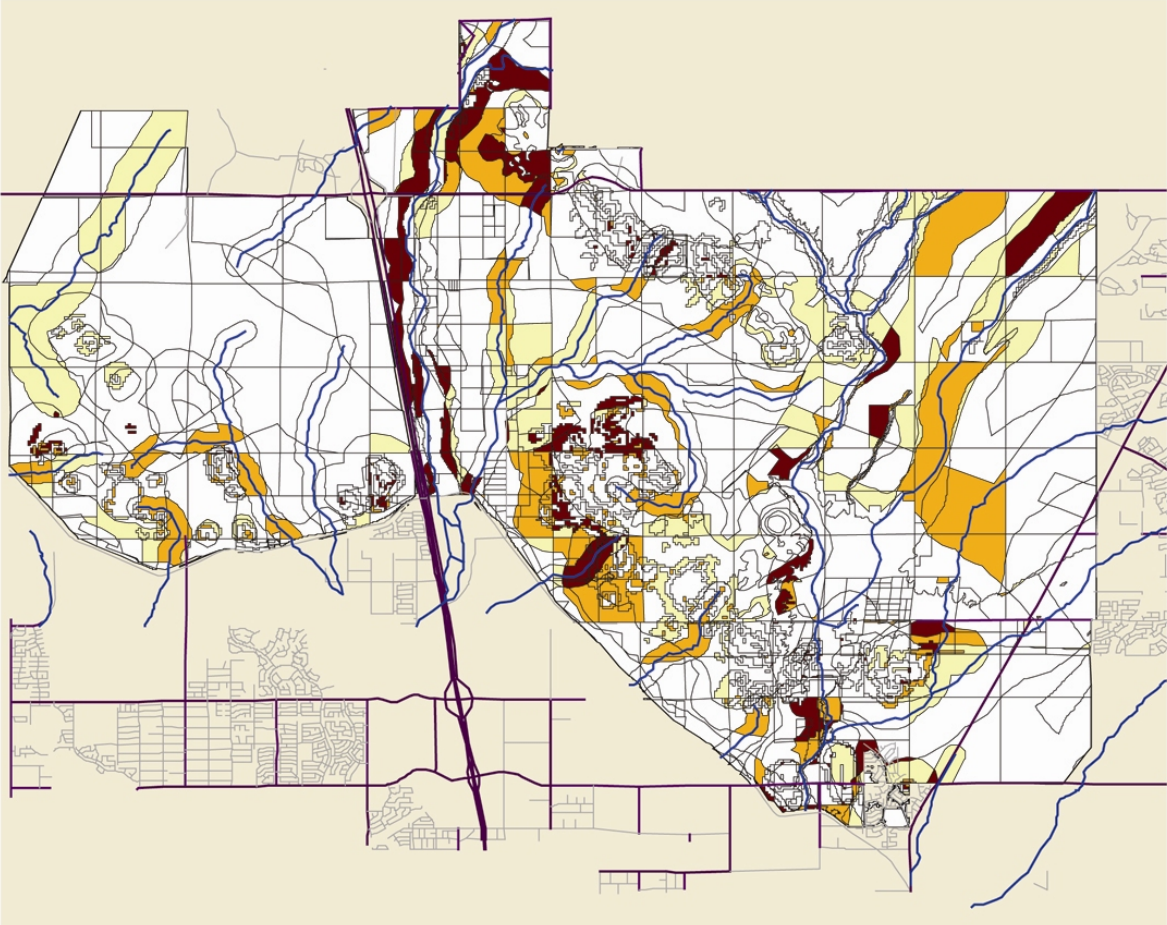
- Anticipate a wide range of possible futures
 - Focus on range of possible, not best or most likely
- Develop multiple strategies for multiple futures
 - Anticipate what strategies may be appropriate short term and long term given range of possible futures
- Monitor changing conditions over time
 - Monitor key precursors and short term predictors
- Over time act appropriately
 - as anticipated

Anticipatory Strategies

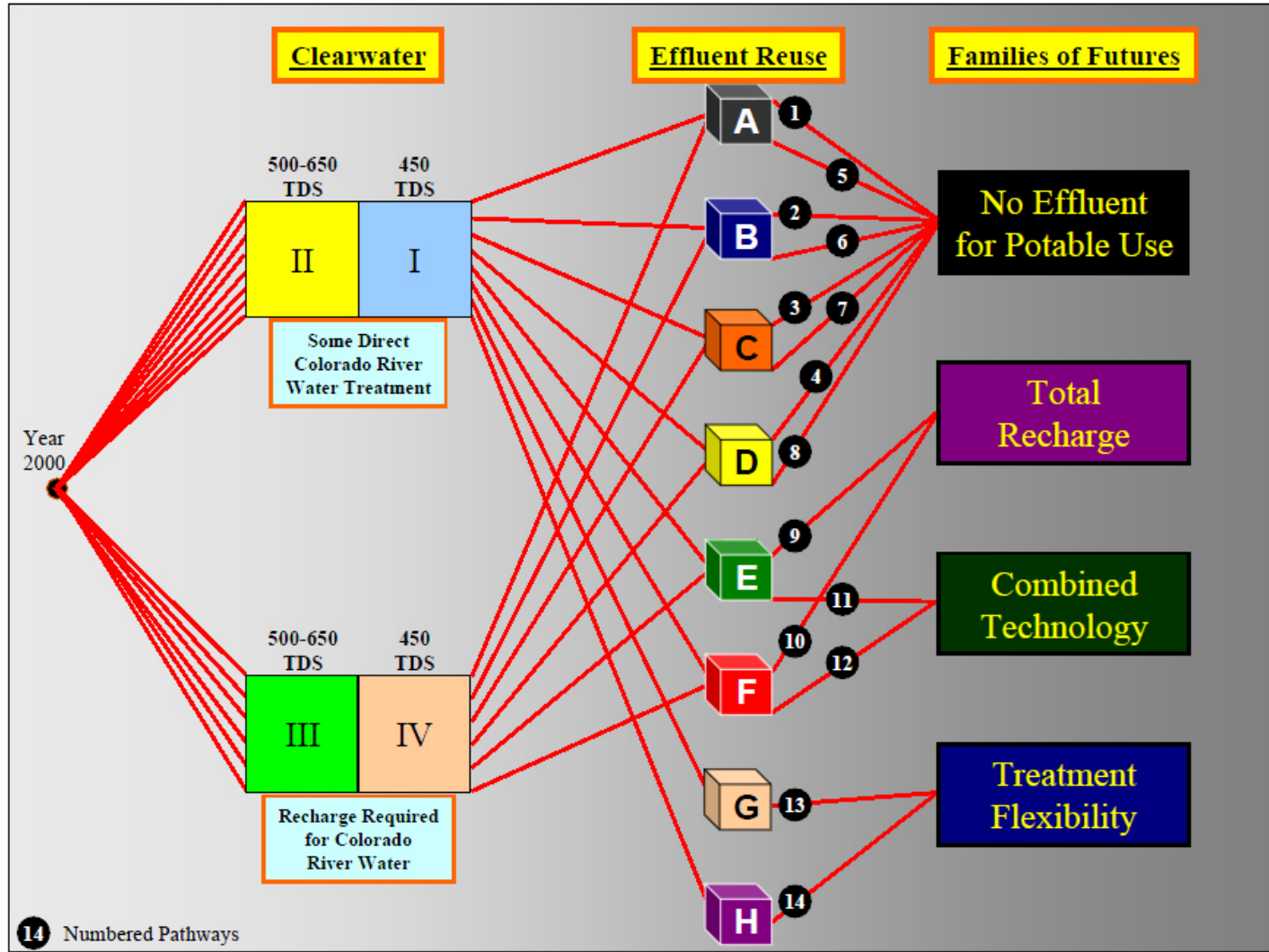
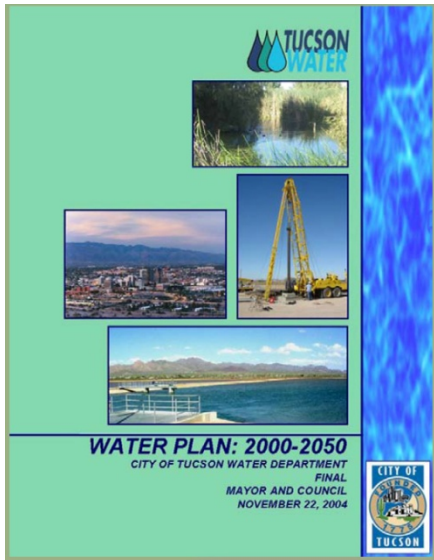
- Anticipatory Strategy Concepts
 - Risk Management (exposure and impact)
 - Robust, No Regrets, Worst Case, Risk Management
- Qualities of Successful Anticipatory Strategies
 - Incremental/Flexible
 - Incorporate Triggers
 - Based on Regular Evaluation
 - Institutionalized
 - Metrics for Strategy and Change

Likelihood Magnitude	Low	Medium	High	Virtually certain/ Already occurring
High	Orange	Red	Red	Red
Medium	Yellow	Orange	Red	Red
Low	Yellow	Yellow	Orange	Orange

Risk of Not Achieving Preservation Acquisition Goals

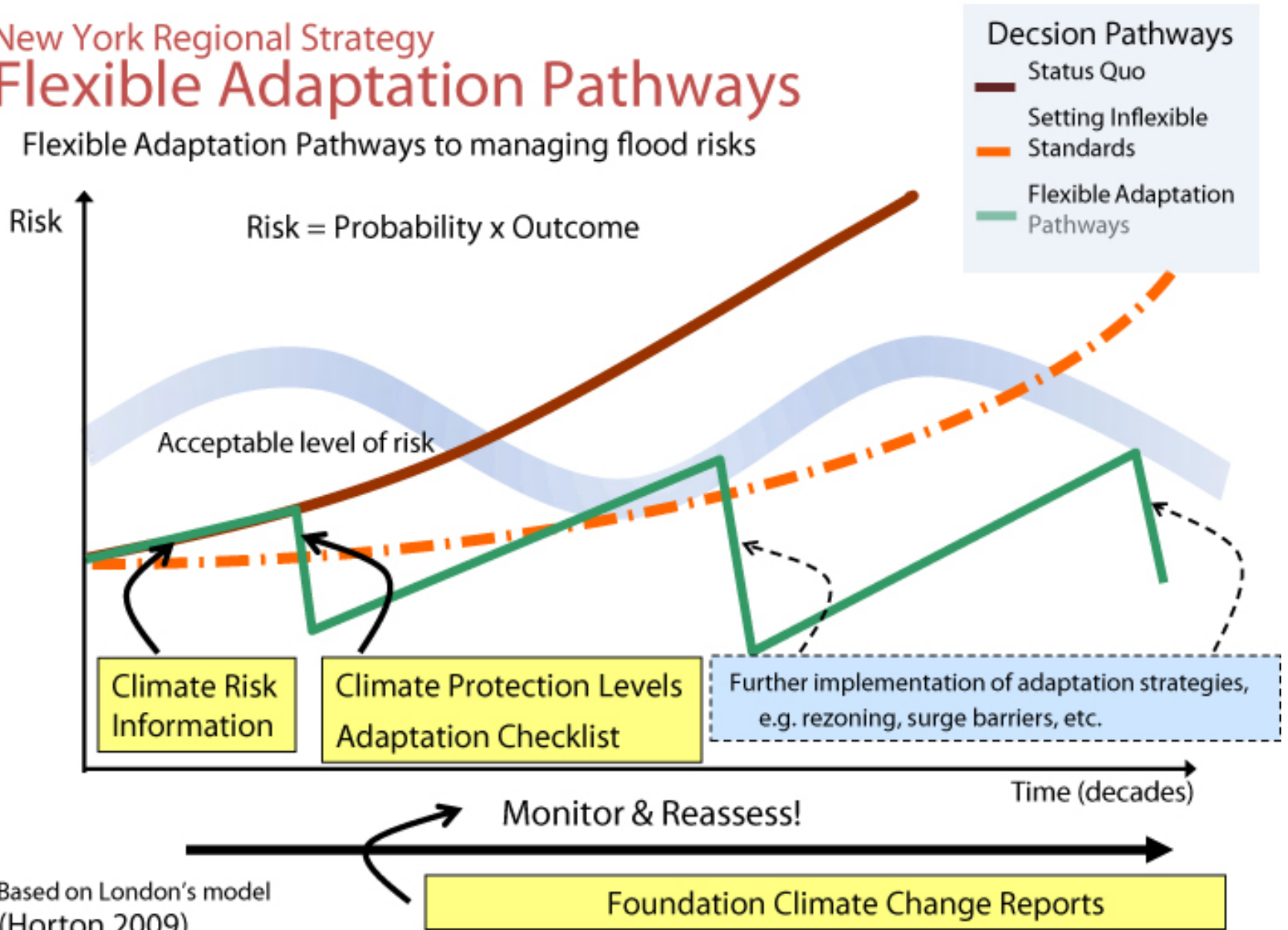


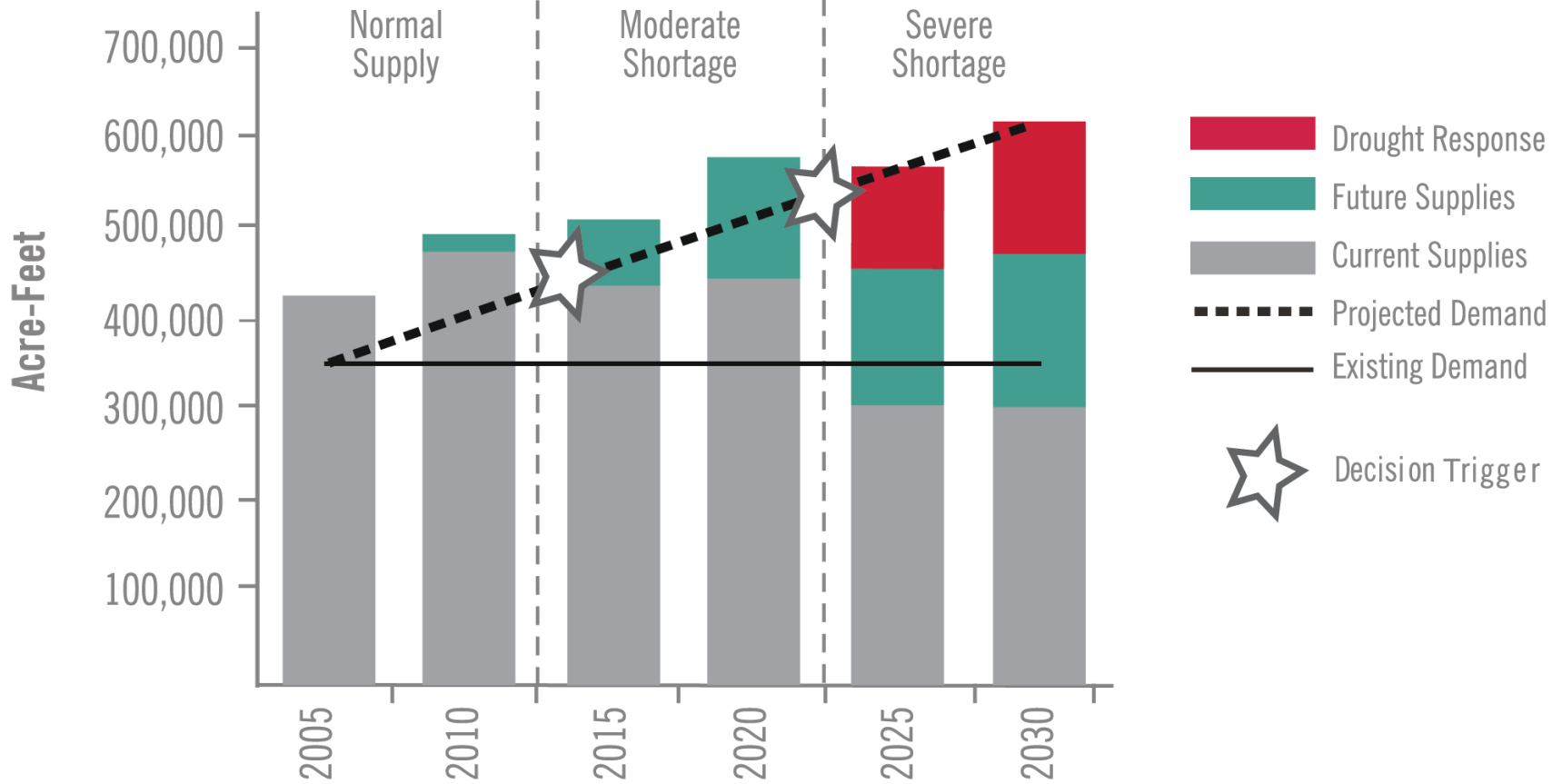
Little Risk Low Risk Moderate Risk High Risk



New York Regional Strategy Flexible Adaptation Pathways

Flexible Adaptation Pathways to managing flood risks





Information

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