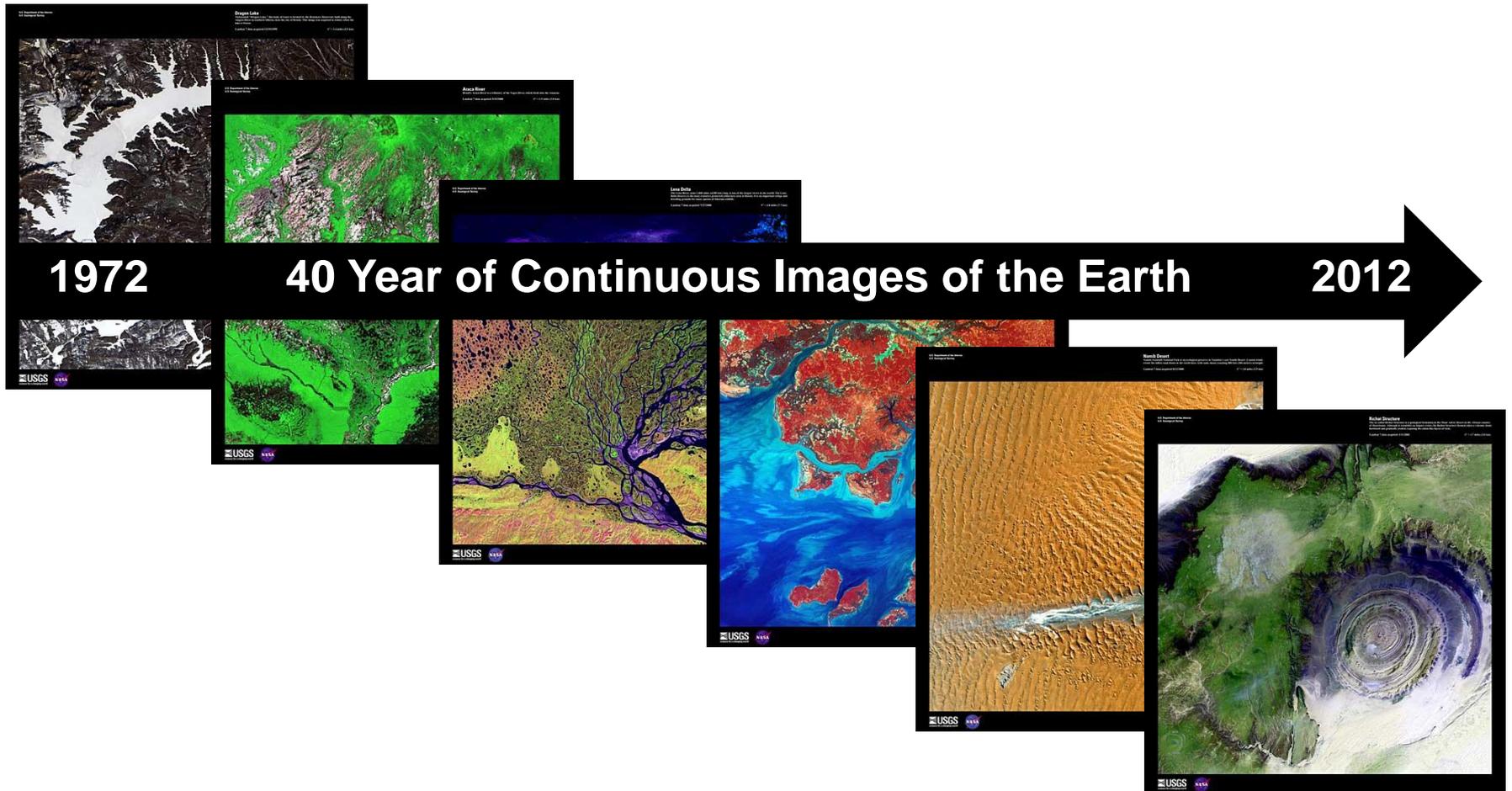


# Improving the Way the Government Does Business

**The Value of  
Landsat Moderate  
Resolution  
Satellite Imagery  
in Improving  
Decision-Making**

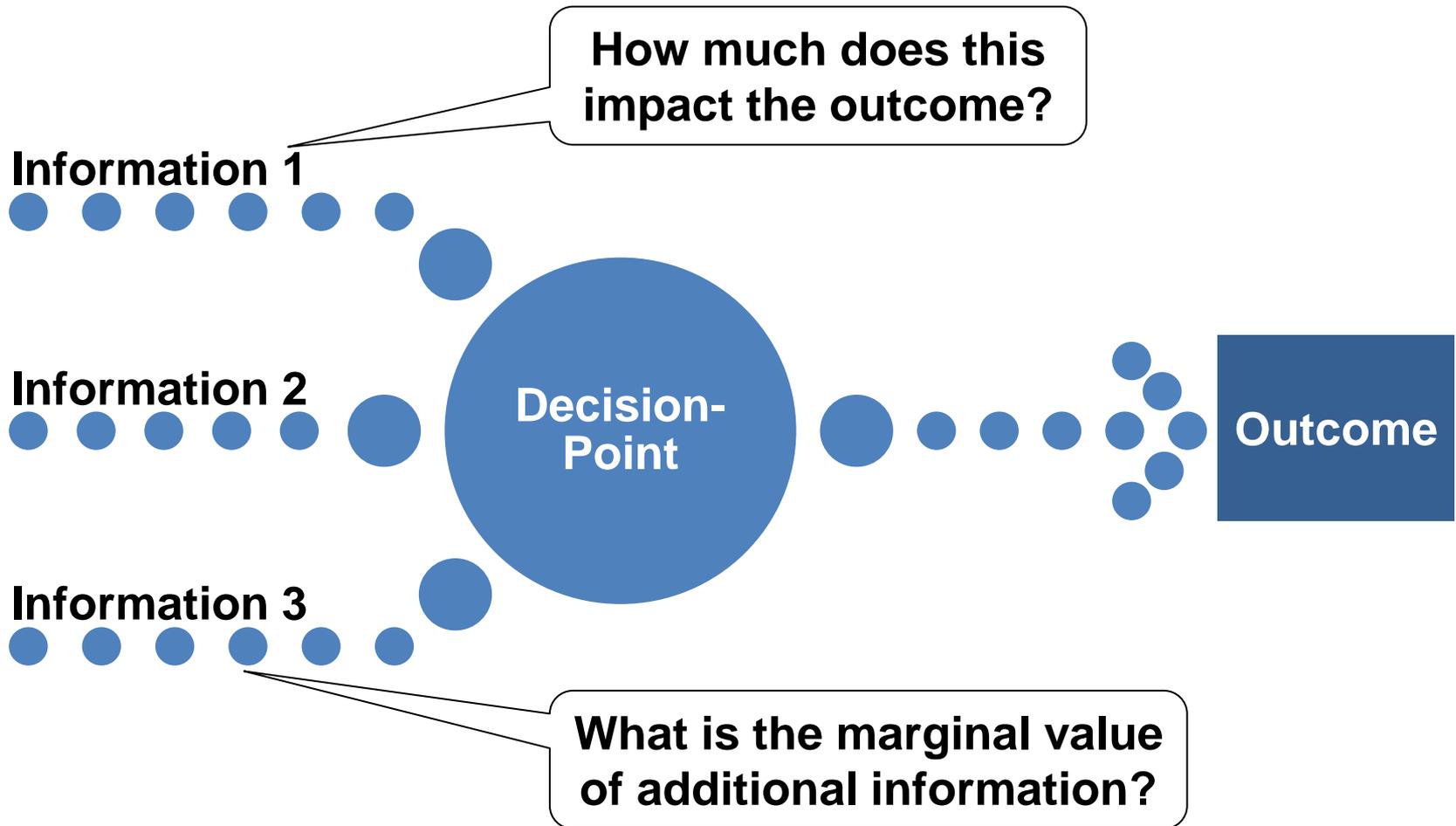


# LANDSAT Moderate Resolution Earth Imagery



# What is the Value of Information?

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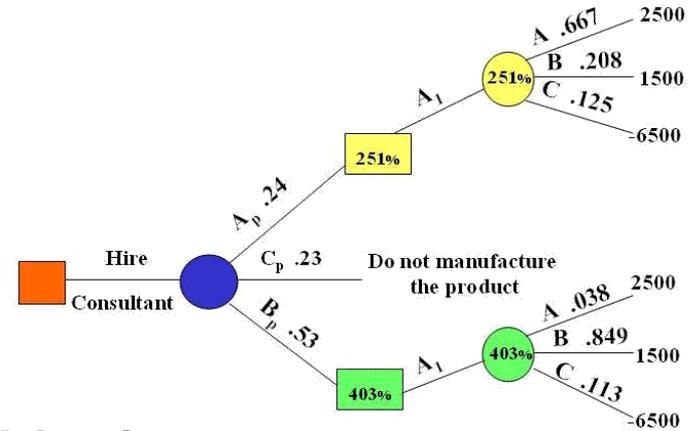


# Methods for Estimating Economic Value

## Price- and Cost-Based Derivation



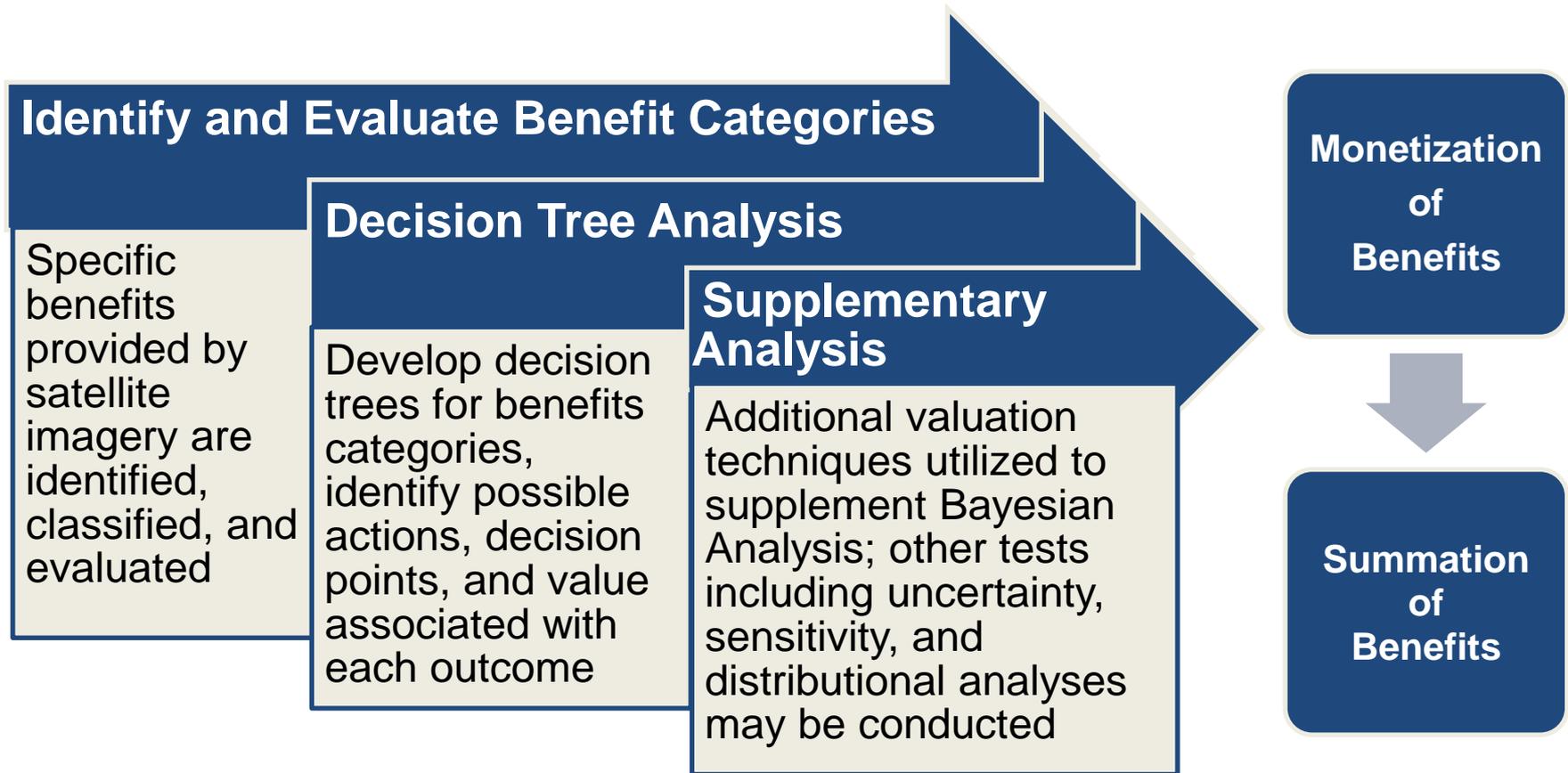
## Bayesian Network: Decision Tree Analysis



## Contingent Valuation: Stated Preference

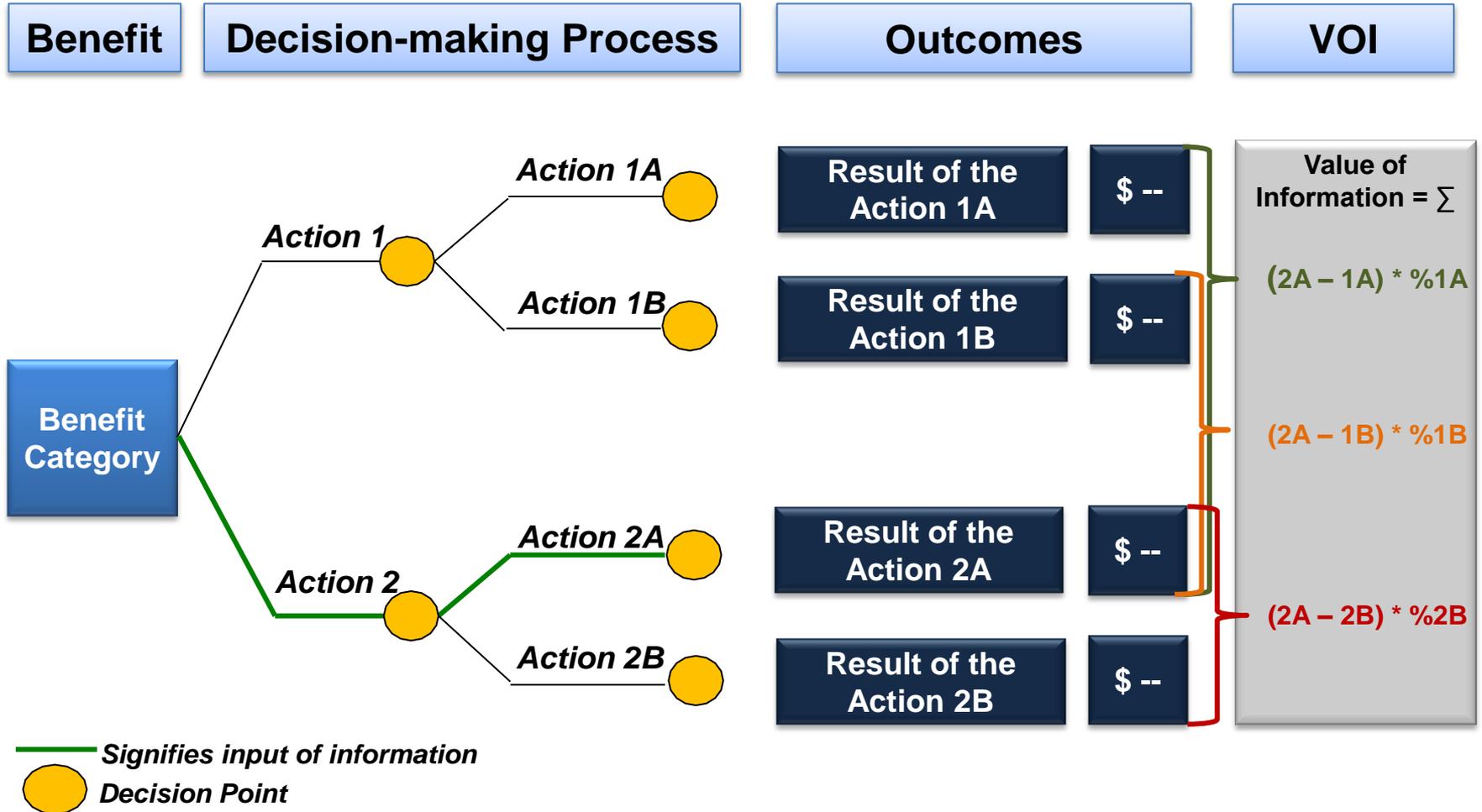


# A Multi-Faceted Approach to the Estimate Benefits of Earth Imagery



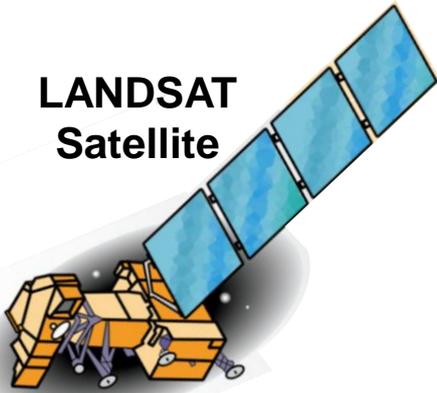
# Bayesian Network Decision Tree Analysis

*Approach Captures the Direct, Indirect, and Ancillary Benefits*



# Case Study: LANDSAT Moderate Resolution Geospatial Data Provides Multiple, Extensive Benefits

**LANDSAT  
Satellite**



**Homeland Security**



**Wetland Protection**



**Agricultural Forecasting  
& Management**



**Climate Change Science**



**Water Resource  
Analysis &  
Management**



**Disaster Management**



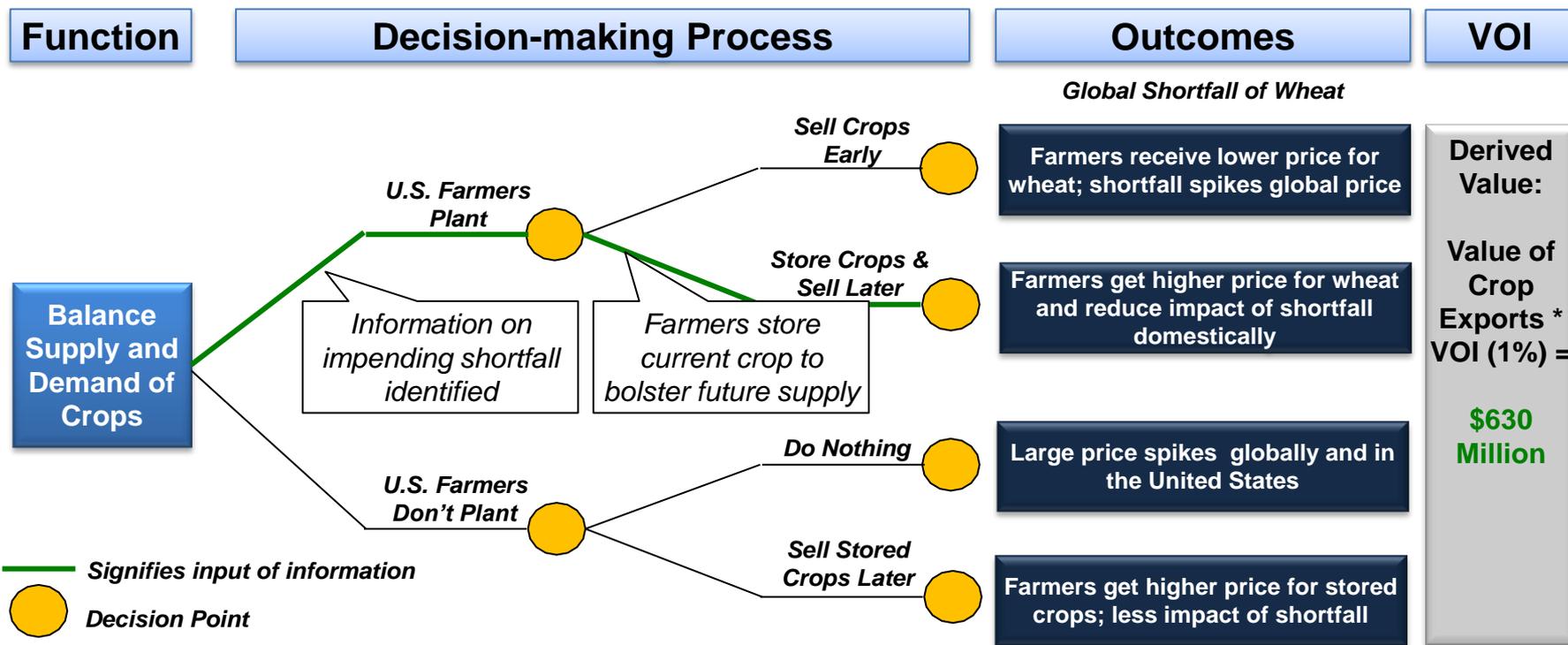
**Infrastructure Analysis**



# Agricultural Forecasting & Management



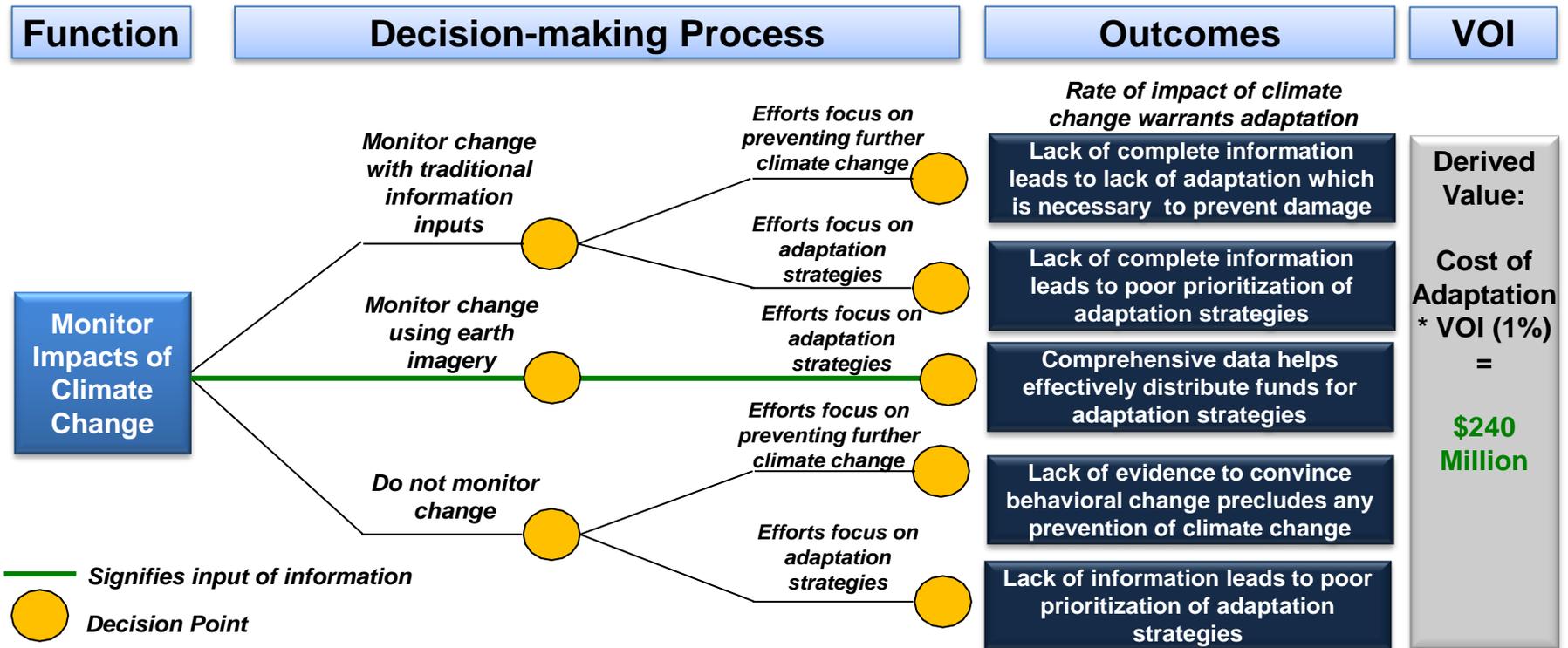
USDA monitors global crop supplies and stocks to forecast shortfalls or gluts of various crops on the market. Important function which benefits U.S. food security, economic security, and national security.



# Climate Change Adaptation



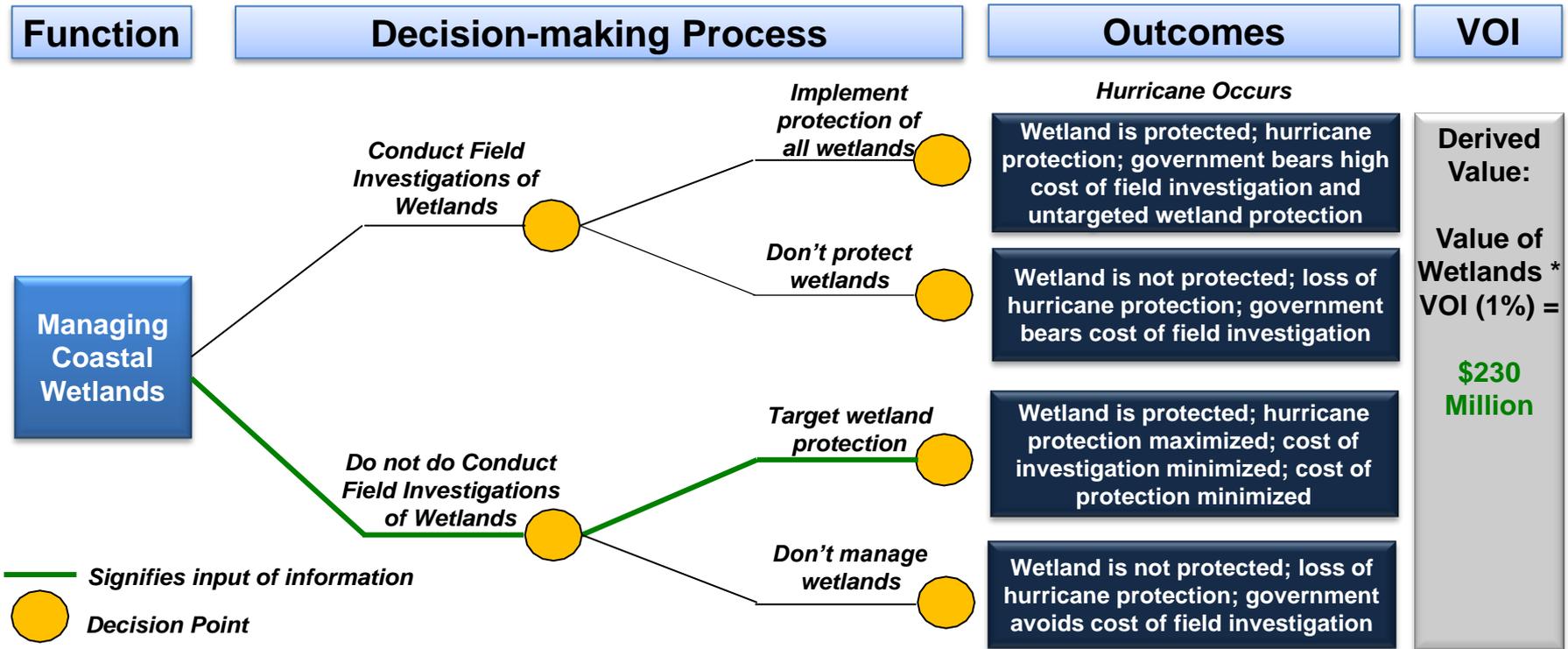
Data is used to monitor impacts of global climate change on remote regions including glaciers, rainforests, and coral reefs.



# Monitoring Coastal Wetlands



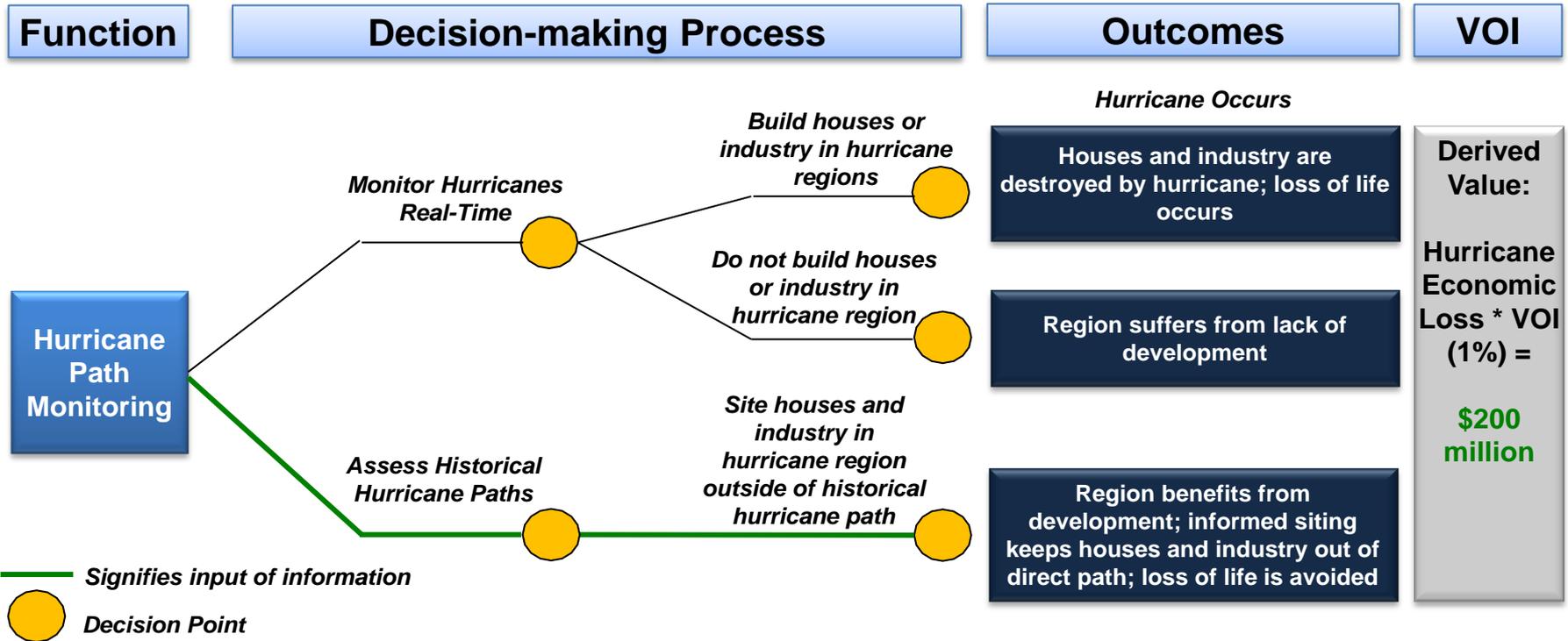
Observe and track impacts of natural and human impacts on coastal wetlands. Continual monitoring using earth imagery allows scientists to better manage, protect, and recover coastal wetlands. Value of wetlands has been estimated for their protection against hurricanes.



# Emergency/Disaster Management - Hurricanes



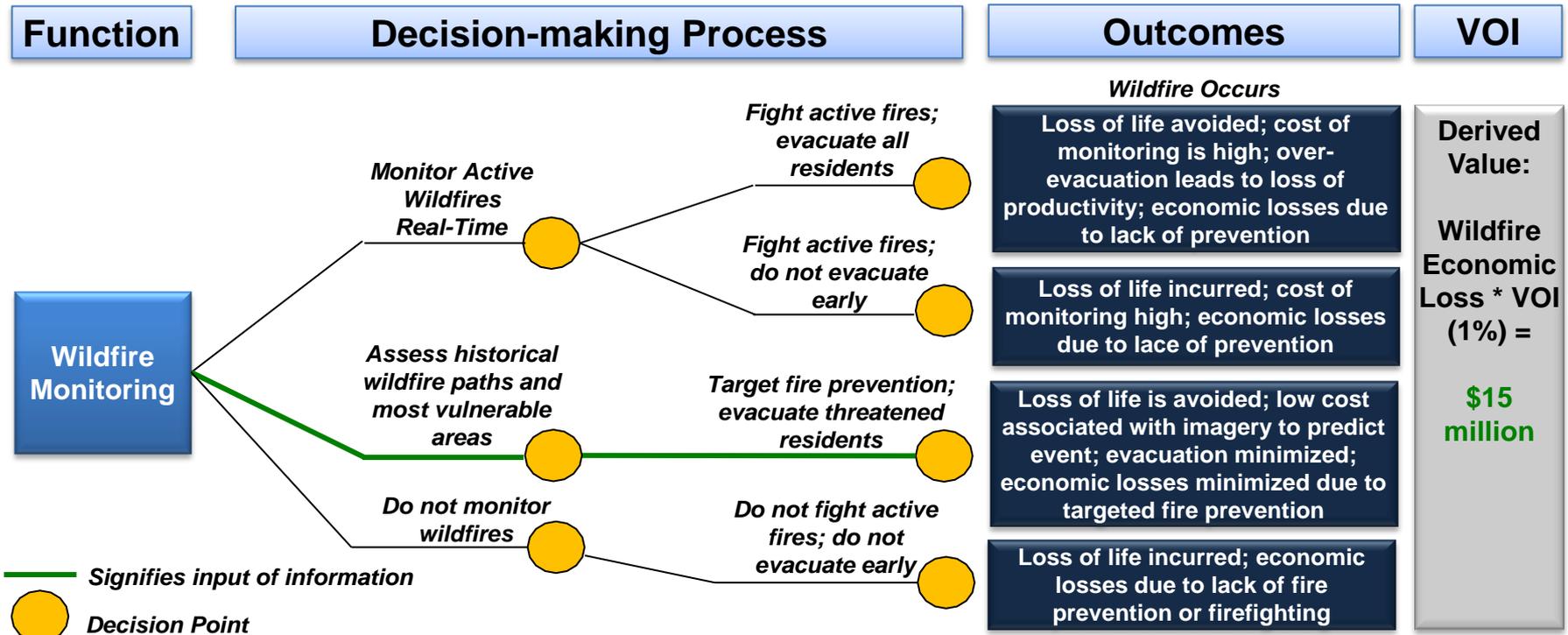
Imagery is used to map and analyze hurricane paths to predict future occurrence paths and minimize economic damage and loss of life.



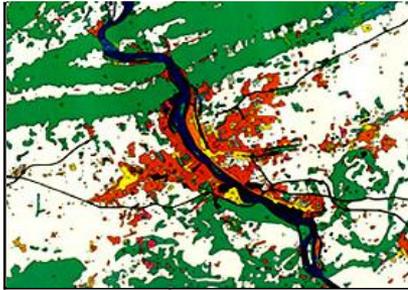
# Wildfire Analysis and Management



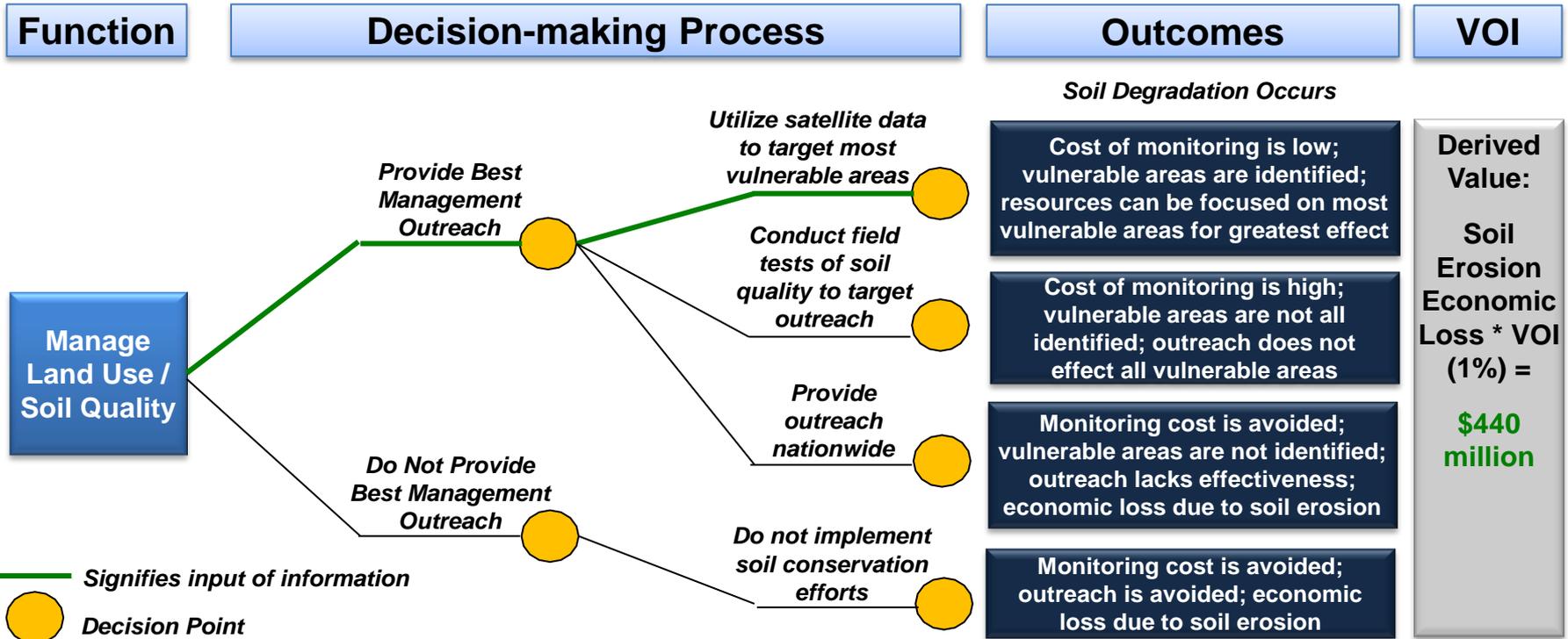
Imagery is used to monitor active wildfires and assess historical fires to improve and target management practices; preventative measures such as reducing understory are more effective and efficient than fire fighting.



# Monitoring Land Use Change



The USDA Natural Resource Conservation Service identifies land use change and soil erosion; implement best management practices to preserve soil quality and target most vulnerable regions.



# Why Evaluate the Benefits of Geospatial Information?

## 'Value of Information' Significance

- ❖ Benefits estimation supports:
  - ❖ Congressional Budgetary Requests
  - ❖ Program Justification
  - ❖ Performance Measurement
  - ❖ CPIC IT Exhibit 300 Processes
- ❖ Underestimating the value of information can lead to:
  - ❖ Loss of Funding and/or Support
  - ❖ Program Cutbacks and Associated Loss of Program & Ancillary Benefits

## Decrease in geospatial data could lead to devastating impacts worldwide:

*Critical Infrastructure Vulnerability*



*Illegal Logging*



*Land Use Change*

*Undetected Sea Ice Melt*



# Contact Information

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- ▶ For more information on Booz Allen's 'Value of Information' Approach, please contact:

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