

# Gulf of Alaska Fishing Communities and Climate Change Adaptation

## NPFMC Climate Scenarios Workshop

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# Fishermen are on the frontlines of climate change

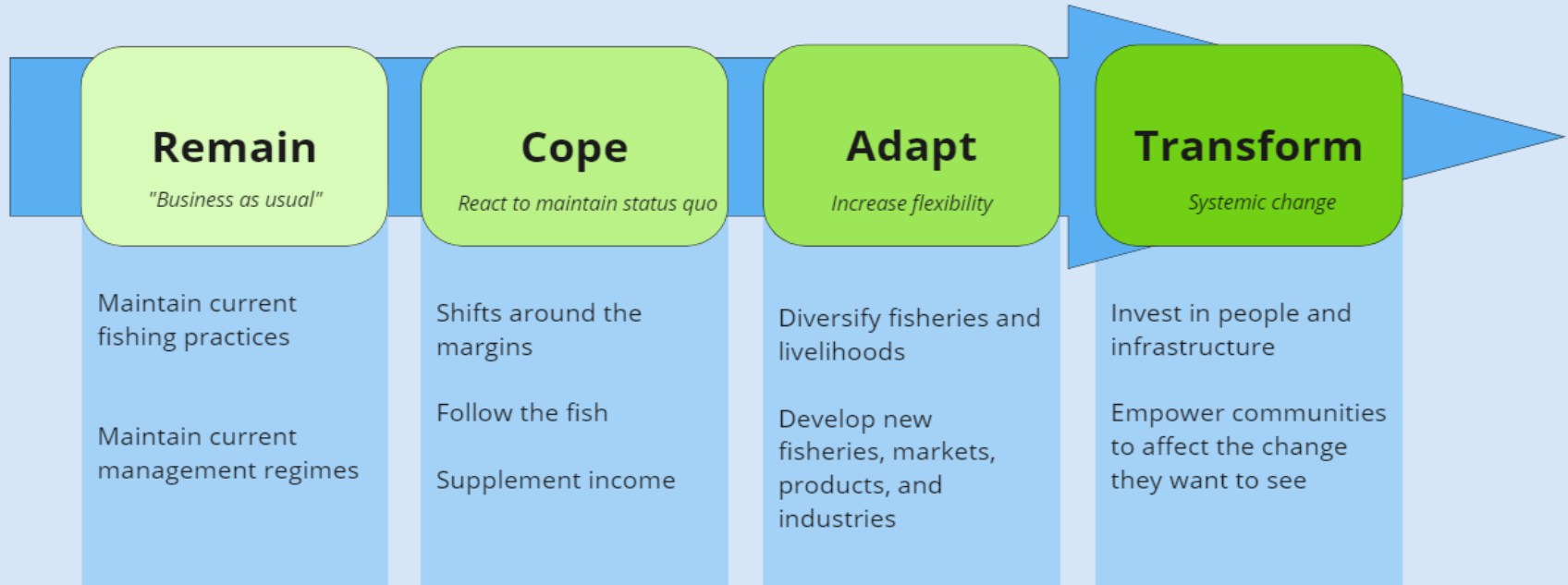
- Shifting baselines of stock health, fish health, and economic and social opportunities in fisheries
- Impacts are compounding and cascading, intersect with underlying vulnerabilities
- Undermined well-being
  - Physical safety
  - Mental health
  - Social relationships

<b>Smaller fish</b>	<b>Warming waters</b>	<b>Less food in the system</b>
<b>Greater stock variability</b>	Timing and strength of runs is less predictable	<b>Poorer fish quality</b>
<b>More powerful storms</b>	<b>Shifting seasons</b>	More precipitation variability
<b>Algae and jellyfish that plug nets</b>	<b>Fish migration offshore</b>	Ocean acidification

# Adaptation happens on a spectrum

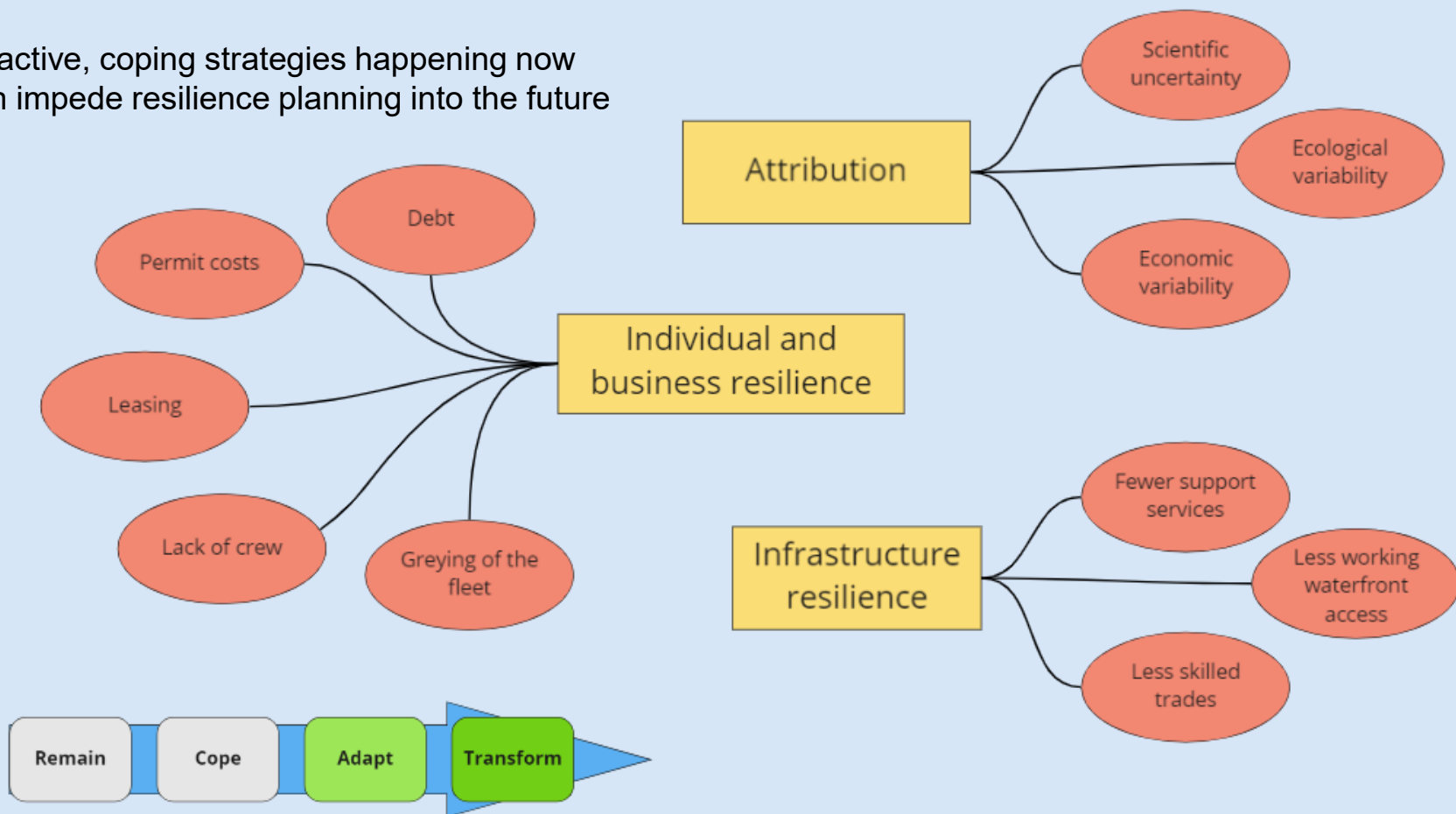
Limited and reactive change  
Short-term perspective

Proactive and systemic change  
Long-term perspective



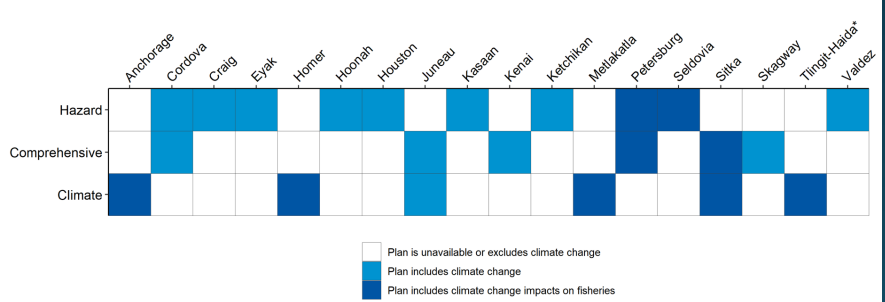
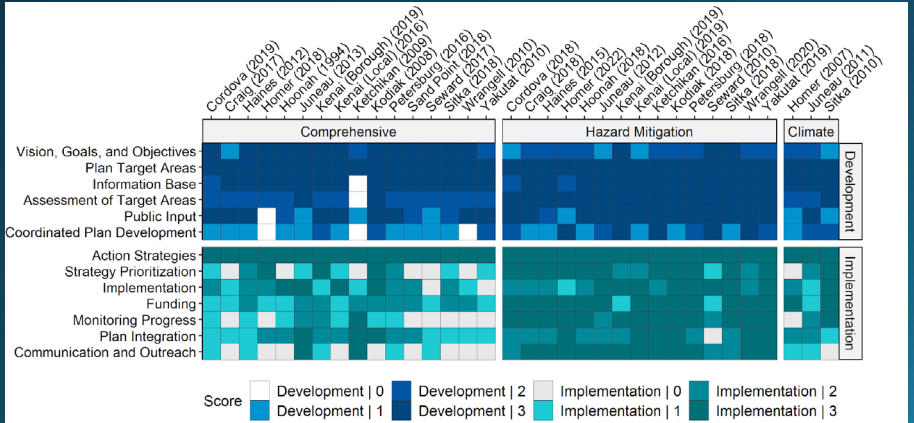
# Barriers to adaptive and transformative response

Reactive, coping strategies happening now can impede resilience planning into the future



# Coping - Adaptation planning for Gulf of Alaska communities is strikingly absent

- Very limited engagement on climate impacts on fisheries in community planning documents
  - Tribal governments are leading in climate adaptation planning in the region
  - Synergies should be built with these plans
- Some hazard plans have integrated climate change as a formal hazard
  - But still very limited discourse on fisheries impacts
- Other mandated community plans could be used to integrate climate planning



# How do Gulf of Alaska communities talk about resilience?

Science and management enterprise



Government and policy

Public discourse

# Climate planning for fishing communities

**A cross-regional  
Gulf of Alaska fishing community  
effort to understand and plan  
for climate change.**



**NOAA  
FISHERIES**



PRINCE WILLIAM SOUND  
**SCIENCE CENTER**

  
Alaska Marine Conservation Council  



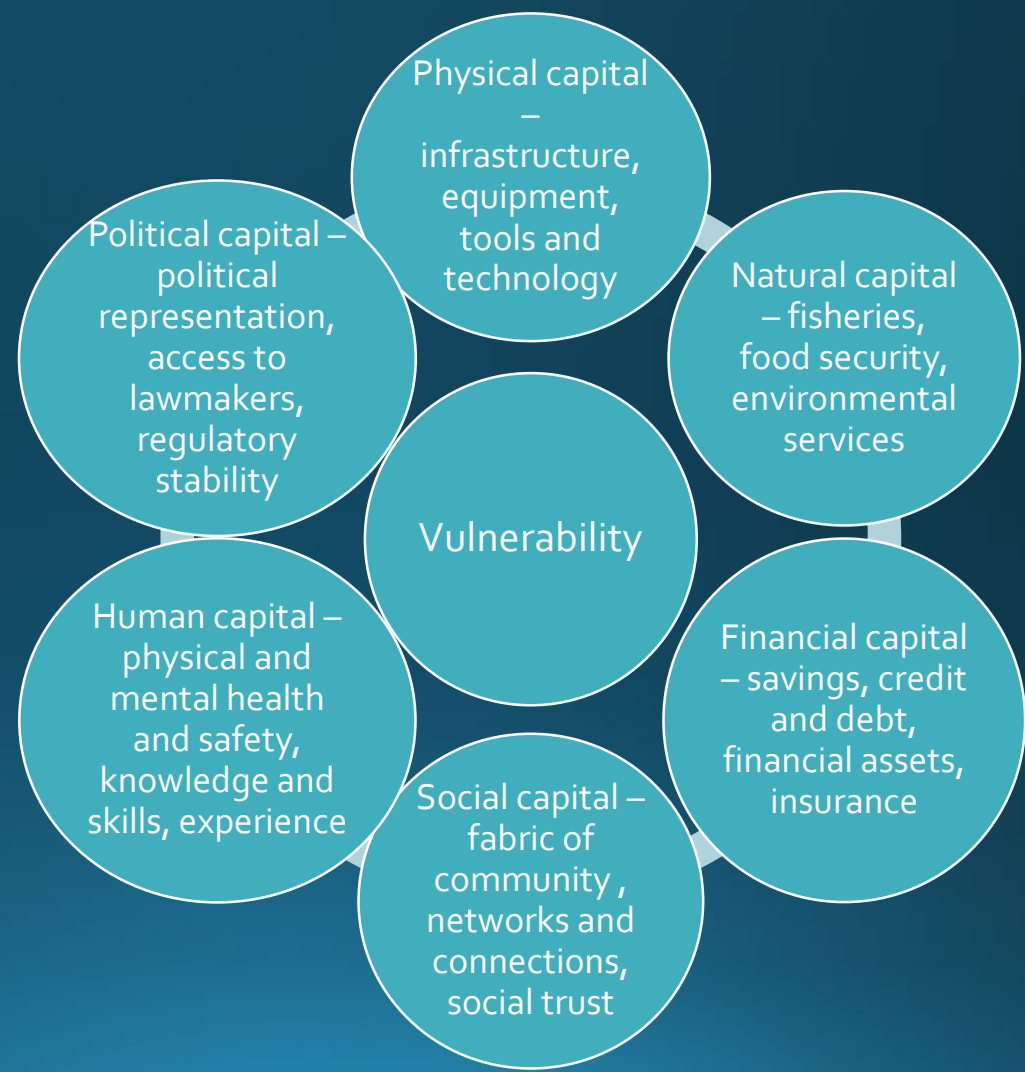

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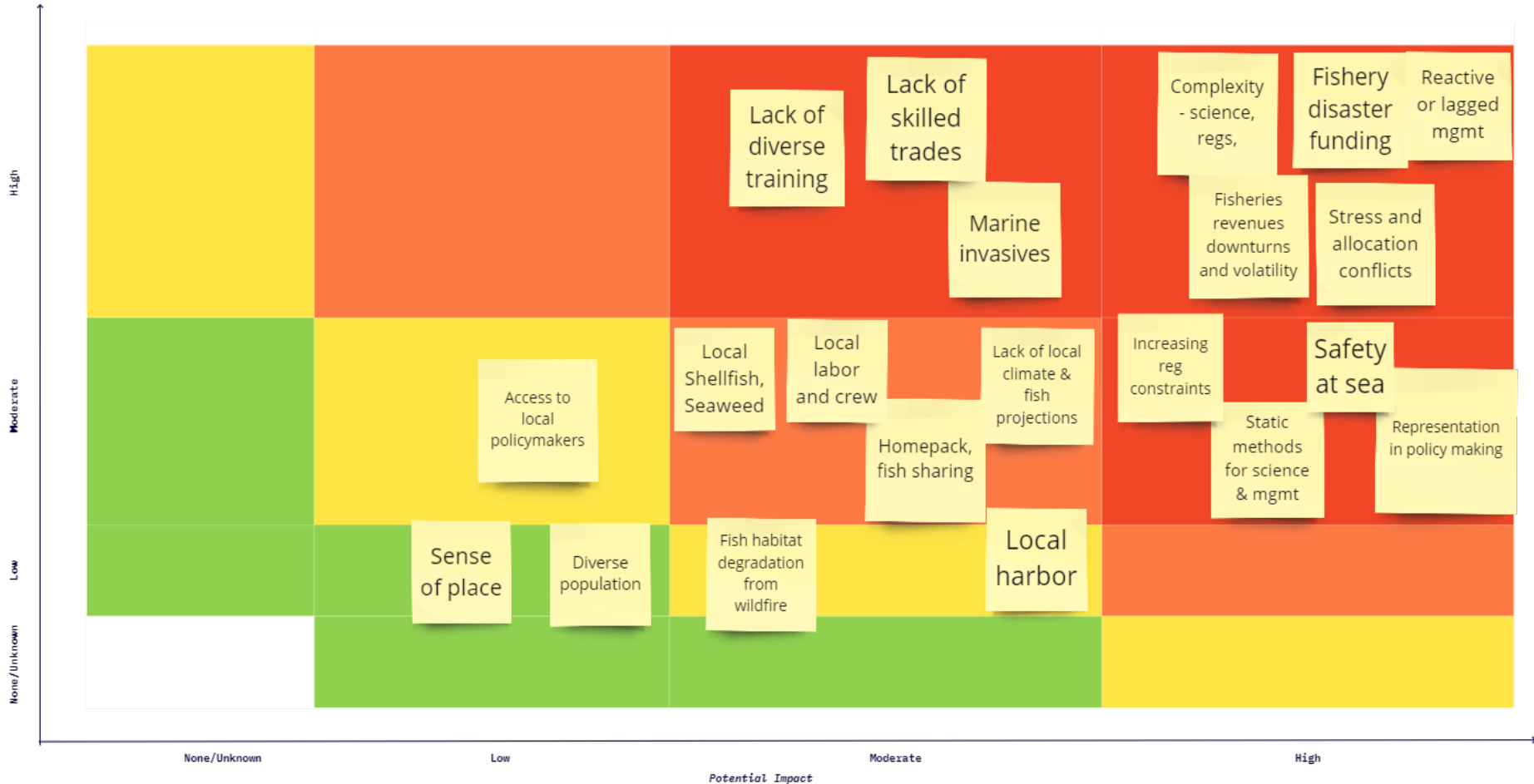
# Moving from coping to planning

- Understanding fishing communities multidimensional vulnerability across physical, natural, financial, social, human, and political capital through participatory approach

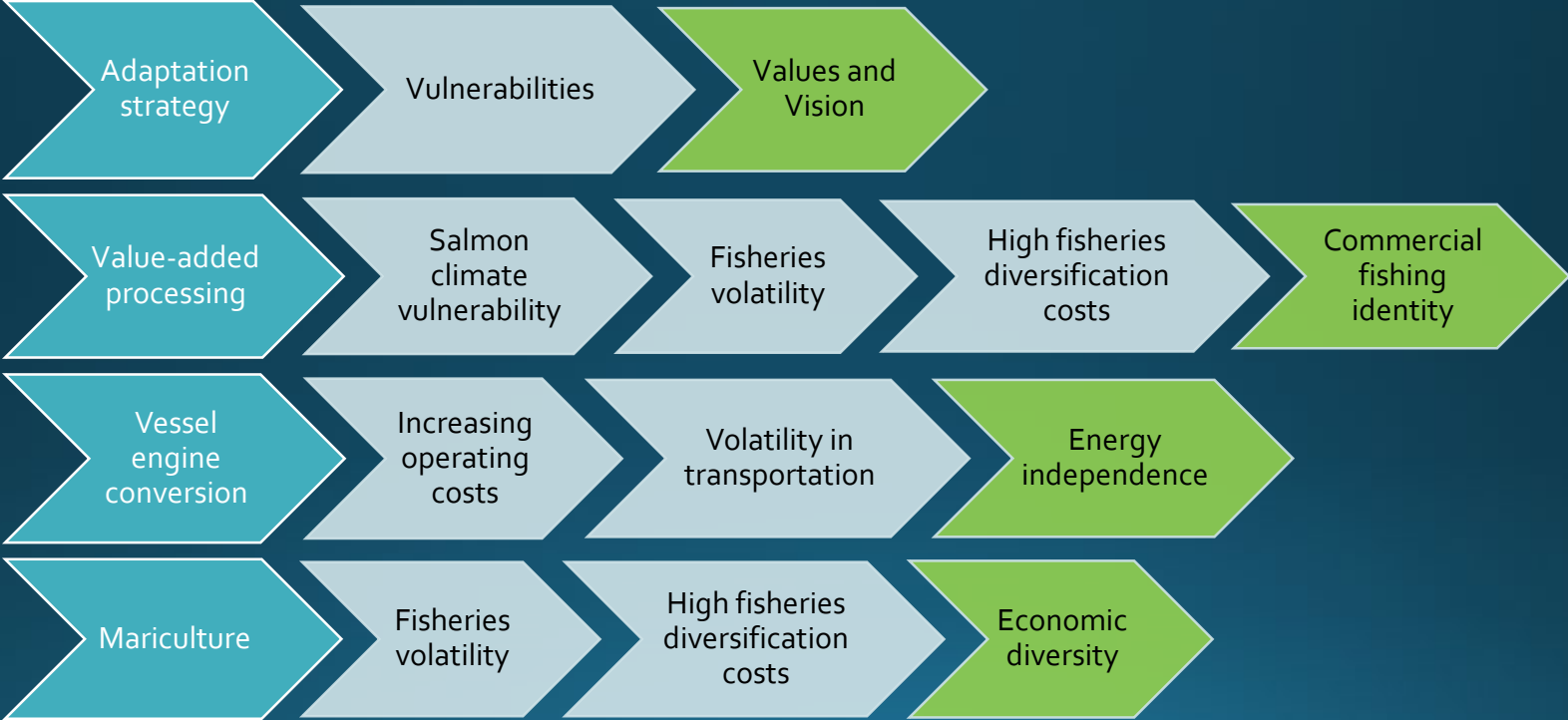




# Examining multifaceted vulnerabilities



# Syncing visioning, vulnerabilities, and adaptation pathways



# Communities are planning across this spectrum

## Persistence

- Improve disaster relief

## Adaptability

- Integrate fisheries into USDA programs

## Transformation

- Equitable, accessible, diversified fisheries science & management

*Resilience is the capacity to persist, adapt, and transform.*

## Summary points



- Climate change is already adversely impacting Gulf of Alaska fishing communities, building on systemic issues.
- Adaptation is ad hoc but resilience ideas are diverse and many.
- Increasingly focusing on implementation research to provide the science to facilitate adaptation and transformation in Gulf of Alaska fishing communities
  - Grounded in participatory and collaborative approach
- Climate planning for fishing communities



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