# Evolving USGS Chesapeake Studies: 2020-2025

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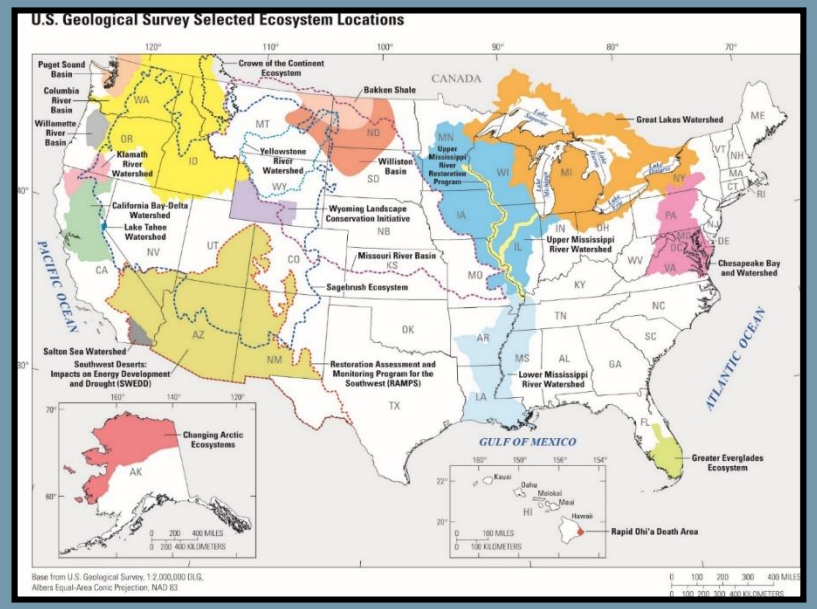
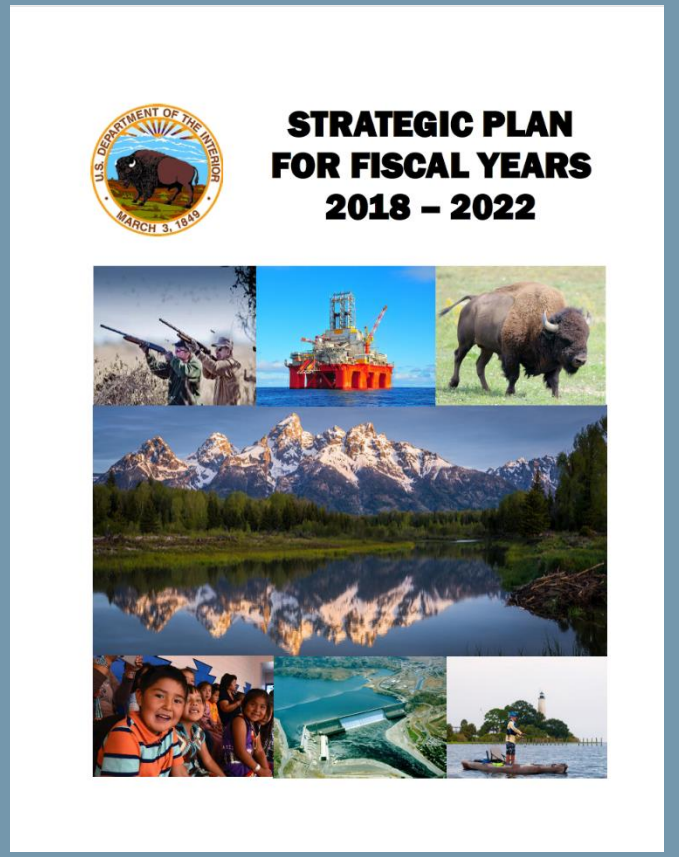
USGS Chesapeake Bay Coordinators

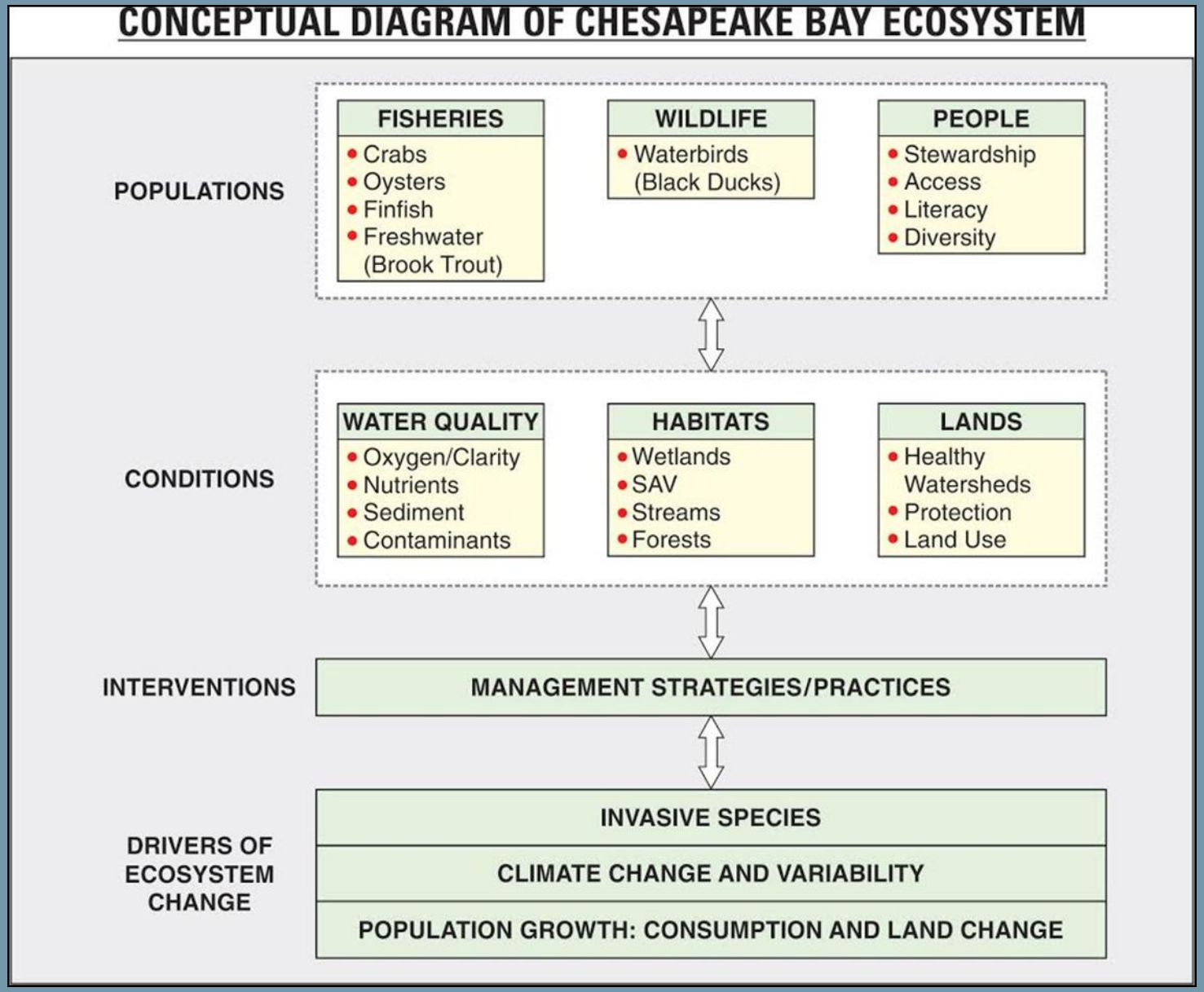



# Align with Stakeholder Priorities

- **Chesapeake Bay Watershed Agreement**
  - Goals and Outcomes
  - Many align with DOI and USGS responsibilities
- **USGS Priorities**
  - Land, water, and species management
  - Safeguard communities
  - Deliver mapping and land imaging
- **DOI Priorities**
  - Conserving our land and water
  - Protecting people
  - Modernizing infrastructure




# USGS Chesapeake Science Themes




## USGS Themes:

1. Stream health, fish habitat and aquatic conditions
2. Coastal habitats and waterbirds
3. Land change and forecasting
4. Integrate science and inform ecosystem management

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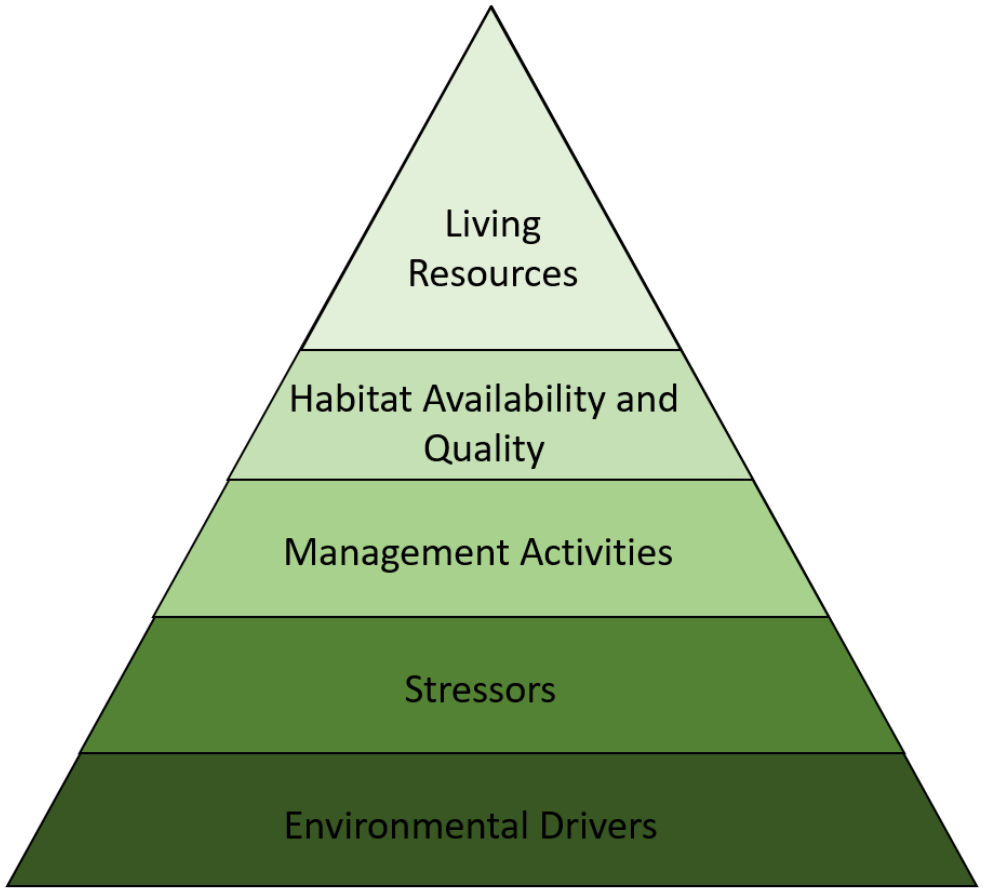
# Theme 1: Stream Health, Fish Habitat and Aquatic Conditions




## Focused studies of habitat settings

- Streams: Stream health, benthic organisms, aquatic conditions, and response to BMPs
- Rivers: Fish health, disease, contaminants, and response to BMPs
- Cold water: Brook trout, thermal conditions
- Estuary: Clarity and dissolved oxygen changes to nutrient loading, invasive species

## Regional stream & fish-habitat assessments

- Streams and macroinvertebrates
- Fish habitat
- Invasive species

## Status and Trends

- Fish populations and benthic organisms
- Aquatic conditions

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# Theme 2: Risks to Coastal Habitats and Migratory Waterbirds

## Risks to Coastal Habitats & DOI Lands

- Factors affecting nearshore habitats
- Forecast marsh migration, coastal vulnerability & response
- Relation to waterbird habitats

## Migratory Waterbirds and Habitats

- Waterfowl distribution
  - Multiple species and black ducks
  - Benthic and SAV abundance
- Avian influenza and biological threats


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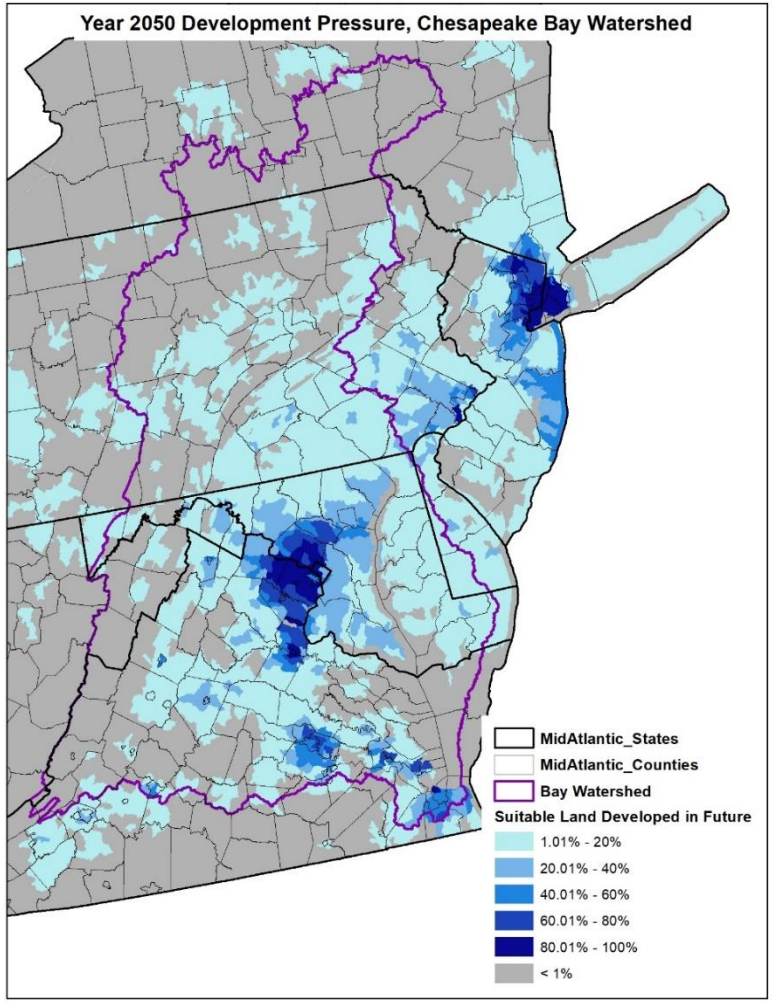
# Theme 3: Characterize Land Use and Change to Assess Vulnerability and Resiliency of Watersheds and Habitats

## Land characterization and change

- Hydrographic & landform datasets
- Monitor land cover/use change
- Land management and BMPs
- Forecast changes

## Explain characteristics affecting vulnerability and resilience

- Assess risk factor and vulnerability
- Watershed characteristics and stream health
- Inform planning and land protection actions




Chesapeake Bay Land Change Model v3a

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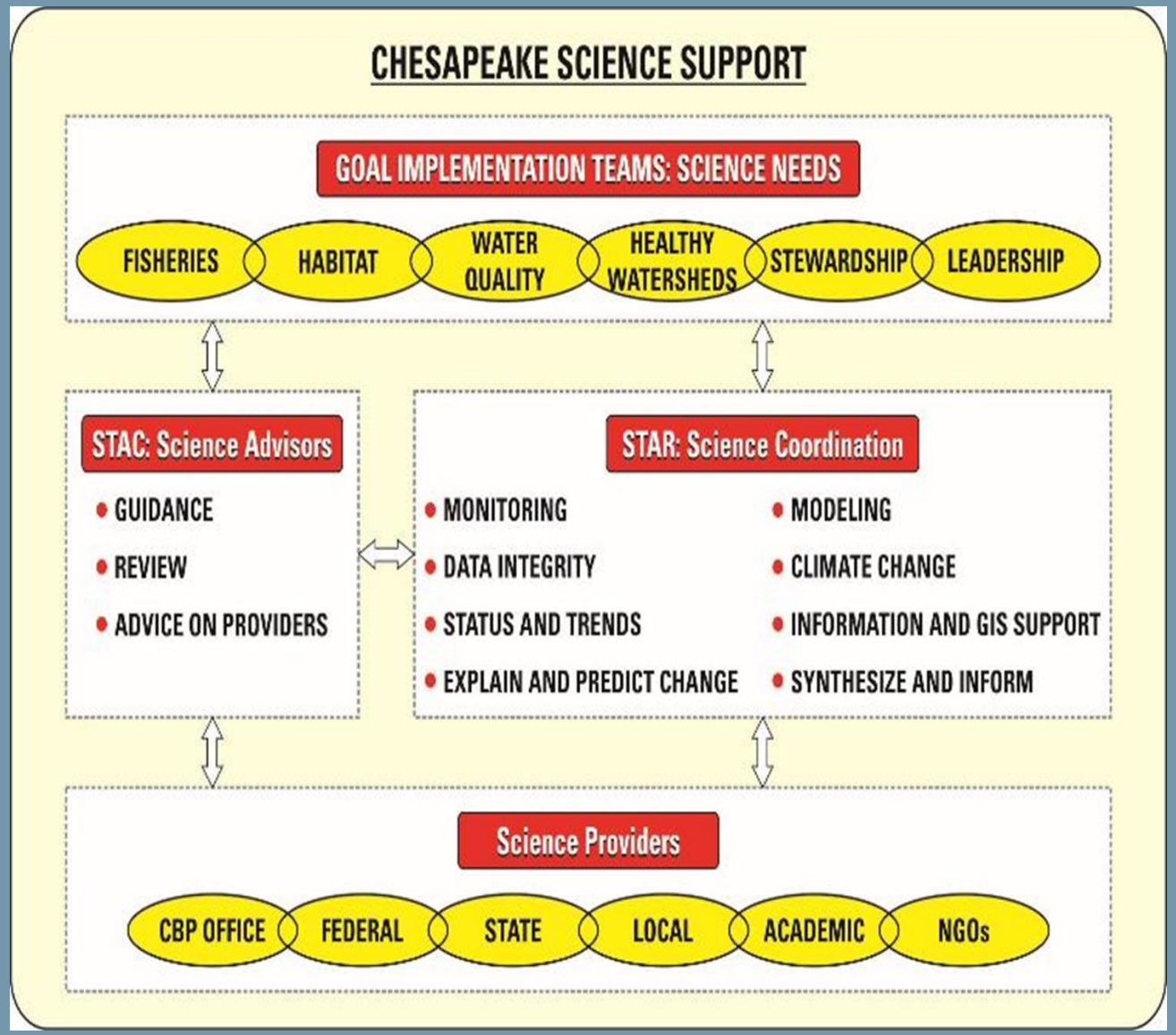
# Theme 4: Integrate Science and Engage Stakeholders




## Science Integration

- Collaboration: Scientists & partners
- USGS Mission Areas and resources

## Data sharing and management

- Align with USGS and CBP efforts
- Develop data-visualization tools

## Interact with stakeholders to inform decisions

- CBP Goal Teams
- National and regional audiences
- Translate and apply science

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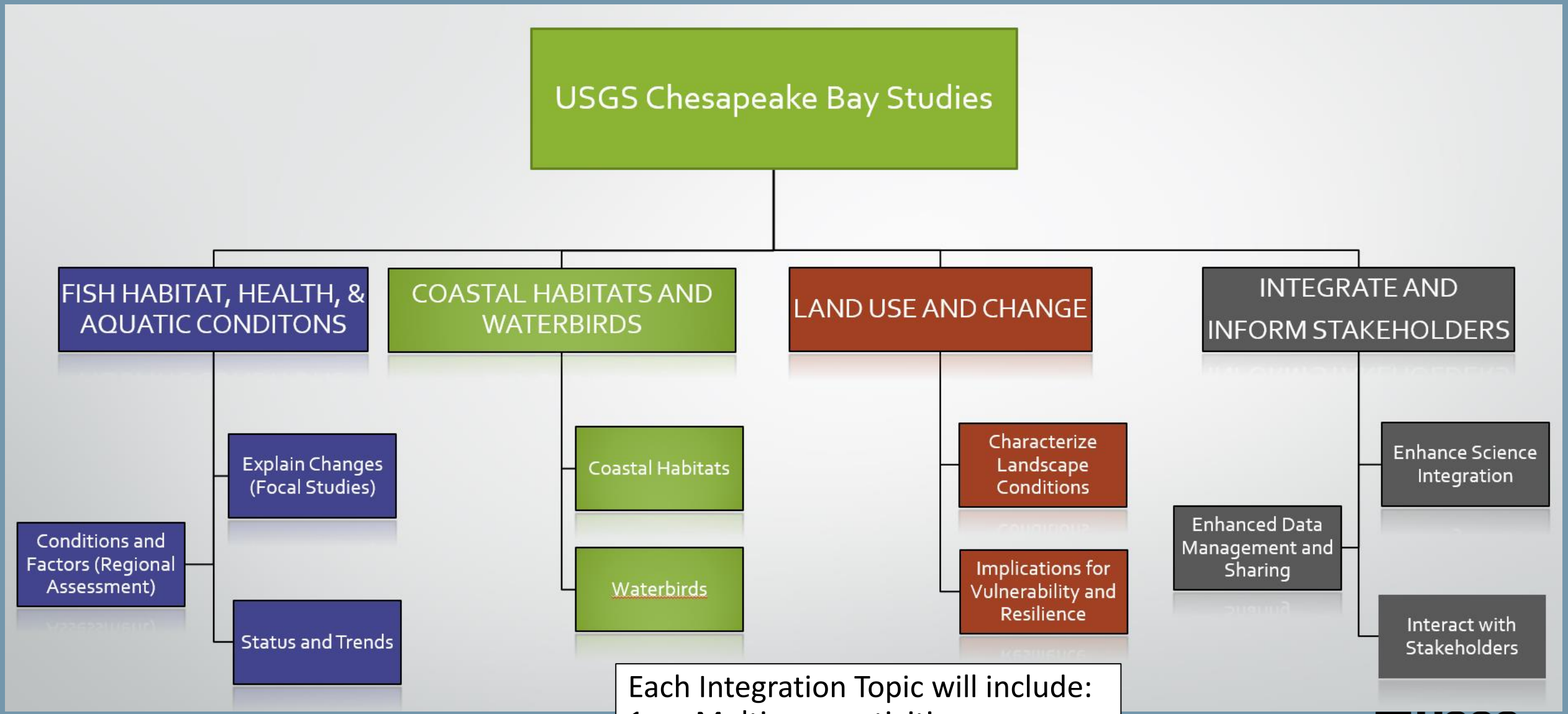
# USGS Chesapeake Science Themes and Topics




Each Integration Topic will include:

1. Multi-year activities
2. Annual tasks

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# Questions and Contacts

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