CLIMATE ACTION TEAM
Ocean and Coastal Resources Working Group ("CO-CAT")

Support Essential Data Collection and Information Sharing

Near-Term Implementation Plan

CO-CAT Working Group Overview:
The Coastal and Ocean Resources Working Group for the Climate Action Team ("CO-CAT") was established with the following objectives:

- Develop consolidated mitigation measures and adaptation strategies list.
- Develop Climate Action Team Near Term Implementation Plan.
- Identify mechanisms and support to implement mitigation measures and adaptation strategies.
- Identify opportunities to collaborate across agencies.
- Inform subgroup agencies of mitigation actions that are relevant for coastal management and develop partnerships to support implementation of mitigation actions such as land use planning and green building in coastal areas

The agencies/departments/boards/commissions that are represented on this working group include the following:

- Ocean Protection Council ("OPC")
- California Natural Resources Agency ("Resources Agency")
- State Coastal Conservancy ("SCC")
- California Coastal Commission ("CCC")
- San Francisco Bay Conservation and Development Commission ("BCDC")
- State Lands Commission ("SLC")
- Department of Fish and Game ("DFG")
- Business, Transportation, and Housing Agency ("BTH")
- California Department of Transportation ("CalTrans")
- State Water Resources Quality Control Board ("SWRQCB")
- Department of Water Resources ("DWR")
- Department of Parks and Recreation ("DPR")
- Department of Toxic Substances Control ("DTSC")

Consolidated Mitigation Measures and Adaptation Strategies
The CO-CAT members reviewed the State Adaptation Strategy and the mitigation measures from the AB32 Scoping Plan and other state documents and recommended that CO-CAT work on implementing all of the near-term strategies in the Ocean and Coastal Resources chapter of the State Adaptation Strategy. The CO-CAT members also recommended that the working group support implementation of one mitigation measure – enhancing carbon sequestration of coastal habitats. The CO-CAT members identified the following adaptation strategies as the top three priorities:

1. Strategy 6 (support essential data collection and information sharing),
2. Strategy 5 (complete a statewide vulnerability assessment every five years) and
3. Strategy 1 (establish state policy to avoid future hazards and protect critical habitat).

Implementation Plan for Adaptation Strategy 6: Support essential data collection and information sharing

Research and data are needed to perform and update vulnerability assessments related to sea-level rise and shoreline erosion. Agencies will work in cooperation with federal partners to seek funding for the collection of essential data. The state will continue to establish baseline climate change data and common modeling assumptions so that planning actions in the different agencies are based on common information to the greatest extent possible.

Agencies involved in implementing strategy: OPC, SCC, CCC, BCDC and Resources Agency.

This implementation plan encompasses the following near-term strategies from the Ocean and Coastal Resources chapter of the Climate Adaptation Strategy:

6a (High-Resolution Mapping),
6b (Tidal Datum),
6c (Ecosystem Research), and
6d (Coastal and Wetland Process Studies).

Metrics for Defining Success

6a (High-Resolution Mapping) OPC will provide $2.5 million in funding for LiDAR mapping data collection and interpretation, pending approval at the June 24, 2010 OPC meeting. The state will have at least four meetings with the National Oceanic and Atmospheric Administration, the Army Corps of Engineers and the U.S. Geological Survey to encourage federal funding of high-resolution mapping projects for coastal areas.

6b (Tidal Datum) The state will have at least two meetings with the National Oceanic and Atmospheric Administration staff to pursue opportunities to increase monitoring of tidal gauges, to help track sea levels.

6c (Ecosystem Research) The state will fund at least six studies related to understanding changes to coastal and ocean ecosystems and species ranges due to climate change, subject to availability of bond funds.

6d (Coastal and Wetland Process Studies) The state will fund at least three studies related to understanding and modeling coastal, estuarine and wetland circulation and sediment distribution and transport, subject to availability of bond funds.

Task 1: High-Resolution Mapping

A) Purpose: Provide funding and coordination to support high resolution mapping of the shoreline area, to support assessments of sea-level rise.
B) Subtask 1: State funding for mapping

a. Description: Provide state funding to complete high resolution mapping of coastal areas, subject to availability of state bond funds.
b. Deliverables:
    i. Contracts executed to provide funding,
    ii. LiDAR data acquired, processed, interpreted and
    iii. Mapping products made publicly available.
c. OPC will take the lead in providing funding and overseeing the contracts resulting in acquisition of LiDAR mapping data and imagery and ensuring that the maps and data products are made publicly available. Supporting working group members include BCDC, CCC and DWR, which will provide input on technical oversight of implementation of mapping project and assist with strategies for dissemination of mapping products.
d. Timeline:
    i. June 2010 OPC will consider staff recommendation to provide $2.5 million for LiDAR
    ii. July 2010 OPC will execute contracts for funding LiDAR work
    iii. July 2011 mapping products made publicly available
e. Cross cutting Issues:
    i. Biodiversity - Areas of Conservation Emphasis mapping effort

C) Subtask 2: Coordination and support for federal funding for mapping
a. Description: The state will have at least four meetings with the National Oceanic and Atmospheric Administration, the Army Corps of Engineers, the U.S. Geological Survey and the Federal Emergency Management Agency to communicate the state's mapping needs and to encourage federal funding and coordination of high-resolution mapping projects for coastal areas.
b. The OPC will take the lead in coordinating with federal agencies, working in conjunction with interested state agencies including BCDC and CCC, which will provide base maps needed by the NOAA contractor to do ground truthing of the data and communicate with local and regional partners to increase public awareness of the timeframe and availability of different mapping products.
c. Timeline: Schedule and meet with federal agencies at least four times before December 2010.
d. Cross cutting Issues:
    i. Biodiversity - Areas of Conservation Emphasis mapping effort

Task 2: Other Research and Monitoring

A) Purpose: Increase understanding of how sea levels, coastal and ocean ecosystems, species and processes will change due to climate change.
B) Subtask 1: Tidal Datum
a. Description: Tidal datums (e.g. mean high water and mean sea level) are standard elevations defined by a certain phase of the tide. Tidal datums are used to measure local water levels and can project how global sea-level rise will be experienced at the local scale. These data are needed to determine the mean

high tide and other reference points used in regulatory and legal settings. The State Adaptation Strategy Ocean and Coastal Resources Strategy 6b calls for monitoring on tidal datums to be maintained and expanded, including establishing additional tide gage stations.

b. Deliverables: The state will have at least two meetings with the National Oceanic and Atmospheric Administration staff to pursue opportunities to increase monitoring of tidal gauges, to help track sea levels.
c. Agency roles: The OPC will take a lead role in exploring possibilities of partnerships with NOAA to improve tidal datum monitoring for the state. OPC will coordinate with BCDC, CCC and SLC to identify priority needs for improved tidal datum monitoring.
d. Timeline: OPC will have two meetings with NOAA by December 2010.
e. Cross cutting Issues: None identified.

C) Subtask 2: Ecosystem Research
   a. Description: The State Adaptation Strategy Ocean and Coastal Resources Strategy 6 c calls for research to be conducted on potential changes to ocean and coastal ecosystems, and species ranges, which are already changing - resulting in divergence in breeding and feeding behavior. Understanding ecosystem changes will be essential to future management decisions related to fisheries, species protection, and restoration projects.
   b. Deliverables: The state will fund at least six studies related to understanding changes to coastal and ocean ecosystems and species ranges due to climate change, subject to availability of bond funds.
   c. Agency roles: The Coastal Conservancy will take a lead role in funding ecosystem studies, working in collaboration with the California Energy Commission's Public Interest Energy Research program which is funding research projects to support the state vulnerability assessment. OPC will provide coordination and support for identification of high priority projects. BCDC will continue to collaborate with funders on ecosystem studies for San Francisco Bay (e.g. Climate Ready Estuaries and Corte Madera studies). CCC will provide information on priority coastal ecosystems to assist in the development of funding proposals.
   d. Timeline: Subject to bond fund availability, the state will fund six studies by December 2010
   e. Crosscutting Issues: This action overlaps with the Biodiversity and the Research Working Groups of the Climate Action Team. The Coastal Conservancy and OPC staff will coordinate with the other working groups to discuss the research projects recommended for funding. This action relates to the following strategies from the State Adaptation Strategy:
      i. Biodiversity – Strategy 2: Management of Watersheds, Habitat, and Vulnerable Species
      ii. Water – Strategy 5: Enhance and Sustain Ecosystems

D) Subtask 3: Coastal and Wetland Process Studies

a. Description: The State Adaptation Strategy Ocean and Coastal Resources Strategy 6 d calls for research to be conducted to understand and model coastal, estuarine, and wetland circulation and sediment distribution and transport. This information is essential to successful wetland and beach maintenance, restoration, and nourishment projects.
b. Deliverables: The state will fund at least four studies related to understanding and modeling coastal, estuarine and wetland circulation and sediment distribution and transport, subject to availability of bond funds
c. Agency roles: The Coastal Conservancy will take a lead role in funding ecosystem studies, working in collaboration with the Energy Commission's Public Interest Energy Research program which is funding research projects to support the state vulnerability assessment. OPC will provide coordination and support for identification of high priority projects. BCDC will continue to collaborate with funders on circulation and sediment studies for San Francisco Bay. CCC will provide information on priority research projects.
d. Timeline: Subject to bond fund availability, the state will fund four studies by December 2010
e. Crosscutting Issues: This action overlaps with the Biodiversity and the Research Working Groups of the Climate Action Team. The Coastal Conservancy and OPC staff will coordinate with the other working groups to discuss the research projects recommended for funding. This action relates to the following strategies from the State Adaptation Strategy:
    i. Biodiversity – Strategy 2: Management of Watersheds, Habitat, and Vulnerable Species
    ii. Biodiversity – Strategy 3: Research and Guidelines
    iii. Water – Strategy 5: Enhance and Sustain Ecosystems
    iv. Agriculture – Strategy 3: Land Use Planning Practices; wetland easements

Summary Table:

Deliverable	Agencies	Deadline
Mapping contracts executed	OPC	July 2010
Mapping products made publicly available	OPC	July 2011
Federal Agency Mapping Coordination Meetings	OPC lead (BCDC, CCC participating)	December 2010
NOAA Tidal Datum Meetings	OPC lead (BCDC, CCC participating)	December 2010
Ecosystem Research contracts executed	OPC, SCC, CEC, and BCDC leading (CCC providing input)	December 2010
Coastal and wetland process studies contracts executed	OPC, SCC, CEC, and BCDC leading (CCC providing input)	December 2010