## K. DATA PRODUCTS

### BIGHT-WIDE: CLIMATE TRENDS, VARIABILITY & ECOSYSTEM RESPONSE

- Compilation of historic and near real-time (when available) oceanographic and atmospheric time series from the bight, provided in easily accessible summaries.
- Development of ocean-state indices using model-based reanalysis and data-based approaches to describe bight-wide upwelling, stratification, nutrients, and other subsurface fields.
- Development of dynamic and environmental indices that include a measure of how strong and how numerous eddies, plumes, and associated fronts are in the Southern California Bight.
- Descriptions of ocean advection, the connectivity of different populations, and their transport and dispersion by ocean currents — Product: Bight-wide circulation response patterns.
- Ecosystem surveillance using nearshore egg and larva surveys to complement CALCOFI — Product: delivery of data to Fisheries and synthesis of trends.

### SHORELINE WAVES AND CURRENTS

- Realtime, Bight-wide wave height conditions at 10m isobath (landfall) with 200m along-coast resolution.
- Realtime estimates of surfzone currents north/south longshore currents along entire coast.
- Historical time records of shoreline wave conditions, surfzone currents.

### TRAJECTORIES AND PLUME LOCATIONS

- Determine the regional influence of a stormwater/river discharge on the coastline.
  - Product — Time series of maps of shoreline discharges directed toward assessment of public health concerns. Integration of these maps with existing microbial sampling conducted by public health agencies.
- Assessment of land inputs and their impacts to state-identified Critical Coastal Areas, including Marine Protected Areas and Areas of Special Biological Significance.
  - Product — Trajectory synthesis to estimate exposure of sensitive areas to land inputs.
- Characterization and tracking of offshore outfall plumes, including the extent of detectable limits. Product — maps of the plume.
- Tracking and forecasting the transport of discharged oil:
  - Realtime current and meteorological data to NOAA HAZMAT
  - Trajectory estimate for the water
  - Statistical trajectory synthesis for risk assessment and spill scenario analysis.
- Trajectories of surface objects for purposes of search and rescue:
  - Realtime current and meteorological data to USCG, local safety offices for SAROPS tools and search coordination.

### HARMFUL ALGAL BLOOMS

- Web-based distribution of algal bloom relevant ocean observations and background public information. E.g., pier sensors, ocean color satellite images, bloom indices as they develop.
- Bight-wide HAB surveillance results updated weekly.
- Development of HAB relevant indices based upon inputs (nutrient) or ocean processes:
  - Bight wide nutrient budgets that considers anthropogenic, horizontal, and vertical fluxes to aid in the identification of anthropogenic forcing of HAB formation.