# ALKHEBRA CONSULTING, LLC

Doha, Qatar



## **COASTAL ENVIRONMENTS**

California, USA

"An Alliance of Marine & Environmental Services in the Middle East."





#### PHYSICAL OCEANOGRAPHY

- Environmental measures of physical parameters
- Directional wave, current, wind, water temperature and tidal studies
- Tidal and storm surge flooding analysis
   Outfall plume investigations
- Design and selection of oceanographic instrumentation arrays Configuration of data acquisition systems Oceanographic instrumentation and software development

#### **BIOLOGICAL MONITORING**

- Water and sediment quality studies
- Ecological risk assessment
- Marine and freshwater community analyses
- Endangered species assessments
- Biological inventories
- Pollution effects analysis
- Underwater photography and video surveys
- Antifouling studies
- Field experiments

# LITERATURE REVIEWS/CRITIQUES

- Design and conduct reviews of scientific literature
- Conduct computerized searches of published literature
- Establish technical libraries on specific issues
- Conduct searches of unpublished literature
- Perform comprehensive reviews and critiques of environmental issues
- Prepare scientific position papers to support litigation

#### **COASTAL ENGINEERING**

- Coastal harbor site selection and design
- Shoreline changes description and analysis
- Beach profile surveys and analyses
- Sediment transport computations
- Coastal lagoon inlet design studies
- Lagoon hydrology and circulation
- Site selection for coastal structures
- Physical and numerical modeling
- Wave loading and dynamic response of structures

## COLLABORATED SERVICES

# DATA ANÁLYSIS AND NUMERICAL MODELING

- Programming, stochastic and time series analysis
- Statistical analysis and tests of hypotheses
- Data summaries and displays
- Directional wave analysis
- Database design and management

#### **MARINE GEOLOGY**

- Beach and seafloor foundation investigations for new structures
- Analysis of sediments for new harbors and marina development
- Evaluation of sediments for dredging projects
- Coastal erosion and siltation studies
- Investigations of sediment dynamics
- Evaluation of seafloor mineral resources

# ENVIRONMENTAL ASSESSMENTS

- Environmental documentation Ecological Assessments (EAs)
- Environmental Impact Reports (EIRs)
- Environmental Impact Statements (EISs)
- Mitigation planning and monitoring
- Literature reviews & secondary source data collection

# ENVIRONMENTAL EDUCATION

- Opinion surveys and needs assessments
- Materials design and production management
- Distribution programming and dissemination analysis
- Classroom and on-site professional training programs

# HAZARDOUS MATERIAL/WASTE MANAGEMENT

- Environmental management planning
- Dredge spoil characterization
- Sediment sampling
- NPDES permitting
- Regulatory compliance
- Mitigation monitoring



Stability Analysis of a Revetment Located East of Malibu Pier, California



Engineering and Construction of Wheeler North Reef- San Clemente, CA



La Jolla Children's Pool Beach Management and Water Quality improvement- La-Jolla, California



Assessment of Design Parameters for Proposed Seawater Circulation Systems and LNG Jetty at Das Island- Abu Dhabi



Harbor Monitoring Program for the Egyptian LNG- Alexandria, Egypt



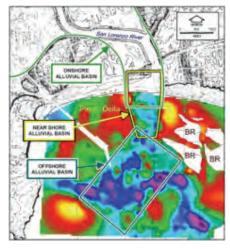
Land and Water Management Planning, Buena Vista Lagoon San Diego County, California



Observation of the Status of Biological and Physical Intertidal-Caulerpa/Eelgrass Survey at San Dieguito Lagoon- Del Mar, CA Encinitas, California



Gulf of Aqaba Environmental Data Survey- Middle East



Seawater Desalination Program, Offshore Geophysical Study Santa Cruz, California

### **PROJECTS EXPERIENCE**

Coastal Environments has conducted projects all over the world, including the United States, Mexico, the Middle East, the United Kingdom, South America, and North Africa. Our associates are versed in many languages, including English, Arabic, Spanish, and German. Below are few listed projects executed by us.

- San Dieguito Lagoon Hydrology & Water Quality Surveys- Del Mar, CA
- Wave Climate Analysis for Venoco's Holly Pipelines Program- 2010 Santa Barbara County, CA
- Ellwood Kelp Growing Study (Ellwood Pier)- Santa Barbara County, CA
- · Tsunami Risk Assessment- Pacifica, California
- Oceanographic Conditions off the West Coast of Trinidad- West Indies
- Tijuana Estuary Model Marsh, Sedimentation and Hydraulic Evaluation
- This project offered a unique opportunity to research the success of different wetland designs so that future marsh restoration projects can be improved. San Diego County, California
- · Design Parameters for an Offshore Wind Turbine- Nantucket, MA
- Study of Bardawil Lagoon- Mediterranean Coast of Sinai, Egypt
- Wave Run-Up and Overtopping Analysis of King Harbor- Redondo Beach, California
- San Elijo Lagoon Monitoring Program- Encinitas, California
- Initial Dredging of W17 Channel- Del Mar, California
- Engineering and Construction of Wheeler North Reef- San Clemente, CA
- · Loma Alta Creek Ultraviolet Treatment Facility- Oceanside, California
- Trump Ocean Resort Coastal Development- Baja California, Mexico
- Stability Analysis of a Revetment Located East of Malibu Pier, California
- Laguna Madre Coastal Development Project- Tamaulipas, Mexico
- · Beach Stability at Doheny State Beach- Dana Point, California
- · Restoration Alternatives for Sunset Boulevard Groin- Los Angeles, CA
- Predicting Bathymetry Changes Off Mandalay Beach- Ventura County, California
- Overtopping Study, Manchester Resort Development- Oceanside, CA
- History, Width, and Stability of Harbor Beach- Oceanside, California
- Overtopping Study, UNOCAL- Santa Maria, California
- Ormond Beach, Pre-Feasibility Study for Creating a Tidal Wetland Oxnard, Ventura County, California
- Desert Sand: A Viable Resource for Beach Nourishment- Parker, Arizona
- · Harbor Monitoring Program for the Egyptian LNG- Alexandria, Egypt
- Land and Water Management Planning, Buena Vista Lagoon San Diego County, California
- Observation of the Status of Biological and Physical Intertidal- North Carlsbad, California
- Desalination Plant Brine Disposal Investigation Borehole & Monitoring Well Drilling & Sampling Program- USMC Base Camp Pendleton, CA

- Offshore Geophysical Study for Proposed Desalination Plant- Huntington Beach, California
- Seawater Desalination Program, Offshore Geophysical StudySanta Cruz, California
- Seawater Desalination Project, Review of Hydrology & Water Quality Studies- Carlsbad, California
- Environmental Impact Report Consulting for the Southern California Edison Kelp Reef- San Clemente, California
- EIR for Oceanside Harbor Precise Plan Amendment- Oceanside, CA
- Channel Dredging, Beach Sand Transport, and Sedimentation Report- San Diego, California
- Nimitz Marine Facility, EA/IS Joint NEPA/CEQA Document- San Diego,
- Gulf of Aqaba Environmental Data Survey- Middle East
- Programmatic EIS for Disposal of Dredged Material from Navy EA, EIR, EIS Dredging Projects in San Diego Bay, California
- Site Remediation, Railroad Repair and Fueling Facility- Mazatlan, Mexico
- Underwater Blasting Environmental Assessment, Lake Mead Water Intake Structure, Nevada
- Commercial Basin- San Diego Bay, California
- Nimitz Marine Facility- San Diego, California
- National City Marine Terminal- National City, California
- Desalination Facility- San Diego, California
- · Effects of Lagoons on Southern California Beaches
- Numerical Modeling for San Elijo Lagoon Enhancement, Cardiff By the Sea- Encinitas, California
- Study of Sediment Transport Conditions, Agua Hedionda Lagoon-Carlsbad, California
- Possible Impacts of the Southern California Edison Mitigation Kelp Reef off San Clemente on the Marine Environment- California
- Beach Erosion Analysis, Proposed Pacific Coast Highway Bikeway City of Los Angeles, California
- Field Measurements and Numerical Modeling to Determine the Effects of Kelp Beds on Waves and Beaches in Southern California
- Data Management & Statistical Analyses for Monitoring at San Onofre, California
- Aquarium Programs in Marine Conservation, U.S. and Canada
- Environmental Education Training Program, South & Central America

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