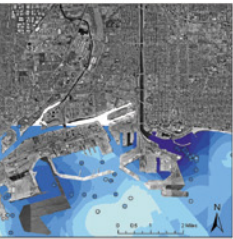


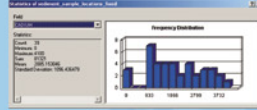


Spatial Analysis of Heavy Metals in The Los Angeles Harbor

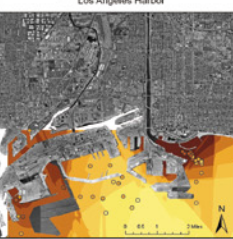
Cadmium Concentration Prediction Map of Marine Sediments Los Angeles Harbor



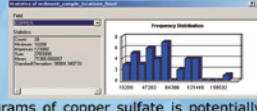
Acute exposure to cadmium fumes may cause flu like symptoms including chills, fever, and muscle ache. More severe exposures can cause tracheo-bronchitis, pneumonitis, and pulmonary edema. Symptoms of inflammation may start hours after the exposure and include cough, dryness and irritation of the nose and throat, headache, dizziness, weakness, fever, chills, and chest pain. Cadmium has also been shown to be a carcinogen.



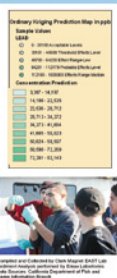
Copper Concentration Prediction Map of Marine Sediments Los Angeles Harbor



Thirty grams of copper sulfate is potentially lethal in humans. The suggested safe level of copper in drinking water for humans varies depending on the source, but tends to be pegged at 1.5 to 2 mg/L. Fatal cases are generally terminated by convulsions, palsy, and insensibility.



Lead Concentration Prediction Map of Marine Sediments Los Angeles Harbor



The symptoms of chronic lead poisoning include neurological problems, such as reduced IQ, nausea, abdominal pain, irritability, insomnia, metal taste in oral cavity, excess lethargy, hyperactivity, headache and, in extreme cases, seizure and coma. There are also associated gastrointestinal problems, such as constipation, diarrhea, vomiting, poor appetite, and weight loss, which are common in acute poisoning.



Mercury Concentration Prediction Map of Marine Sediments Los Angeles Harbor



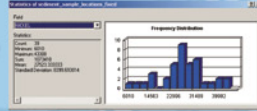
Mercury has been found to absorb through the skin and damages the central nervous system, endocrine system and other organs and adversely affects gums, teeth, and mouths. Mercury is also particularly damaging to pregnant women, fetuses, and young children.



Nickel Concentration Prediction Map of Marine Sediments Los Angeles Harbor



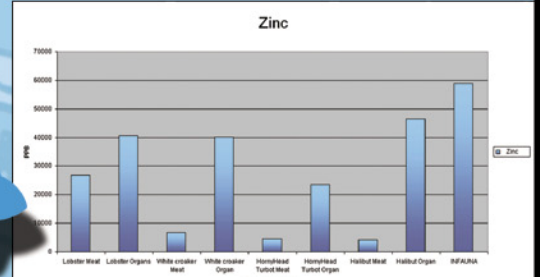
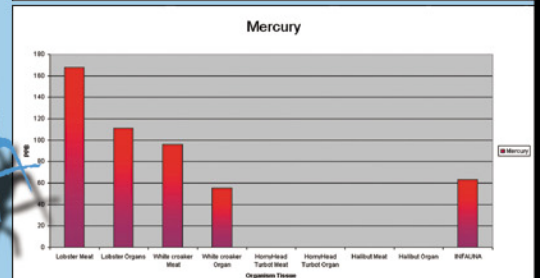
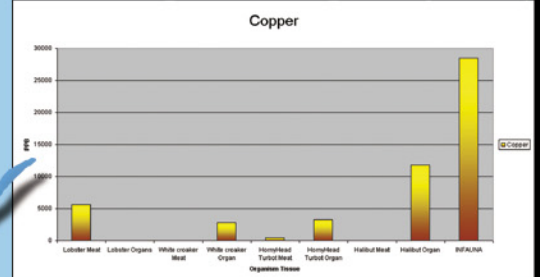
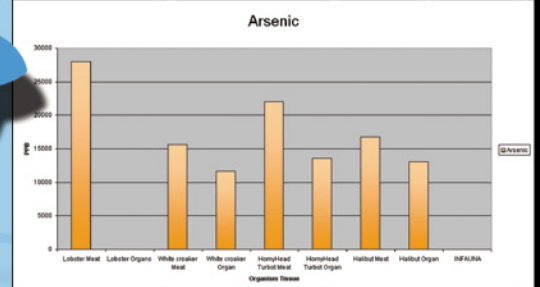
Nickel is considered a carcinogen- a cancer causing substance. Some people have adverse affects on their skin after being exposed to Nickel.



Zinc Concentration Prediction Map of Marine Sediments Los Angeles Harbor



Excessive absorption of zinc can also suppress copper and iron absorption. High amounts of zinc also cause stomach problems due to the high solubility of zinc.



Legend

Fish

Lobster

Infauna (Sediments)

Research conducted by Clark Magnet High School EAST Lab 4747 New York Avenue, La Crescenta, CA 91214

Sediment Analysis conducted by EMAX Laboratories

