

Scripps Professor Reveals Impacts of Global Warming on Coastline

Mario Aguilera

Professor Doug Inman, founding director of the Center for Coastal Studies at Scripps Institution of Oceanography, UCSD, recently made the first public presentation of data from a new project to model the effects of global warming on the southern California coastline. The presentation was made at a private fundraiser for the California League of Conservation Voters.

"California's beaches face a critical imbalance as global warming threatens to increase the rate of sea level rise," said Inman. "Southern California's beaches today are ephemeral rivers of sand backed by sea cliffs. Due to dams, seawalls, roadways, and coastal development, the available sand for San Diego County's beaches is less than half the supply under natural conditions. Following winter storms, cobbles and rocky platforms are exposed, and the sand beach may only partially recover during the low waves of summer. In the absence of wide beaches, waves attack the base of the sea cliffs. Studies show that 86 percent of California's coast is actively eroding."

Climatologists warn that global sea level may rise by half a meter or more by the end of the century, further reducing beach width and increasing coastal erosion. Scientists at Scripps Institution of Oceanography, in collaboration with the Kavli Institute (a private foundation in Oxnard, Calif.), are projecting the fate of the southern California coast over the next 200 years.

Led by Professor Inman, the team is modeling coastal processes-wave climate (prevailing, inter-seasonal wave conditions averaged over a number of years), sediment supply, and bedrock erosion-and developing a 3-D visualization of the coast using future climate scenarios. The team, which includes associate researcher Patricia Masters, intends their interactive model to provide planners and policy-makers with the sound science to inform decisions and allocate resources in ways that can benefit the coast.

According to Inman, "Our west coast is at the pivot point of either retaining sandy beaches or losing this precious natural resource."

Media Contacts: Mario Aguilera or Cindy Clark (858) 534-3624