

**EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]:** State in layman's terms the application's broad, long-term objectives and specific aims, making reference to the potential public benefits of the project relevant to California. Do not include proprietary or confidential information. This may be distributed before the funding decision has been finalized.

The Ecology Program Area (EPA) of San Diego State University (SDSU) would like to request supplemental funding on an award received from the National Science Foundation (NSF) DBI-0302486, "Spectroscopic Instrumentation for San Diego State University Ecology Programs." The instrumentation purchased through this award will be used to upgrade a core analytical facility that has been part of a strong ecological research program for 24 years and will continue to support on-going ecosystem research programs funded by various agencies including NSF, the Department of Energy, the National Aeronautics and Space Administration, and Environmental Protection Agency. The major and minor users of this facility consist of faculty and students from San Diego State University's Ecology Program Area and other academic institutions (UABC, CIBNOR, and CICESE, in Mexico) and researchers from affiliated SDSU centers. Ecosystems in Southern California and Baja, Mexico are geographic regions important to biodiversity, rare and endangered species, and global climate change with ecological problems compounded by population growth and rapid land use change. Funded instruments will be used in concert with SDSU's expertise in remote sensing, GIS technology, and mathematical modeling to understand the patterns and controls on ecosystem structure and function.