UNIVERSIDAD AUTONOMA DE
BAJA CALIFORNIA SUR

FISHERIES
DEPARTMENT

Information for decision makers, academics, universities and those interested in collaborating with the Academic Department of Fisheries Engineering of the Autonomous University of Baja California Sur

Visit Our Website:
www.uabcs.mx/daip

Introduction

The Academic Department of Fisheries Engineering (DAIP) began activities with the educational program of Fisheries Engineering at the end of the 70´s. The DAIP was entrusted with generating technology and solid human resources for the strengthening and professionalization of the fishing sector in Baja California Sur, as well as proposing and developing solutions to meet the needs of local society and the respective sector. Since 2012, the DAIP has undergone an important restructuring with the incorporation of three additional educational programs with an engineering, technological and innovation focus; in order to respond to the new needs that Mexico and Baja California Sur (BCS) were facing at that time. Thus, in that same year, the activities of Engineering in Renewable Energy Sources (IFER) took place and, in 2017, Bioengineering in Aquaculture (BIA) and Engineering in Disaster Prevention and Civil Protection (IPDPC). These additions have led to a significant increase in enrollment, infrastructure, as well as in the development of technologies and research. In recent years, DAIP has become known in the state and nationally for the quality of its educational programs, being a reference in transcendental topics from the lines of research that are cultivated from the four educational programs.

Our Vision and Mission

Mission

The Academic Department of Fisheries Engineering comprehensively trains highly qualified professionals with solid scientific foundations and a broad sense of University Social Responsibility, based on a staff of highly committed and qualified research professors who generate cutting-edge research that contributes to the sustainable development of the entity and the country.

Vision

To be a flagship Academic Department of the Autonomous University of Baja California Sur, with educational programs and research recognized for their high relevance, quality and academic excellence, supported by the paradigm of university social responsibility and linked to the different sectors of society, promoting the sustainable development of the entity and the country.

Bachelor of Fisheries Engineering

A nine-semester program that addresses the science of fisheries from the knowledge of marine populations to the marketing of marine products. The Bachelor of Fisheries Engineer acquires biological, technological, industrial, maritime operation and food product generation knowledge from theoretical subjects, laboratory practices, field trips and professional internships.

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Bachelor of Renewable Energy Engineering

A nine-semester program that addresses the science of energy generation from renewable sources as an alternative and sustainable source of hydrocarbon combustion. The program focuses mainly on solar and wind energy, although other sources such as geothermal and marine energy are also addressed. The program has laboratories and spaces for teaching and practice, as well as agreements for professional internships with the productive sector.

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www.uabcs.mx/licenciatura/8

Bachelor of Acuaculture Bioengineering

Nine semester program that addresses the science of the generation of marine products for consumption appears from aquaculture techniques. The bioengineer in Aquaculture has the necessary knowledge to design and operate aquaculture projects considering sustainable and modern techniques. The program has teaching and research laboratories as well as field activities in the Pichilingue Academic Unit located on the coast.

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www.uabcs.mx/licenciatura/7

Bachelor of Disaster Prevention and Civil Protection

Nine semester program that addresses all the knowledge required to perform disaster risk management in order to protect society from the impact of hydrometeorological, geological and anthropogenic disturbing phenomena. The program has teaching and research laboratories and is linked to the National Network of Civil Protection Schools in Mexico.

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Research Laboratories

Laboratory of Disaster Risk Managment

Risk mapping, meteorological monitoring, seismic monitoring, radiactivity monitoring, computational modelling

Laboratory of Bioenergy generation

Biodigestors, eco-technics, biogas production, urban waste, urban waste utilization

Laboratory of marine alimentation

Production of ingredients for livestock use with fishery waste, processing of industrial and artisanal food for fish and crustacean farming

Biotechnology, Innovation and Environmental Sciences

Bacteria with biotechnological potential, organism genetics, tropicalization and effects of aquaculture discharges, aquaponic systems

Research Laboratories

Acuaculture production Unit

Research and production of Oyster seeds and other fish and crustacean species

Laboratory of renewable energy

Biodigestors, solar panels, energy consumption monitoring, aerogenerators

Laboratory of food production

Food production with fisheries

Marine Mega Fauna and Fisheries

Conservation and research of marine mega fauna,

Researchers

DAIP has a total of 26 researchers the mayority recognized by the National Research Catalog (SNII) with vast national and international experience.

Annually, our researchers generate 29 scientific papers on average

Case Study:

Development and Technology Transfer of Biodigesters for Rural Energy in BCS

Laboratory Bioenergy Generation

- Installation of tubular biodigesters
- Production of biogas to replace up to 20 kg of LP gas per month per family.
- Training of agricultural producers in the implementation and maintenance of biodigesters.
- Design of low-cost eco-techniques to maximize the use of biogas.

Case Study:

Risk Atlas for the State of Baja California Sur

Laboratory of Risk Managment

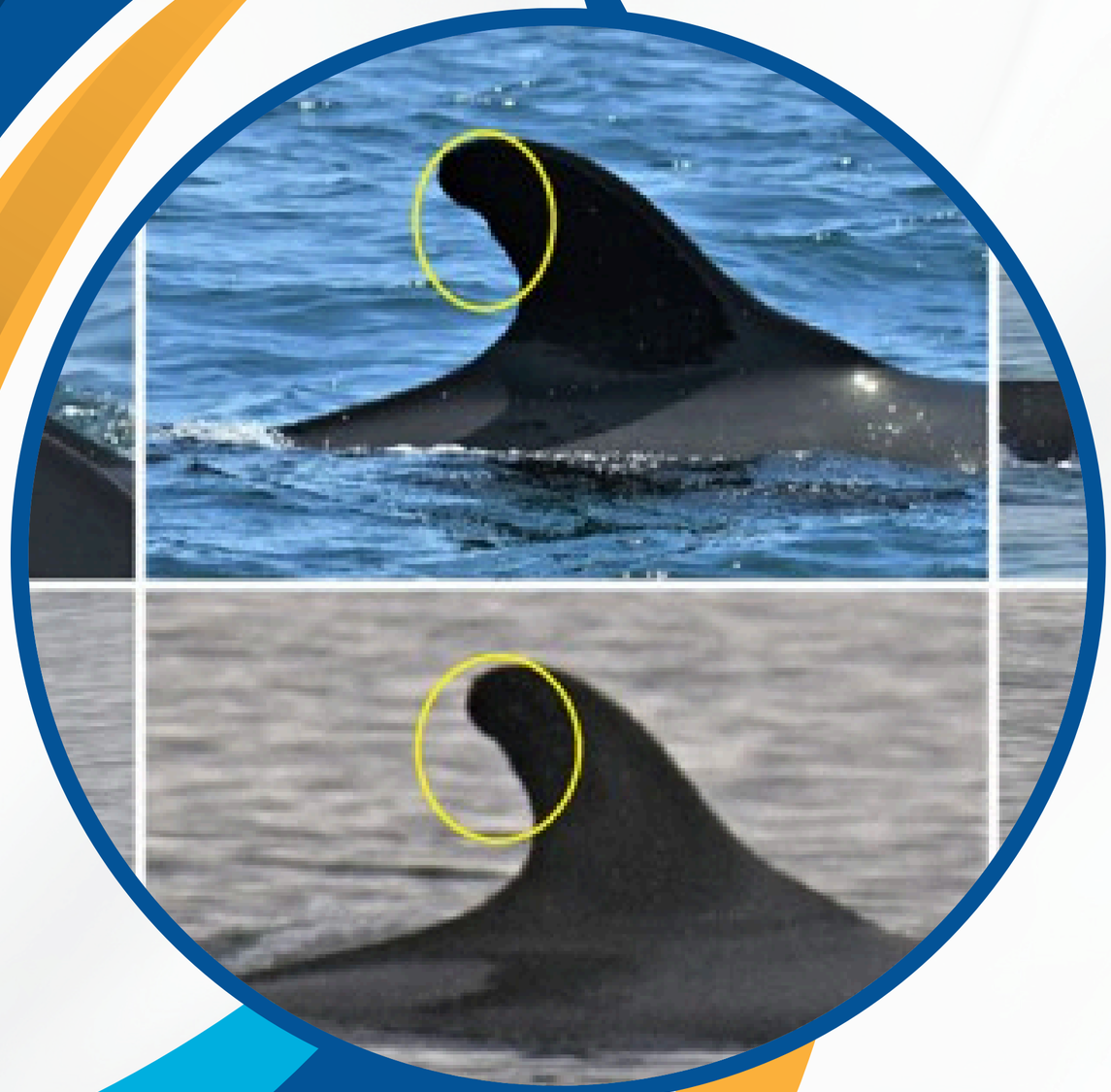
- Modelling of risk scenarios
- Geospatial analysis with GIS
- Web viewer with 50 layers obtained from a terabyte of processed information
- https://atlasriesgo.uabcs.mx/geovisualizador

Case Study:

Oyster Seed Production and technology transfer

Acuaculture Production Unit

- Creating of new species adapted to BCS environment
- Creation and management of algae separium
- Business model adapted to support rural fishing and aquaculture communities
- Training of students and communities



Case Study:

Megafauna research and rescue center

Marine mega fauna and fisheries program

- Research of biological and migratory aspects of marine megafauna
- Strong linkage with international organizations
- Rescue program in coordination with ONG´s and federal institutions
- Training of students and communities

Case Study:

Biofloc, marine and agro-industrial food production

Laboratory of Marine Food

- Agro-industrial product processing using fisheries waste
- Food production for acuaculture
- Linkeage to other national institutions
- Training of local communities

Case Study:

MeteoUABCS a weather monitoring colaborating network

Laboratory of Risk Managment

- Installation of weather stations in remote areas with real-time data
- Coupled air quality sensors for monitoring
- Website with real-time data: https://sites.google.com/uabcs.mx/cigir-uabcs/inicio/meteouabcs
- Linkeage with ONG´s and organizations

Conclusion

At DAIP we are excited about conducting research with social impact that supports the sustainable development of communities, especially the most vulnerable. We are ready to collaborate with other national and international organizations as well as to share experiences and knowledge.

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