

# SPATIAL ANALYSIS OF MOLLUSK CULTURE AT SANTA CATARINA ISLAND USING LAW AND GIS

**Francisco Henrique de Oliveira** - [chicoliver@yahoo.com.br](mailto:chicoliver@yahoo.com.br)  
Mapping Engineer



Geoprocessing Lab  
State University of Santa Catarina - UDESC

**Flavio Boscatto** - [flavioboscatto@gmail.com](mailto:flavioboscatto@gmail.com)  
Aquaculture Engineer  
Surveyor



Federal University of Santa Catarina - UFSC  
Civil Engineer program post graduate

**Study area**

Located in **South island** at Santa Catarina Island (Florianópolis) - Brazil

**Mollusk culture System**

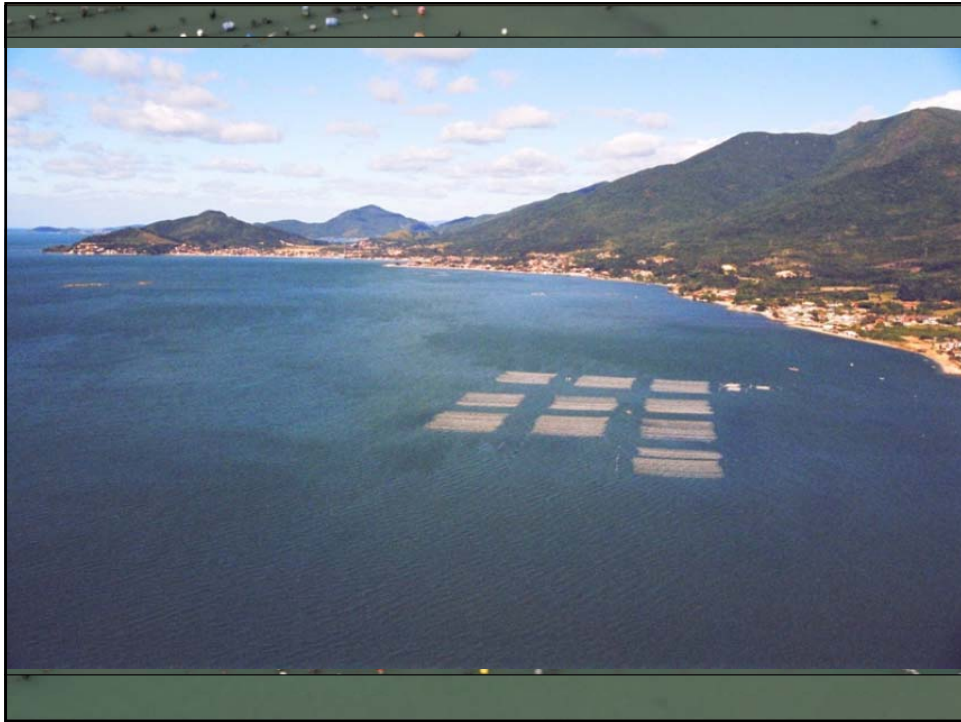
*Long line system*

**Spatial Planning**

Farms (individual areas)      Current planning

*Fixed suspended cultivation system*

Mollusk culture needs the **mapping individualized by producers.**



**Input Data**

- ❑ **Orthophoto** (2002) – Florianópolis Urban Planning Institute – IPUF
- ❑ **Stereoplotter** (IPUF)
- ❑ **Nautical chart** (1976) Directory of Hidrography and Navigation-Brazil
- ❑ **GNSS mensurations** (2007) – L1/L2 GNSS receiver adjusted by official Brazilian Geodetic Network.
- ❑ **Law parameters** - low tide (200 meters), rocks (50 meters) and bathymetry

**Processing Data**

*Geodatabase ARCGIS 9.2*

- ❑ Stereoplotter edition and interpretation orthophoto
- ❑ Spatial analysis – crossing culture area position Vs law parameters
- ❑ Maps production

Table

NAME	DESCRIPTION
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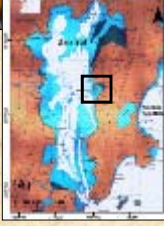






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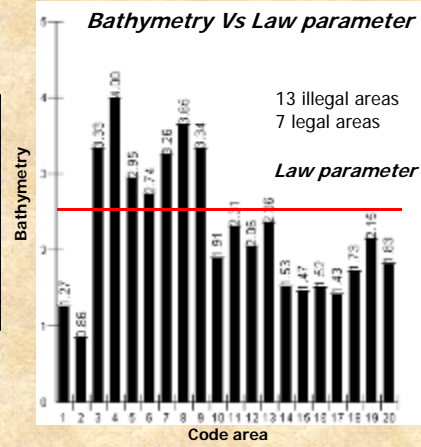
**Results**

% illegal area

**Low tide Vs Law parameter**

Code	Producer name	Illegal Area	System	%	Total area
1	A	0,3307	Long line	90,99	0,3635
12	H	0,2506	Long line	13,79	1,8167
15	M	0,0082	Fixed	100	0,0082
16	M	0,0002	Fixed	1,61	0,0131
17	N	0,0161	Fixed	100	0,161
18	O	0,0691	Long line	85,72	0,0806
20	O	0,2123	Long line	97,7	0,2173

There are no illegal areas near the rocky coasts



**Conclusion**

- The mollusk culture areas need updated legal maps
- The accuracy should be better than 20 meters (law parameters). The research proposes 1 meter;
- Each mollusk culture area should be done in a unique geodatabase, considering the geographic limits in a map;
- Monitoring and inspection of each farm is necessary, considering laws and integration between public institutions.

Thank you!