



# Coastal scenic evaluation at Santa Catarina (Brazil): Implications for coastal management

Samanta da Costa Cristiano<sup>a,e,\*</sup>, Luana Carla Portz<sup>b</sup>, Giorgio Anfuso<sup>c</sup>,  
Gabriela Camboim Rockett<sup>a</sup>, Eduardo Guimarães Barboza<sup>a,d</sup>

<sup>a</sup> Programa de Pós-Graduação em Geociências, Instituto de Geociências, Universidade Federal do Rio Grande do Sul- PPGGEO/IGEO/UFRGS, Av. Bento Gonçalves, 9500, Prédio 43113, Sala 207 (Bloco I), Bairro Agronomia, Porto Alegre, RS, Brazil

<sup>b</sup> Universidad de la Costa, CUC, Calle 58 # 55 - 66, Barranquilla, Colombia

<sup>c</sup> Departamento de Ciencias de la Tierra, Facultad de Ciencias del Mar y Ambientales, Universidad de Cádiz, Spain

<sup>d</sup> Centro de Estudos em Geologia Costeira e Oceânica, Instituto de Geociências, Universidade Federal do Rio Grande do Sul, CECO/IGEO/UFRGS, Av. Bento Gonçalves, 9500, Caixa Postal: 15001, Porto Alegre CEP: 91501-970, RS, Brazil

<sup>e</sup> Programa de Pós-Graduação em Gerenciamento Costeiro, Instituto de Oceanografia, Universidade Federal do Rio Grande- PPGC/IO/FURG, Av. Itália, Km 8, Bairro Carreiros, Rio Grande, RS, Brazil

## ABSTRACT

Continuous and increasing human coastal occupations and developments, often linked to the lack of adequate management plans, seriously threat coastal and marine environments. The knowledge of natural aspects of coastal environments and human occupation characteristics is essential for adequate and sound coastal planning. The present research characterized 80 coastal sites scenic value along the South and Center-South coast of Santa Catarina (Brazil), which receive huge tourist arrivals during the summer season, i.e. from December to March. Coastal evaluation was carried out by means of the Scenery Evaluation System and information on conservation status, beach awards and human occupation level was also gathered. Sites located on the Central-South coast have higher D values due to their relevant physical characteristics, such as the presence of bays, cliffs, mountainous landscape, etc. being very different from those in the South, where the coast is low, rectilinear and unattractive. Class I represents c. 10% of the Center-South coast and class V c. 8%. In the South, the situation is different and none of the sectors was assessed as class I or III, only one sector belongs to class II, and the rest are classified as class IV and V. Obtained information opens new viewpoints to local coastal managers for analysis of the potential for national and international coastal tourism development in: i) natural areas, taking into account that a growing category of beach goes prefer isolated sites of great scenic beauty, and ii) for scenic quality improvement of current tourist developed areas.

## 1. Introduction

Coastal towns have several economic advantages due to the presence of oceans, lagoons and rivers (Lacher et al., 2013). Traditional coastal destinations that have natural conditions of sun, sea and sand (3S) have been outdated by other coastal destinations that also have heritage and cultural elements. Tourists are looking for authentic products, such as patrimonial tourism (Agarwal, 2002; Sedmak and Mihalic, 2008). One of the deficiencies of coastal destinations development is the homogenization of culture and appearance of the area, which often leads to lack of unique and significant characteristics (Gale, 2005). This homogenization can cause future problems, since new

tourists require unique and authentic experiences and activities at their holiday destinations (Poon, 1993). This new kind of demand is leading to a restructuration of the coastal tourism industry (Agarwal, 2002).

The Brazilian Tourism Ministry classifies “Sun and Beach Tourism” as touristic activities related to recreation, entertainment, or relaxation on beaches, due to the presence of water, sun, and good weather conditions. With this approach, tourist market has been studied to organize and plan the coastal and marine shoreline areas of this type of destination, including as an objective: principles of sustainability and the promotion of quality tourism (Martins da Silva and Soriano-Sierra, 2013).

Santa Catarina (SC) coast is among the main Brazilian touristic

\* Corresponding author. Programa de Pós-Graduação em Gerenciamento Costeiro, Instituto de Oceanografia, Universidade Federal do Rio Grande- PPGC/IO/FURG, Av. Itália, Km 8, Bairro Carreiros, Rio Grande, RS, Brazil.

E-mail addresses: [samantaccristiano@gmail.com](mailto:samantaccristiano@gmail.com) (S. da Costa Cristiano), [luanaportz@gmail.com](mailto:luanaportz@gmail.com) (L.C. Portz), [giorgio.anfuso@uca.es](mailto:giorgio.anfuso@uca.es) (G. Anfuso), [gabriela.rockett@gmail.com](mailto:gabriela.rockett@gmail.com) (G.C. Rockett), [eduardo.barboza@ufrgs.br](mailto:eduardo.barboza@ufrgs.br) (E.G. Barboza).

<https://doi.org/10.1016/j.ocecoaman.2018.04.004>

Received 23 August 2017; Received in revised form 29 January 2018; Accepted 8 April 2018  
0964-5691/ © 2018 Elsevier Ltd. All rights reserved.

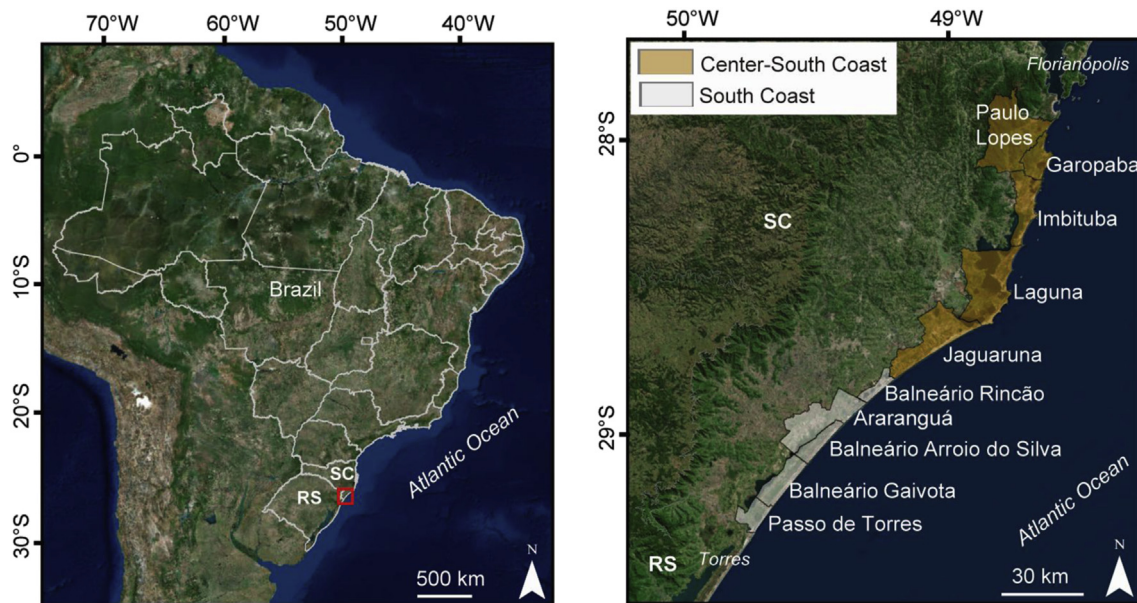


Fig. 1. Location of the study area, marine beaches in South Coast and Center-South coast of Santa Catarina. Basemap ESRI®; Shapefile IBGE, Datum - WGS-84.

destinations. It is internationally recognized as a prestigious summer destination, specially fit for 3S characteristic tourism. In 2003, the natural attractions were the reason for the visit of 63.1% of the state tourists (SANTUR, 2005). International tourists come mainly from Argentina, Paraguay, Chile, and Uruguay (SANTUR, 2012). In general, tourism is seasonal and massive, especially in regions that have seasonal variations, such as the humid subtropical climate with the hot summer of SC coast (climate defined as Cfa by Köppen classification, according to Peel et al., 2007). This factor explains the usual deficiencies of urban infrastructure and services, which contribute, in several cases, to the reduction of environmental quality and weakening of touristic destinations that are important for the generation of jobs and income (MT, 2010). Santa Catarina has a considerable diversification of attributes for tourism; however, the existing tourism potential is underutilized.

The beaches features, linked with the environmental-landscape structure, is the majors reasons because tourists choose the state of SC. These characteristics create seasonal (summer) tourism unequally distributed over the territory (Meurer and Lins, 2008). The analysis made by Souza et al. (2007) showed a strong oscillation of tourist flux. This seasonal tourism causes problems related to: overloading of town infrastructure, traffic jams, lack of skilled labour and low quality of touristic services. Thereby, other problems such as the occupation of previously preserved areas with an increase of environmental risks due to disordered occupation, depleted basic sanitation, beach erosion, decharacterization of traditional communities, and reduction of exploitable natural resources also occur (Tischer et al., 2015).

Landscape degradation mainly affects the coastal scenario ("the appearance of an area" – Council of Europe, 2000), an important component of beach tourism. Santa Catarina coast represents a good study case regarding the process of territory artificialization. It presents a high population and occupation dynamic, due to the demand of the real estate market, tourism, and urban development (Ferreira et al., 2009). The central/north area, a region with a high level of occupation and presence of tourists, has problems that are typical of large agglomerations: contamination of underground, superficial, and sea water, removal of vegetation and soil, and interference to marine sediment dynamics (Santos and Câmara, 2002). The main concern during summer season is the water quality. A high number of beaches in this region have been classified as unfit for recreational bathing due to sea water pollution (Tischer et al., 2015; FATMA, 2017).

The diversity and comprehensiveness of the tourism potential, and especially its impacts in Santa Catarina, require the recognition of the possibility and necessity of preservation and valorization of the elements that compose the social-environmental, landscape, and historical-cultural heritage. It is necessary to publicize the best use of these existing attributes and thus help promote sustainable development. In this context, it is necessary to present alternatives to the traditional 3S tourist market. These alternatives can be done by divulging to tourists the leisure activities that are connected to the landscape and the anthropogenic characteristics of each beach, so that they can decide which beach to visit.

Rangel-Buitrago et al. (2013) and Anfuso et al. (2017) demonstrated as the Coastal Scenic Evaluation System (Ering et al., 2006) constitutes a very useful tool to objectively characterize coastal sites and evidenced as such kind of studies opens new perspectives to local managers. This is the case of this paper that represents a pioneer study carried out on this topic along the coast of Santa Catarina (Brazil). Results are very important to local managers to: i) promote sustainable tourism in natural pristine sites of a smaller but growing category of national and international people that prefer isolated sites, usually located in natural protected areas; ii) to advance coastal scenery characteristics of already touristic places by lowering human impacts; iii) to propose sound management plans for future tourist occupations and developments in order to preserve coastal scenic value.

## 2. Study area

Santa Catarina state is located in the South of Brazil and has 38 coastal municipalities (Andrade and Scherer, 2014). For management purposes, these municipalities are grouped in five coastal sectors: North, Center-North, Center, Center-South, and South (Santa Catarina State Decree number 5.010/06, 3rd Article). The South and Center-South sectors (Fig. 1) constitute the area selected for this study, with 10 municipalities – Passo de Torres, Balneário Gaivota, Balneário Arroio do Silva, Araranguá, Balneário Rincão, Jaguaruna, Laguna, Imbituba, Garopaba and Paulo Lopes.

This area located in the northern sector of the Pelotas Basin, a marginal sedimentary basin with approximately 40,000 km<sup>2</sup> emerged area (Dias, 1994). At the northern end of the basin its most prominent geomorphologic characteristic is the scarped coastal range that, when intersecting the coastline, creates coastal embayments where are

Download English Version:

<https://daneshyari.com/en/article/8060657>

Download Persian Version:

<https://daneshyari.com/article/8060657>

[Daneshyari.com](https://daneshyari.com)