

Geography of the Golfo Dulce region

Geografía de la región del Golfo Dulce

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Abstract: The Golfo Dulce region, located in the south of Costa Rica, contains a high grade of biodiversity and serves as a land bridge with a valuable genetic base between North and South America. A long history of unplanned seizure of land keeps a constant pressure on the primary and secondary forests. The ACOSA (Área de Conservación OSA) was originated to advance the conservation of environment and its sustainable use.

Key words: biodiversity, seizure of land, conservation, sustainability.

Resumen: La región del Golfo Dulce, localizada en el sur de Costa Rica, contiene un alto grado de biodiversidad y sirve como un puente terrestre con una valiosa base genética entre América del Norte y Sudamérica. Una larga historia de posesión de tierra sin planificación, mantiene una presión constante sobre los bosques primarios y secundarios. La ACOSA (Área de Conservación OSA) se originó para avanzar la conservación de las áreas naturales y su uso sustentable.

Palabras clave: biodiversidad, posesión de tierra, conservación, sustentabilidad.

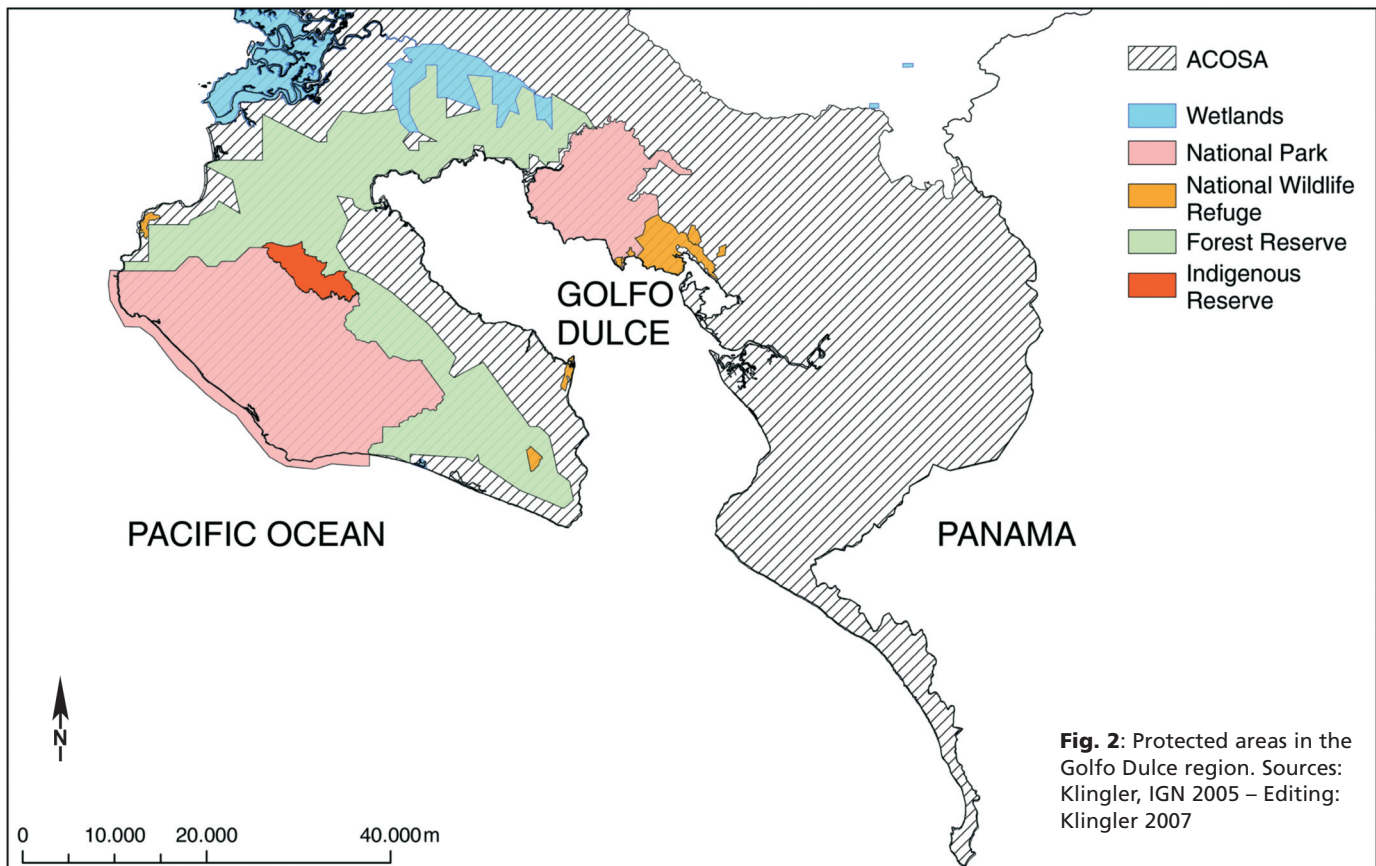
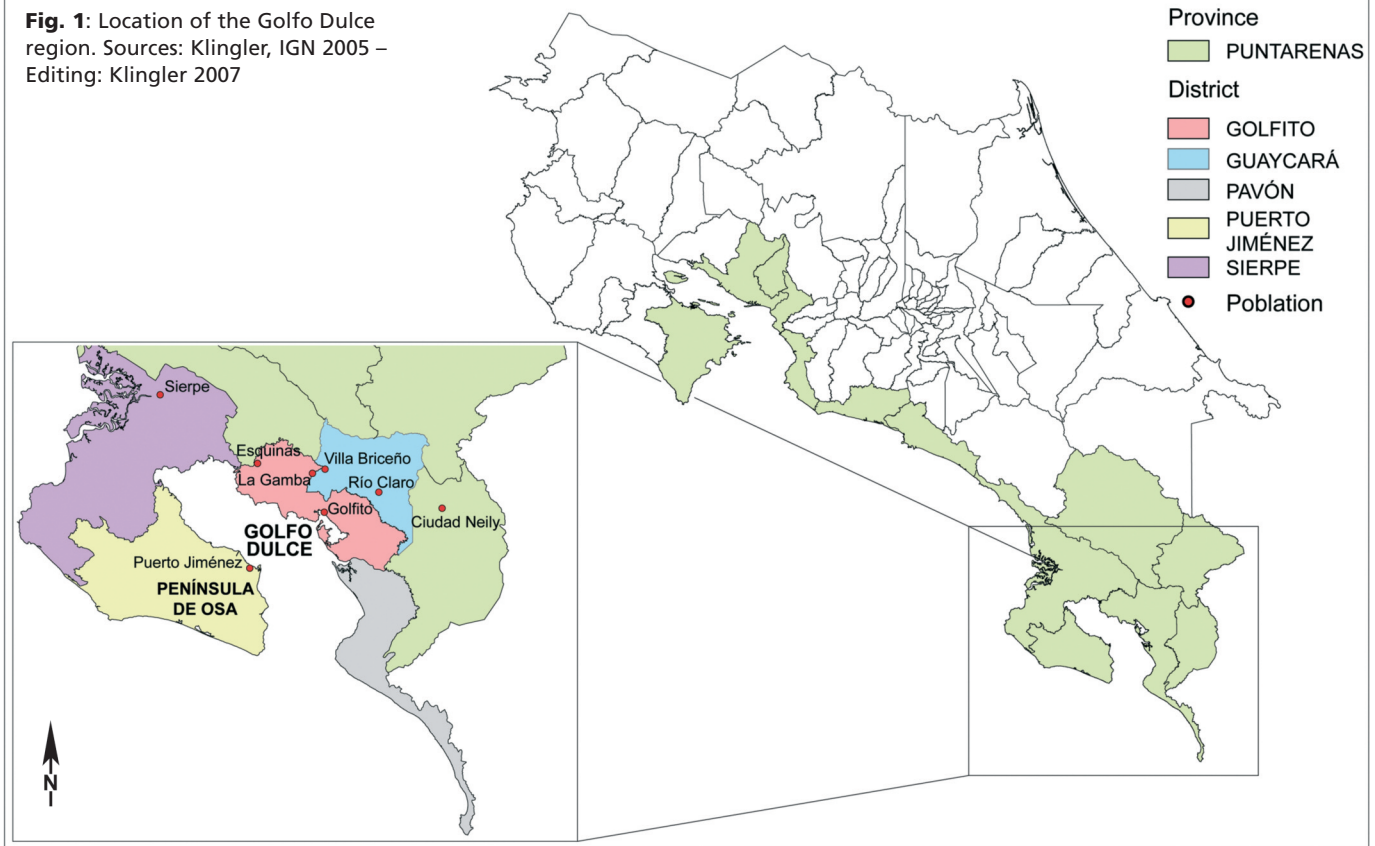
The natural borders of the Golfo Dulce Region consist of the Fila Costeña in the north-east, the Río Sierpe in the northwest, the Pacific Ocean in the west and south, and the Río Colorado in the east. This region is administrated politically in the districts of Golfito, Guaycará, Pavón, Puerto Jiménez und Sierpe within the Puntarenas Province (Fig. 1). The geographical coordinates lie mainly between 8°27'-8°41'N and 83°15'-83°45'W.

The Meso-American Oceanic Trench (MAT) forms a classic example of a subduction zone, in which the Cocos Plate consisting of basalt and gabbro is submerged under the lighter Caribbean Plate. The whole region is still tectonically active. Up to ten tremors per day have been measured in the region, and crustal elevations have been observed.

Under the Corcovado National Park lies the drainage of the Corcovado Basin, a broad sediment-filled oceanic embayment between Punta Llorona and Punta Salsipuedes which extends inland from the Pacific Ocean 2-10 km to the east (MALZER 2001). The basin's low plain covers about 100 km² with several meandering rivers, partially surrounded by upland hills with increasing altitude and irregular relief from an undulating plateau (below 200 m) in the north-western part of the park (north of Llorona), to 745 m in the south-east on the peninsula's highest peaks. The rugged

uplands are a product of intense tectonic activity and weathering (causing frequent landslides) and are dominated by eroded narrow ridges and long, steep slopes with dense drainage networks (TOSI 1975; HERWITZ 1981; HARTSHORN 1983, HERRERA-McBRYDE & al. 1997). A virtually uninterrupted sandy beach extends for 20 km with cliffs and pocket beaches at the northern and southern park headlands; a marine cave can be seen near the southern end of the beach. The Piedras Blancas National Park consists mainly of narrow ridges and steep slopes covered with primary forest. The Río Esquinas, named after its conspicuous meanders (in Spanish 'esquinas' means corner), forms the natural border to the north and west sides of the park. Several 'quebradas' (streams) and small rivers pass through the land and flow into the Río Esquinas. Flood plains along the two main rivers, the Río Esquinas and the Río Bonito, cover abandoned farmland and secondary forest within the park, at different stages of forest regrowth. Due to logging, almost no flat land with primary forest has survived within the park, except small pockets along the coast and deep inside the park. The steep and rocky southern border, formed by the shoreline of the Golfo Dulce, is often interrupted by sand and gravel beaches, which give way to small plains. Near the mouth of the Río Esquinas, there are extensive mangrove swamps. Some small coral reefs north-west of the Esquinas forest also belong to the park.

Fig. 1: Location of the Golfo Dulce region. Sources: Klingler, IGN 2005 – Editing: Klingler 2007



Due to the orographic formation of its interior and its humid climate, the Golfo Dulce Region is rich with biodiversity, containing very dense flora and fauna. After HOLDRIDGE (1971), the region was subdivided into different zones, including the tropical rainforest, the tropical wetland forest, and tropical premontane rainforest. The biogeographical situation in this area shows many similarities to the flora and fauna in the Amazon and the Colombian Chocó Region and serves as a land bridge with a valuable genetic base between North and South America. After unregulated seizure of land by agricultural settlers, lumberjacks, and large landowners in the 1940s and 1950s, regulated, state-subsidised settlement reform intended to support agricultural exports in the 1960s, and intensification of the livestock industry in the 1970s, primary and secondary forest reserves have shrunk to a minimum. The constant expansion of monocultures on new land has far-reaching consequences for the local ecosystem.

The conservation and sustainable use of tropical forests is established in the Forest Declaration, Convention on Climate Protection, and Convention on the Protection of Species, which demonstrate worldwide concern for these issues. As a regional example, in the 4,304.80 km² drainage basin, the ACOSA (Área de Conservación OSA), which covers an area spanning the Cantons Osa, Golfito und Corredores, aims to protect species diversity within the 17 game preserves, which are 44.7% covered by forest, through integration and an alliance with the Parques Nacionales, Vida Silvestres y Forestales (Fig. 2). The main sector of the Corcovado National Park on the Osa Peninsula covers 424 km² and the Piedras Blancas National Park covers 148 km². The altitude ranges from sea level to 745 m on the Osa Peninsula (Cerro Rincón and Cerro Mueller in the Fila Matajambre) and to 579 m in the Esquinas forest (Cerro Nicuesa). The Golfo Dulce Forest Reserve (592 km²) was established between the two parks, thereby forming a natural forest corridor.

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