

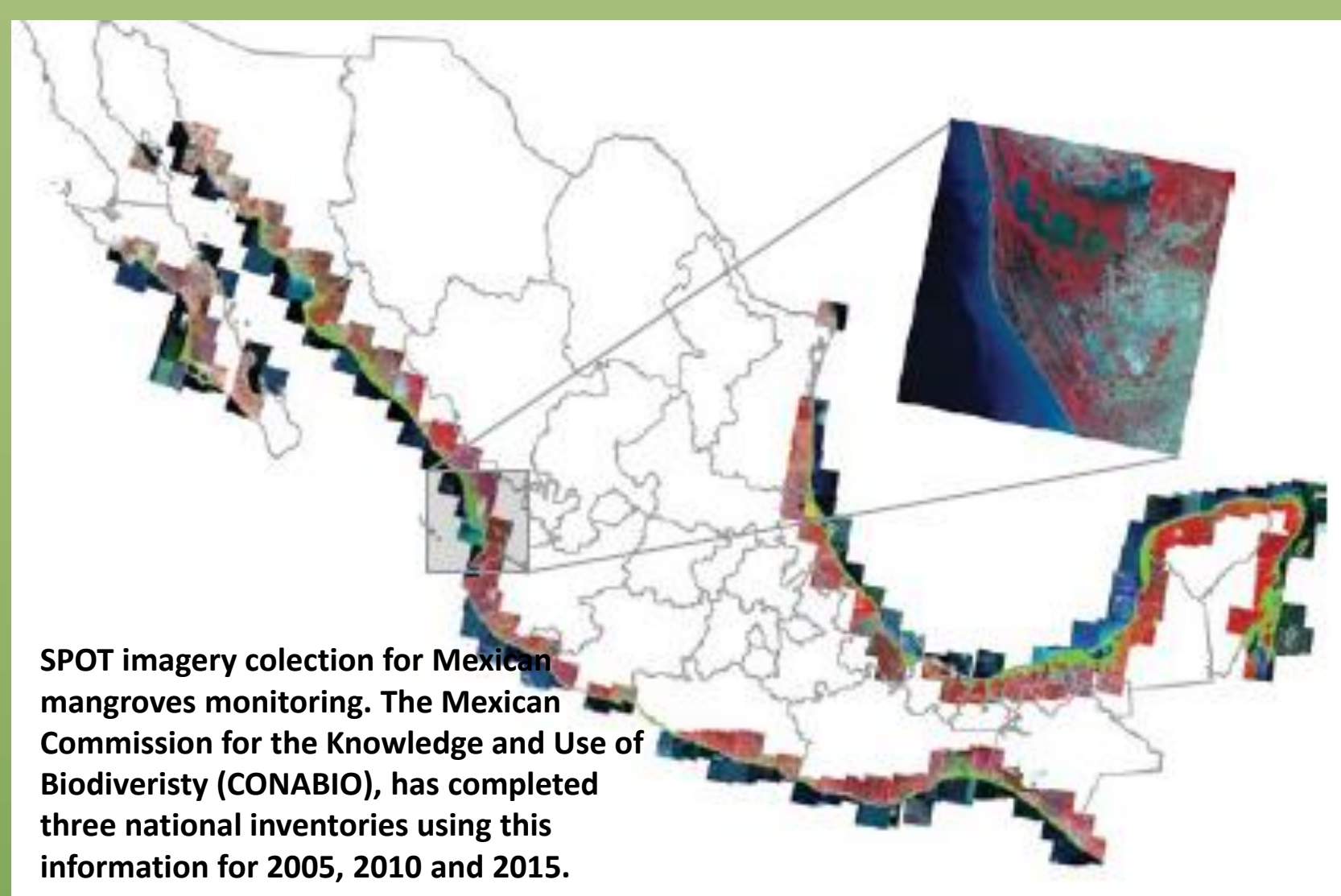
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MANGROVE ECOSYSTEMS IN MEXICO

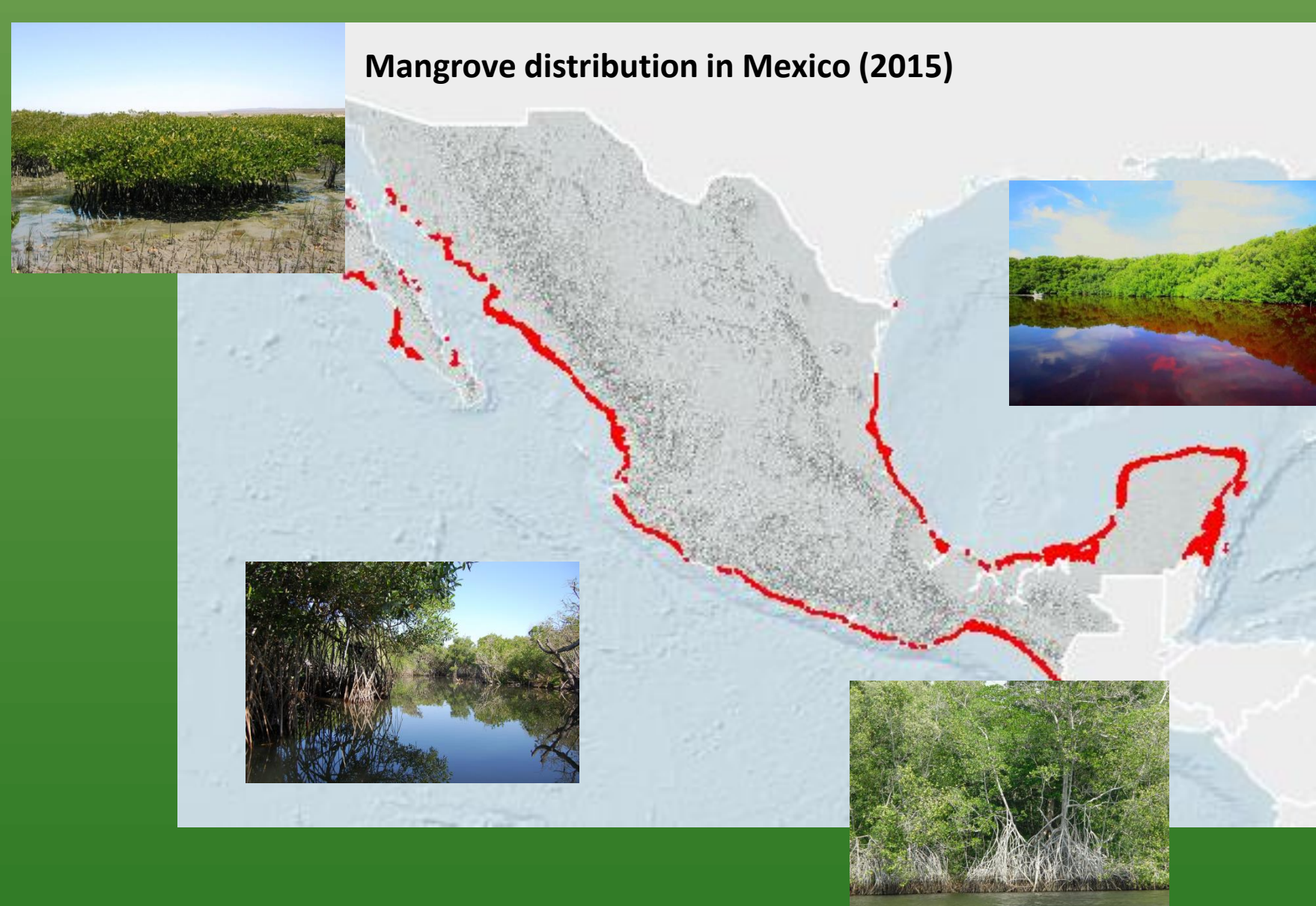
The mangroves deliver important ecosystem services (e.g. habitat for diverse species, CO₂ sequestration, improvement of water quality, protection against coastal erosion and hurricanes), and currently these ecosystems are conservation targets. Regarding this, in Mexico mangrove monitoring program is carried out on a nationwide level, using geospatial techniques to assess extent and condition, every few years.



To assess mangrove extent and forest structure, medium to high resolution satellite imagery analysis and field surveys have been used since the last quarter of the 20th century, evaluating trends of change.



At the present time, Mexico's mangrove coverage is around 7500 km², positioning the country among the top ten in mangrove extent. Although mangrove cover is found in 17 coastal states, most of the coverage is in the Gulf of Mexico and the Caribbean sea, with the highest and densest forests to the south of the country.



MANGROVES OF SINALOA

In northwest Mexico, around 25% of the total mangrove cover is distributed, with Sinaloa state with the largest extent, around 815 km² according to CONABIO (2017), although our estimations for the period 1973 – 2000, output a cover extent around 700 km². The mangroves are distributed around the numerous coastal lagoons in the state, along a coastline of about 650 km.



In addition, despite that Sinaloa is leading shrimp aquaculture in Mexico, with the largest shrimp ponds area (600 km²), only slight perturbations in mangrove cover and condition have been detected after more than 40 years, representing less than 2.5% of the total state mangrove extent *Avicennia germinans* is still the dominant species followed by *Rhizophora mangle*, although *Laguncularia racemosa* was the best represented species in the central zone.

	Sinaloa mangroves extent (km ²)			
	1985	2005	2010	2015
Mangrove extent	821.7	791.1	772.6	815.6
Perturbed mangrove	7.6	9.5	22.6	18.5
Mangrove under protection in Federal areas	77.2	78.2	77.4	91.2
Mangrove under protection in State areas	0.0	3.6	3.5	4.1
Mangrove in Ramsar sites	0.0	286.5	530.0	590.4
Total mangrove protected area	77.2	268.1	599.1	602.7

Source: Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. Manglares de México. 2015

Conclusions. Some disagreement exists between official figures from the CONABIO and other mangrove assessments, including ours for periods previous to the beginning of the CONABIO monitoring program. However, we agree that Sinaloa's mangroves are not heavily perturbed, but to reduce discrepancies, we strongly recommend intra-annual evaluations, besides inter-annual, using standardized methods to reduce variations attributed to seasonal changes and uncertainty in the assessments.