# Appendix: Geology of the Northern Caribbean and the Greater Antillean Arc

This map is a compilation of many years work to produce a comprehensive collection of the structural and hydrocarbon elements of this region. The data displayed comes from a multitude of sources ranging from academia, industry, Government, and independent research. Below is a list of the references categorised by type. We hope to have included every reference used but apologise if any have been missed.

## Surface Geology

As this Map is compiled from multiple references, there is a line on the map which denotes the borders at which point the geology changes reference.

Servicio Geológico Mexicano 2006 1:500,000 Geological Map. <https://www.sgm.gob.mx/Gobmx/en/About_SGM/Geology.html>

Campeche, Quintana Roo y Yucatán, 2007. Calleja-Moctezuma, A., Sánchez-Rojas, L.E., and Barajas-Nigoche, L.D. (Map coordinators). Carta Geológica-Minera Estatal Campeche, Quintana Roo, Yucatán, Esc. 1:500,000. Servicio Geológico Mexicano (antes Consejo de Recursos Minerales) Pachuca, Hidalgo, Mexico.

French, C.D. and Schenk, C.J., 2004, Map showing geology, oil and gas fields, and geologic provinces of the Caribbean Region: U.S. Geological Survey Open-File Report 97-470-K, <https://doi.org/10.3133/ofr97470K>.

**Cuba:** The Surface Geology for onshore Cuba is digitised from both 1:500,000 and 1:250,000 state geology maps from the Ministerio de la Industria Basica: Perez Othon, J. and Yarmoliuk, V.A., 1985. Mapa Geologico de la Republica de Cuba, 1:500,000.Instituto de Geologia y Paleontologia, 1988. Mapa Geologico de Cuba, 1:250,000.

**Jamaica:** The Surface Geology for onshore Jamaica is digitised from a 1:250,000 state geology map from the Geological Survey of Jamaica:*Tolworth, 1958 (1979). Jamaica Geology, 1:250,000.*

**Dominican Republic:** The Surface Geology for onshore Dominican Republic was acquired from OneGeology at a 1:250,000 scale: *Tapia, S.M., 2005. IGME SGN EN GEOLOGY, DOM SGN 1:250k.*Map service URL: <http://mapas.igme.es/gis/services/PSysmin/IGME_SGN_EN_Geology/MapServer/WMSServer>

**Haiti:** The Surface Geology for onshore Haiti was acquired from HaitiData. <http://haitidata.org>

## Cultural Data

Maritime Boundaries: CC BY 4.0 Flanders 2019 Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marineregions.org/. https://doi.org/10.14284/386. No changes have been made to the original data file

Cities: World Cities, ESRI feature service, source credits Esri, CIA World factbook, GMI, NIMA, Times Atlas 10th.

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DSDP and ODP expedition locations have been included (where possible). The original database can be downloaded from <http://iodp.tamu.edu/scienceops/maps.html>

Water Bodies: French, C.D. and Schenk, C.J., 2004, Map showing geology, oil and gas fields, and geologic provinces of the Caribbean Region: U.S. Geological Survey Open-File Report 97-470-K, <https://doi.org/10.3133/ofr97470K>

Oil Fields: The oil field shapefile has been generated from multiple sources of varying accuracy and publication date so has its limitation in terms of completeness. References include

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Dominican Republic Wells: Were downloaded from the Base Nacional De Datos De Hidrocarburos website at <http://bndh.gob.do/>

Wells: Complete well data bases for the remaining regions of on this map were not available so have been collected from the references listed below. The wells shown do not provide a complete coverage and have been digitised in a variety of manors from lat\longs to rectified maps so location and accuracy varies. References include:

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*Salt structures have been digitised from a number of publications and also our own interpretation from analysing the high resolution bathymetry.*

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## **Plate Tectonics:**

Oceanic Fracture zones:

*These are interpreted from Vertical Gravity Gradient and Aeromagnetic data from our own work and also combined with interpretation from Pindell et al. 2016/2020.*

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*These are interpreted from Vertical Gravity Gradient and Aeromagnetic data from our own work and also combined with interpretation from Pindell et al. 2016/2020 and Reuber et al. 2019.*

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