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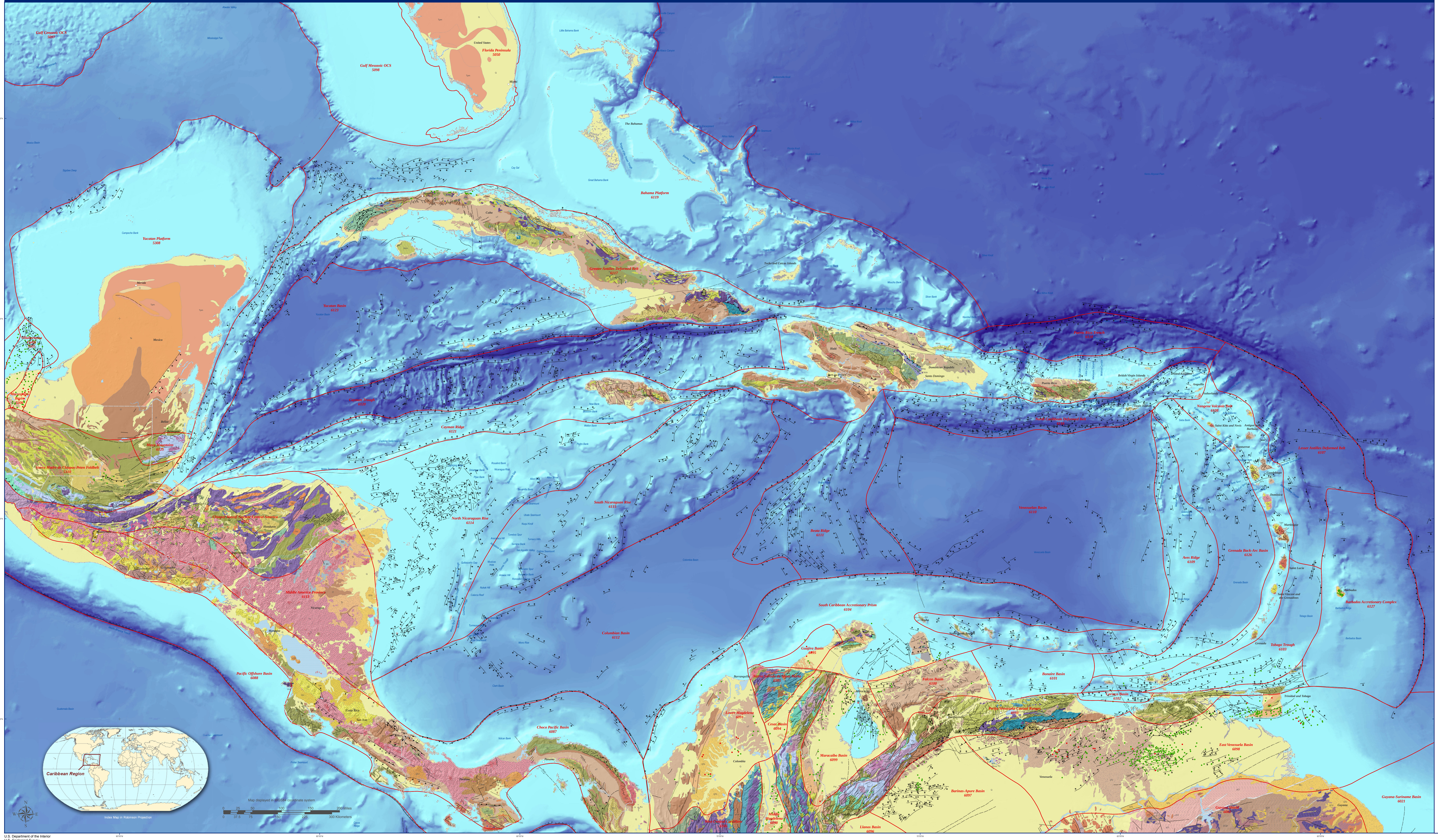
U.S. Geological Survey Open-File Report 97-470-K

Map Showing Geology, Oil and Gas Fields, and Geologic Provinces of the Caribbean Region

Digitally Compiled by Christopher D. French and Christopher J. Schenk



Introduction

This map was created as part of a worldwide series of geologic maps for the U.S. Geological Survey's World Energy Project, available on CD-ROM and through the Internet. The goal of the project is to assess the undiscovered, technically recoverable oil and gas resources of the world. For data management purposes, the world was divided into eight energy regions based on political boundaries and corresponding approximately to the economic regions of the world as defined by the U.S. Department of State. Region Six encompasses the Caribbean area, Central America, and South America. Geologic maps were compiled for South America on Open-File Report 97-470-D. Countries listed below are shown whole or in part within the map extent: Anguilla, Antigua and Barbuda, Aruba Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands, United States, Venezuela, and the Virgin Islands. An index map in the lower left-hand corner shows the study area in a world context.

The world was previously divided into geologic provinces for the World Energy Project, of which a subset is shown on the map. Each province has a set of geologic characteristics that distinguish it from surrounding provinces. These characteristics may include dominant lithologies, the age of the strata, structure, or other geologic features. Each province is assigned a unique number and may fall within two or more countries or assessment regions.

Additional information regarding the map compilation and data can be found on the CD-ROM for USGS Open-File Report 97-470-K entitled "Map Showing Geology, Oil and Gas Fields, and Geologic Provinces of the Caribbean Region." In addition, it is available online at: http://certmapper.cr.usgs.gov/pubs/servlet/PubBroker?issue=ofr97470k

Various software packages were used to create this map including: Environmental Systems Research Institute, Inc. (ESRI) ArcGIS 8.3, ArcInfo software, Adobe Photoshop CS, Illustrator CS, and Acrobat 6.0.

Explanation of Map Units and Symbols

Sedimentary Rocks

- Q — Quaternary alluvium
- Qcb — Quaternary carbonate deposits
- QT — Quaternary and Tertiary marine limestone, sandstone, and shale
- QTc — Quaternary and Tertiary continental deposits
- Tc — Tertiary continental strata
- T — Tertiary marine strata
- Tpm — Pliocene and Miocene strata
- To — Oligocene strata
- Te — Eocene strata
- uT — Post-Eocene marine strata
- uTc — Post-Eocene continental strata
- lT — Eocene and(or) Paleocene marine strata
- TK — Tertiary and Cretaceous marine strata
- TKc — Tertiary and Cretaceous continental strata
- TKx — Tertiary and Cretaceous complex of deformed sedimentary rocks
- K — Cretaceous marine strata
- Ku — Cretaceous sedimentary and volcanic rocks
- uK — Upper Cretaceous marine strata
- J — Jurassic marine and continental strata
- Jx — Jurassic complex of sedimentary, igneous, and metamorphic rocks
- JTr — Jurassic and Triassic marine and continental strata
- JTru — Jurassic and Triassic sedimentary and volcanic rocks
- Mz — Mesozoic sedimentary and volcanic rocks
- MzPz — Mesozoic and Paleozoic marine and continental strata
- Pz — Paleozoic strata
- Pzu — Paleozoic sedimentary and volcanic rocks
- pCs — Precambrian fanglomerate and deltaic sedimentary rocks

Volcanic Rocks

- Qv — Quaternary volcanic edifices, flows, and pyroclastic deposits
- Qvi — Quaternary pumice fills and pyroclastic mantles
- QTv — Quaternary and Tertiary volcanic edifices, flows, tuff, silicic pyroclastic and volcanic epiclastic rocks
- QTvc — Quaternary and Tertiary volcanic and continental sedimentary rocks
- Tv — Tertiary volcanic rocks
- Tplv — Pliocene calc-alkaline volcanic rocks
- Tva — Pliocene and Miocene andesitic flows and associated volcanic rocks
- Tmov — Miocene and Oligocene volcanic rocks
- lTv — Eocene and Paleocene volcanic flows and associated pyroclastic and volcanogenic sedimentary rocks
- TKv — Tertiary and Cretaceous volcanic rocks
- Kv — Cretaceous volcanic rocks
- Kva — Cretaceous andesitic to silicic volcanic rocks
- lKv — Lower Cretaceous flows, breccia, and tuff, partly of marine deposition
- Jv — Jurassic volcanic rocks, mostly andisitic to silicic
- Mzva — Mesozoic flows and small plutons, mostly intermidiate to silicic
- Mzv — Mesozoic volcanic and sedimentary rocks
- Pzv — Paleozoic volcanic rocks
- pCv — Precambrian silicic flows, tuffs, and ignimbrites
- v — Volcanic rocks

Intrusive Rocks

- Ti — Tertiary plutons, mostly intermediate to silicic
- TKi — Tertiary and Cretaceous plutons, mostly intermediate to silicic
- Ki — Cretaceous plutons, mostly intermediate to silicic
- Mzi — Mesozoic plutons, mostly intermediate to silicic
- Pzi — Paleozoic plutons, mostly intermediate to silicic
- pCd — Precambrian diabase sills and dikes. Ages 1,500 - 1,750 m.y.
- pCg — Precambrian granitic rocks. Ages 1,800 - 3,140 m.y.
- pCi — Precambrian granitic rocks. Ages 1,000 - 1,550 m.y.
- pCum — Precambrian ultramafic rocks

Rocks of Unknown Age

- i — Intrusive rocks, undivided, mostly intermediate to silicic
- u — Ultramafic rocks
- g — Gabbro and related rocks
- Und — Undetermined
- W — Water

Metamorphic Rocks

- Km — Cretaceous metasedimentary and metaigneous rocks, low to intermediate metamorphic grade
- Mzm — Mesozoic metasedimentary and metaigneous rocks, low to intermediate metamorphic grade
- Mzb — Mesozoic amphibolites and associated metasedimentary rocks
- Mzg — Mesozoic metavolcanic and associated metasedimentary rocks
- MzPzm — Mesozoic and Paleozoic metasedimentary and metaigneous rocks
- Pzm — Paleozoic and Precambrian metamorphic rocks, undivided
- pCm — Precambrian metasedimentary and metaigneous rocks, undivided
- pCmv — Precambrian metamorphic rocks of low grade
- pCgn — Precambrian quartzofeldspathic gneiss, ferruginous quartzite, and banded biotite gneiss
- pCsv — Precambrian metasedimentary and metavolcanic rocks
- pCa — Precambrian amphibolite and associated metasedimentary and metaigneous rocks
- pCl — Precambrian granulite, migmatitie, and iron-formation

Intrusive and Metamorphic Rocks

- PzpCu — Paleozoic and Precambrian igneous and metamorphic rocks, undivided
- pCu — Precambrian igneous and metamorphic rocks, undivided
- e — Eclogite

Fault Descriptions

- Fault - bar and ball on downthrown side (FDT)
- Fault - bar and ball on downthrown side - approximated (FDTA)
- Fault - bar and ball on downthrown side - speculative (FDTS)
- Fault - direction of relative displacement unknown (FU)
- Fault - direction of relative displacement unknown - approximated (FUA)
- Fault - direction of relative displacement unknown - speculative (FUS)
- Inferred zone of underthrusting - teeth on upper plate (IZU)
- Reverse or thrust fault (RTF)
- Reverse or thrust fault - approximated (RTFA)
- Strike slip or transform fault (SSTF)
- Strike slip or transform fault - approximated (SSTFA)
- Mylonite or cataclastic zone along major fault (Guyana Shield)

Other Symbols

- Oil Field Centerpoint
- Gas Field Centerpoint
- City
- Country boundary
- Geologic province

Bathymetry

Depth in meters below sea level

1 — 8,500

References

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