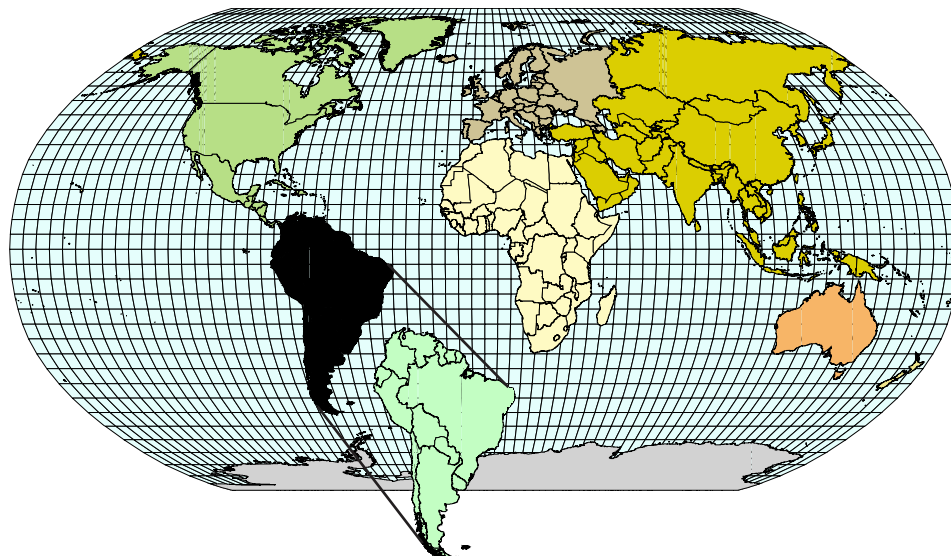


U.S. Department of the Interior
U.S. Geological Survey

MAPS SHOWING GEOLOGY, OIL AND GAS FIELDS, AND GEOLOGIC PROVINCES OF THE SOUTH AMERICA REGION.

Compiled by Christopher J. Schenk, Roland J. Viger, and Christopher P. Anderson



OPEN-FILE REPORT 97-470D

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

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PREFACE

This is one of a series of products resulting from the World Energy Project of the U.S. Geological Survey. Inquiries about this CD-ROM or the Project's effort in the South America Region should be addressed to:

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INTRODUCTION

This digitally compiled map includes geology, geologic provinces, and oil and gas fields of South America. The map is part of a worldwide series on CD-ROM by World Energy Project released of the U.S. Geological Survey . The goal of the project is to assess the undiscovered, technically recoverable oil and gas resources of the world and report these results by the year 2000. For data management purposes the world is divided into eight energy regions corresponding approximately to the economic regions of the world as defined by the U.S. Department of State. South America (Region 6) includes Argentina, Bolivia, Brazil, Chile, Columbia, Ecuador, Falkland Islands, French Guiana, Guyana, Netherlands, Netherlands Antilles, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.

Each region is then further divided into geologic provinces on the basis of natural geologic entities and may include a dominant structural element or a number of contiguous elements. Some provinces contain multiple genetically related basins.

Geologic province boundaries for the South America are delineated using data from a number of geologic maps, and other tectonic and geographic data (see References). Offshore province boundaries are defined by the 4000 meter bathymetric contour. Each province is assigned a unique number; the first digit is the region number. It is attempted to number the provinces in geographical groups; onshore, offshore, and combined on and offshore. The list of the provinces sorted by Code is shown in Adobe Acrobat samgeo.pdf file (see section V below).

Oil and gas field data from Petroconsultants International Data Corporation worldwide oil and gas field database are allocated to these provinces. The geologic provinces are being further subdivided into petroleum systems and assessment units in order to appraise the undiscovered petroleum potential of selected provinces of the world.

Specific details of the data sources and map compilation are given in the metadata file on this CD-ROM. Smaller stratigraphic subdivisions of Phanerozoic rock are combined to simplify the map and to maintain consistency with other maps of the series. Precambrian rocks are undivided. Oil and gas field markers represent field centerpoints published with permission from Petroconsultants International Data Corp., 1996 database.

This map is compiled using Environmental Systems Research Institute, Inc. (ESRI) ARC/INFO software. Political boundaries and cartographic representations on this map were taken, with permission, from ESRI's ArcWorld 1:3M digital coverages, have no political significance, and are displayed as general reference only.

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6001 oceanic basins around South America
6002 Guyana Shield
6003 Brazilian Shield
6004 Brazilian Shield
6005 Brazilian Shield
6006 Andean Province
6007 Familina Province
6008 Canadon Asfalto Province
6009 Deseado-Falklands Province
6010 Tacutu Basin
6011 Solimoes Basin
6012 Amazonas Basin
6013 Sucunduri Province
6014 Parecis Province
6015 Xingu Province
6016 Parnaiba Basin
6017 Sao Francisco Basin
6018 Diamantina Province
6019 Araripe Province
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6023 Santana Platform
6024 San Luis Basin
6025 Barreieinas Basin
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6027 Potigar Basin
6028 Pernambuco Basin
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6030 Jatoba Basin
6031 Tucano Basin
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6038 Santiago Basin
6039 Huallaga Basin
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6041 Putamayo-Orient-Maranon Basin
6042 Acre Basin
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6044 Beni Basin
6045 Santa Cruz-Tarija Basin
6046 Oran-Olmedo Basin

6047 Chaco Basin
6048 Bolsones Basin
6049 Bermejo Basin
6050 Mascasin Basin
6051 Cuyo Basin
6052 Mercedes Basin
6053 Laboulaye-Macachin Basin
6054 Salado Basin
6055 Neuquen Basin
6056 Niriuhau Basin
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6060 North Malvinas Basin
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MAP SHOWING GEOLOGY, OIL AND GAS FIELDS, AND GEOLOGIC PROVINCES OF SOUTH AMERICA

Compiled by

Christopher J. Schenk, Roland J. Viger, and Christopher P. Anderson



INTRODUCTION

This digital geologic province map of the continent of South America was produced for the World Energy Project of the U.S. Geological Survey. The purpose of this project is to provide a quantitative assessment of the undiscovered recoverable oil and gas resources in priority provinces of the world. For this project the world was subdivided into eight regions that generally correspond to the economic regions defined by the U.S. Department of State and to the international market regions recognized by the U.S. Department of Energy. South and Central America are included in Region 6 for the World Energy Project (Klett and others, 1997).

The purpose of this map is to illustrate the geologic provinces of South America and the distribution of oil and gas fields. Using the geologic units and many other sources of data, the entire continent was subdivided into geologic provinces (Committee on the World Geologic Map, 1964; Bigarella, 1973; Jordan and Zambrano, 1973; Travis and others, 1975; Morozovitch, 1981; Ojeda, 1982; Jordan and Allmendinger, 1986; Yrigoyen, 1991; Kingston, 1994; McGettigan and Hunt, 1996; Andemand and Lago, 1997). The offshore boundary of the provinces differs depending upon the location. The offshore boundary of provinces along the northern and western tectonically active margins was placed at an isobath of 2000 m, whereas the offshore boundary of provinces along the eastern passive margin was placed at approximately the 3800 m isobath. A total of 106 geologic provinces were defined in South America. Names for most of the provinces reflect common usage in the literature. The provinces are being further subdivided into petroleum systems and assessment units that form the basis for the resource assessment.

Oil and gas data were digitally allocated to the geologic provinces, and these provinces were then ranked according to known oil and gas resources to provide a prioritization for the resource assessment (Klett and others, 1997). For this assessment the priority provinces in South America are Campos Basin, Neuquen Basin, San Jorge Basin, Magallanes Basin, Santa Cruz-Tarjia, Putumayo-Orient-Maranon, Llanos Basin, Magdalena Basins, Maracaibo Basin, East Venezuela Basin, and the Tobago Trough.

The oil and gas data were obtained from Petroconsultants (1996), and the oil and gas field centerpoints are used on this map with permission of Petroconsultants International Data Corporation.

Political boundaries shown on this map were taken, with permission, from the ESRI ArcWorld 1:3 million scale digital world coverage and are displayed for general reference only.

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the International Stratigraphic Code.

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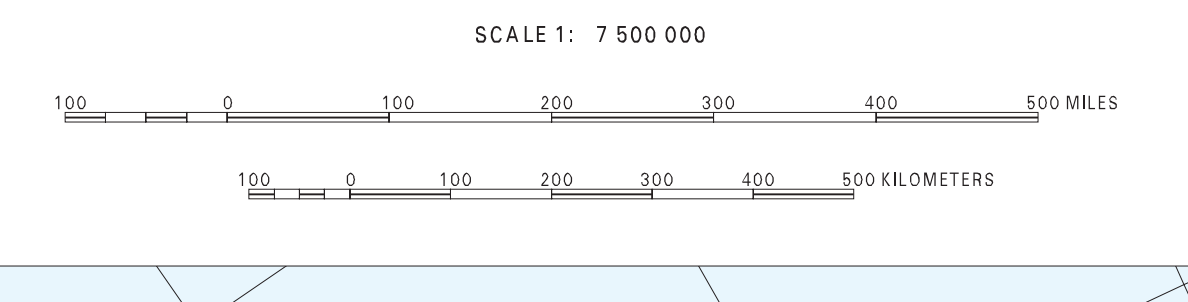
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EXPLANATION

- Oil and gas fields
 - Province boundaries
 - Country boundaries
 - 6000 Province number
- Bipolar Oblique Projection
Units: Meters
False Easting: 0, False Northing: 0



MAP SHOWING OIL AND GAS FIELDS AND GEOLOGIC PROVINCES OF SOUTH AMERICA

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