

## Saline Formation Suitability



### Tags

USA, US Department of Energy, Energy, Saline, Carbon Sequestration, NATCARB

### Summary

This dataset provides a single, seamless spatial database of carbon storage potentials for saline formations across the USA and parts of Canada compiled from regional datasets created by the RCSPs and site characterization projects. Storage resource estimates are based on physically accessible CO<sub>2</sub> storage pore volume within subsurface geologic formations, and on the assumption that the storage reservoirs are open systems in which in situ fluids will either be displaced from the injection zone or managed accordingly. Economic and regulatory constraints are not considered. These data are intended to be used as an initial assessment of potential geologic storage and are not a substitute for site-specific assessment, testing, and geologic investigation. This spatial data layer provides carbon capture and storage (CCS) project developers a starting point for further inquiry into CCS technologies aimed at reducing CO<sub>2</sub> emissions and is intended for use by RCSPs, project developers, and governmental entities for regional- and national-scale assessments of potential CO<sub>2</sub> storage resources in the United States and parts of Canada.

### Description

The National Carbon Sequestration Database and Geographic Information System (NATCARB) Saline spatial database is a small-scale (large-area) overview of carbon dioxide (CO<sub>2</sub>) geologic storage potential in saline formations across the USA and parts of Canada. Saline formations are composed of brine-saturated porous rock and capped by one or more regionally extensive, low- permeability rock formations.

Only saline formations containing formation fluid with total dissolved solids (TDS) greater than 10,000 ppm merited evaluation for potential CO<sub>2</sub> storage. A saline storage resource can include one named geologic stratigraphic unit or be defined as only a part of a stratigraphic unit.

This data layer reflects the best available knowledge regarding the location of carbon sequestration potential in the USA and Canada, both onshore and offshore.

### Version Log:

v1101 - Initial release for Atlas III;

v1102 - no changes. Version not released;

v1103 - Metadata revised. No change to data.;

v1104 - no changes to saline layer;

v1204 - Initial release for Atlas IV. New data submitted by all regional partnerships.

NATCARB is administered by the US Dept. of Energy (DOE) National Energy Technology Laboratory (NETL) and contains data provided by several Regional Carbon Sequestration Partnerships (RCSP). RCSPs originally developed the data per individual geologic storage resource, or as continuous surface models, and then converted these data into a 10 km X 10 km vector "grid". The NATCARB Team at the Kansas Geological Survey compiled the regional datasets into a single, seamless layer.

## Credits

Version 1204 (fourth quarter release of 2012) of the NATCARB Saline spatial database was created by the NATCARB Team at the Kansas Geological Survey (KGS). The following Regional Carbon Sequestration Partnerships (RCSP) contributed data to the national dataset: Big Sky Carbon Sequestration Partnership (BSCSP); Midwest Geological Sequestration Consortium (MGSC); Midwest Regional Carbon Sequestration Partnership (MRCSP); Plains CO2 Reduction Partnership (PCOR); Southeast Regional Carbon Sequestration Partnership (SECARB); Southwest Regional Partnership on Carbon Sequestration (SWP); West Coast Regional Carbon Sequestration Partnership (WESTCARB). Several site characterization project teams also contributed data through the RCSPs to be included in the national dataset: Black Warrior Basin - University of Alabama; Cambro-Ordovician Strata of the Illinois and Michigan Basins - University of Illinois; Gulf of Mexico Miocene - University of Texas; Triassic Newark Basin of New York and New Jersey - Sandia Technologies; Ozark Plateau Study Area - University of Kansas; Rocky Mountain Region - University of Utah; South Georgia Rift Basin - South Carolina Research Institution; Two Elk Energy Park - North American Power Group; Wilmington Graben, Offshore Los Angeles - Terralog Technologies USA; Wyoming - University of Wyoming.

## Use limitations

See [access](#) and [use constraints](#) information.

## ArcGIS Metadata

### Topics and Keywords

\* CONTENT TYPE      Downloadable Data  
EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

PLACE KEYWORDS      Canada, USA

THESAURUS  
TITLE ISO 19115 Topic Category

THESAURUS  
TITLE ISO 19115 Topic Category

THEME KEYWORDS      US Department of Energy, Energy, Saline, Carbon Sequestration, NATCARB

### Citation

TITLE NATCARB Saline 10K (v1204)  
PUBLICATION DATE 2012-12-14 00:00:00

EDITION v1204

PRESENTATION FORMATS      digital map  
FGDC GEOSPATIAL PRESENTATION FORMAT      vector digital data

OTHER CITATION DETAILS [http://www.netl.doe.gov/technologies/carbon\\_seq/natcarb](http://www.netl.doe.gov/technologies/carbon_seq/natcarb)

### Citation Contacts

RESPONSIBLE PARTY  
ORGANIZATION'S NAME National Carbon Sequestration Database and Geographic Information System (NATCARB), US Dept of Energy (DOE) National Energy Technology Laboratory (NETL)  
CONTACT'S ROLE      originator

### Resource Details

DATASET LANGUAGES      English (UNITED STATES)  
DATASET CHARACTER SET      utf8 - 8 bit UCS Transfer Format

STATUS completed  
SPATIAL REPRESENTATION TYPE      vector

## SUPPLEMENTAL INFORMATION

For a detailed methodology of storage resource estimates refer to Appendix B of The United States 2012 Carbon Utilization and Storage Atlas - Fourth Edition (Atlas IV). For data access please contact the US DOE-NETL NATCARB Map Team - NatCarb.Maps@netl.doe.gov For questions regarding how the data were assembled, contact the KGS NATCARB Team - natcarb@kgs.ku.edu

\* **PROCESSING ENVIRONMENT** Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.4.4000

## CREDITS

Version 1204 (fourth quarter release of 2012) of the NATCARB Saline spatial database was created by the NATCARB Team at the Kansas Geological Survey (KGS). The following Regional Carbon Sequestration Partnerships (RCSP) contributed data to the national dataset:

Big Sky Carbon Sequestration Partnership (BSCSP);  
Midwest Geological Sequestration Consortium (MGSC);  
Midwest Regional Carbon Sequestration Partnership (MRCSP);  
Plains CO2 Reduction Partnership (PCOR);  
Southeast Regional Carbon Sequestration Partnership (SECARB);  
Southwest Regional Partnership on Carbon Sequestration (SWP);  
West Coast Regional Carbon Sequestration Partnership (WESTCARB).

Several site characterization project teams also contributed data through the RCSPs to be included in the national dataset:

Black Warrior Basin - University of Alabama;  
Cambro-Ordovician Strata of the Illinois and Michigan Basins - University of Illinois;  
Gulf of Mexico Miocene - University of Texas;  
Triassic Newark Basin of New York and New Jersey - Sandia Technologies;  
Ozark Plateau Study Area - University of Kansas;  
Rocky Mountain Region - University of Utah;  
South Georgia Rift Basin - South Carolina Research Institution;  
Two Elk Energy Park - North American Power Group;  
Wilmington Graben, Offshore Los Angeles - Terralog Technologies USA;  
Wyoming - University of Wyoming.

## ARCGIS ITEM PROPERTIES

- \* **NAME** NATCARB\_Saline\_10K\_v1204
- \* **LOCATION**
  - \* **ACCESS PROTOCOL** Local Area Network

## Extents

### EXTENT

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

WEST LONGITUDE -178.554487  
EAST LONGITUDE -37.077357  
SOUTH LATITUDE 20.138391  
NORTH LATITUDE 79.535565

### EXTENT

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching  
\* **WEST LONGITUDE** -180.000000  
\* **EAST LONGITUDE** 180.000000  
\* **NORTH LATITUDE** 82.362286  
\* **SOUTH LATITUDE** 17.706141  
\* **EXTENT CONTAINS THE RESOURCE** Yes

#### EXTENT IN THE ITEM'S COORDINATE SYSTEM

- \* WEST LONGITUDE -4061251.740000
- \* EAST LONGITUDE 2238748.260000
- \* SOUTH LATITUDE -2121064.320000
- \* NORTH LATITUDE 4088935.680000
- \* EXTENT CONTAINS THE RESOURCE Yes

#### Resource Points of Contact

##### POINT OF CONTACT

ORGANIZATION'S NAME NATCARB Map Team, US Dept. of Energy (DOE) National Energy Technology Laboratory (NETL)

CONTACT'S ROLE point of contact

##### CONTACT INFORMATION

###### PHONE

VOICE 304-285-1354

VOICE 304-285-2006

###### ADDRESS

TYPE both

DELIVERY POINT 3610 Collins Ferry Road M/S F04

CITY Morgantown

ADMINISTRATIVE AREA West Virginia

POSTAL CODE 26507

COUNTRY US

E-MAIL ADDRESS NatCarb.Maps@netl.doe.gov

#### Resource Maintenance

##### RESOURCE MAINTENANCE

DATE OF NEXT UPDATE 2013-04-01 00:00:00

UPDATE FREQUENCY quarterly

#### Resource Constraints

##### LEGAL CONSTRAINTS

###### LIMITATIONS OF USE

See access and use constraints information.

##### CONSTRAINTS

###### LIMITATIONS OF USE

See access and use constraints information.

#### Spatial Reference

##### ARCGIS COORDINATE SYSTEM

- \* TYPE Projected
- \* GEOGRAPHIC COORDINATE REFERENCE GCS\_WGS\_1984
- \* PROJECTION Lambert Azimuthal Equal-area
- \* COORDINATE REFERENCE DETAILS

###### PROJECTED COORDINATE SYSTEM

X ORIGIN -12749300

Y ORIGIN -12735000

XY SCALE 10000

Z ORIGIN -100000

Z SCALE 10000

M ORIGIN -100000

M SCALE 10000

XY TOLERANCE 0.001

Z TOLERANCE 0.001  
M TOLERANCE 0.001  
HIGH PRECISION true  
WELL-KNOWN TEXT  
PROJCS["LambertAzimuthalEqualarea",GEOGCS["GCS\_WGS\_1984",DATUM["D\_WGS\_1984",SPHEROID["WGS\_1984",6378137.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Azimuthal\_Equal\_Area"],PARAMETER["False\_Easting",0.0],PARAMETER["False\_Northing",0.0],PARAMETER["Central\_Meridian",100.0],PARAMETER["Latitude\_Of\_Origin",45.0],UNIT["Meter",1.0]]

#### REFERENCE SYSTEM IDENTIFIER

\* VALUE 0

#### Spatial Data Properties

##### VECTOR

\* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

##### GEOMETRIC OBJECTS

FEATURE CLASS NAME NATCARB\_Saline\_10K\_v1204

\* OBJECT TYPE composite

\* OBJECT COUNT 139195

##### ARCGIS FEATURE CLASS PROPERTIES

\* FEATURE TYPE Simple

\* GEOMETRY TYPE Polygon

\* HAS TOPOLOGY FALSE

\* FEATURE COUNT 139195

\* SPATIAL INDEX TRUE

\* LINEAR REFERENCING FALSE

#### Data Quality

##### SCOPE OF QUALITY INFORMATION

RESOURCE LEVEL dataset

##### DATA QUALITY REPORT - CONCEPTUAL CONSISTENCY

**MEASURE DESCRIPTION** All RCSPs provided carbon storage data in accordance with common standards developed by the RCSPs and the NATCARB project teams. (See Sources for more information on methodologies). Discrepancies and overlaps occur at the boundaries of some adjacent partnerships and DOE-NETL is the final authority on the handling of these issues (see data fields OVERLAP and DUPLICATE in Entity Attributes section of this document for details).

##### DATA QUALITY REPORT - COMPLETENESS OMISSION

**MEASURE DESCRIPTION** This dataset reflects the best available knowledge regarding the location of potential carbon sequestration potential in the USA and Canada, both onshore and offshore. However, not all areas of the United States and Canada have been assessed (e.g., offshore New England). Not all RCSPs provided data for all attribute fields in the database (indicated by <Null>). Values of "0" represent actual measurements. Not all RCSPs provided low (VOL\_LOW), medium (VOL\_MED) and high (VOL\_HIGH) estimates of carbon storage capacity. In cases where only medium estimates (VOL\_MED) were provided, the medium capacities were copied into the VOL\_LOW and VOL\_HIGH attribute fields. If the RCSP provided low and high estimates of capacity but not medium, the VOL\_MED field was set to <Null>.

##### DATA QUALITY REPORT - QUANTITATIVE ATTRIBUTE ACCURACY

**MEASURE DESCRIPTION** Questions regarding accuracy of the data (spatial and attribute) should be directed to the individual RCSPs. Except for certain cases of inter-partnership overlap, NATCARB did not make any changes to the data except for corrections to values in text fields (spelling, capitalization, etc.) when errors were noticed.

## Lineage

### PROCESS STEP

**DESCRIPTION** The NATCARB Group at the Kansas Geological Survey assembled GIS datasets from the regional partnerships (and other sources where necessary) into a single layer using ESRI's ArcInfo (v10.0) software in the Summer and Fall of 2012. All partnerships provided data in 10 km by 10 km vector "cells" and simple polygon outlines of resource boundaries. Not all partnerships provided low, medium and high capacity estimates. Where only medium capacities were provided, KGS made the low and high capacity fields (VOL\_LOW and VOL\_HIGH, respectively) equal to the medium capacity (VOL\_MED). Where only low and high estimates were provided, medium values were set to <Null>. Other alterations to the data include identifying overlapping and duplicate data submitted by adjacent partnerships and making corrections to values in text fields (spelling, capitalization, etc.) when errors were noticed.

### PROCESS CONTACT

**ORGANIZATION'S NAME** GIS Support Section, Kansas Geological Survey  
**CONTACT'S POSITION** NatCarb Team  
**CONTACT'S ROLE** processor

### CONTACT INFORMATION

#### PHONE

**VOICE** 785-864-3965

#### ADDRESS

**TYPE** both

**DELIVERY POINT** 1930 Constant Ave

**CITY** Lawrence

**ADMINISTRATIVE AREA** KS

**POSTAL CODE** 66047-3726

**COUNTRY** US

**E-MAIL ADDRESS** [natcarb@kgs.ku.edu](mailto:natcarb@kgs.ku.edu)

**HOURS OF SERVICE** 8 am - 5 pm M-F

### PROCESS STEP

**DESCRIPTION** Metadata updated.

### PROCESS CONTACT

**ORGANIZATION'S NAME** GIS Support Section, Kansas Geological Survey  
**CONTACT'S POSITION** NATCARB Team  
**CONTACT'S ROLE** processor

### SOURCE DATA

**DESCRIPTION** No data submitted for v1204 dataset.

### SOURCE CITATION

**TITLE** Site Characterization of the Highest Priority Geologic Formations for CO2 Storage in Wyoming  
**ALTERNATE TITLES** WYOMING

### RESPONSIBLE PARTY

**ORGANIZATION'S NAME** University of Wyoming  
**CONTACT'S ROLE** originator

### RESOURCE LOCATION ONLINE

**LOCATION** <http://www.netl.doe.gov/publications/factsheets/project/FE0002142.pdf>

### RESOURCE LOCATION ONLINE LOCATION

**LOCATION** [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

### SOURCE DATA

**DESCRIPTION** As the responsible authority for the National Carbon Sequestration Database and Geographic Information System (NATCARB), the US Department of Energy (DOE) National Energy Technology Laboratory (NETL) NATCARB Team provided data, methodological guidance and expertise in



handling issues specific to creation of the composite NATCARB data layers.

SOURCE CITATION

TITLE DOE-NETL

ALTERNATE TITLES DOE-NETL

RESPONSIBLE PARTY

ORGANIZATION'S NAME US Department of Energy (DOE) National Energy Technology Laboratory

NATCARB Team

CONTACT'S ROLE originator

SOURCE DATA

DESCRIPTION Midwest Regional Carbon Sequestration Partnership provided data for the Ohio Valley and Northeastern United States (Eastern Indiana, Eastern Kentucky, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania and West Virginia).

SOURCE CITATION

TITLE MRCSP Coal 10K Carbon Sequestration Potential

ALTERNATE TITLES MRCSP

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

RESPONSIBLE PARTY

ORGANIZATION'S NAME Batelle Memorial Institute

CONTACT'S ROLE originator

RESPONSIBLE PARTY

ORGANIZATION'S NAME Midwest Regional Carbon Sequestration Partnership

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/rcsp.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/rcsp.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.mrcsp.org/>

SOURCE DATA

DESCRIPTION Big Sky Carbon Sequestration Partnership provided data for the Innersmountain West region of the Northwestern United States (Idaho, Eastern Montana, Eastern Oregon, Western South Dakota, Eastern Washington and Wyoming).

SOURCE CITATION

TITLE BSCSP Coal 10K Carbon Sequestration Potential

ALTERNATE TITLES BSCSP

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

RESPONSIBLE PARTY

ORGANIZATION'S NAME Montana State University

CONTACT'S ROLE originator

RESPONSIBLE PARTY

ORGANIZATION'S NAME Big Sky Sequestration Partnership

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/rcsp.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/rcsp.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.bigskyco2.org/>

#### SOURCE DATA

DESCRIPTION No data submitted for v1204 dataset.

#### SOURCE CITATION

TITLE Two Elk Energy Park Carbon Site Characterization Project

ALTERNATE TITLES TWO ELK

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME North American Power Group, Ltd.

CONTACT'S ROLE originator

#### RESOURCE LOCATION ONLINE

LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0001997.pdf>

#### RESOURCE LOCATION ONLINE LOCATION

[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

#### SOURCE DATA

DESCRIPTION Southeast Regional Carbon Sequestration Partnership provided data for the Southeastern United States (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Eastern Texas, West Virginia and Virginia).

#### SOURCE CITATION

TITLE SECARB Coal Carbon Sequestration Potential

ALTERNATE TITLES SECARB

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME Southern States Energy Board

CONTACT'S ROLE originator

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME Southeast Regional Carbon Sequestration Partnership

CONTACT'S ROLE originator

#### RESOURCE LOCATION ONLINE

LOCATION <http://www.secarbon.org/>

#### RESOURCE LOCATION ONLINE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/rcsp.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/rcsp.html)

#### SOURCE DATA

DESCRIPTION Midwest Geological Sequestration Consortium provided data for Illinois, Western Indiana and Western Kentucky.

#### SOURCE CITATION

TITLE MGSC Coal 10K Carbon Sequestration Potential

ALTERNATE TITLES MGSC

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME Illinois State Geological Survey

CONTACT'S ROLE originator

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME Midwest Geological Sequestration Consortium

CONTACT'S ROLE originator



RESOURCE LOCATION ONLINE  
LOCATION <http://www.sequestration.org/>

RESOURCE LOCATION ONLINE  
LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/rcsp.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/rcsp.html)

#### SOURCE DATA

DESCRIPTION The University of Alabama contributed data for multiple saline resources in the Black Warrior Basin in Alabama.

#### SOURCE CITATION

TITLE Site Characterization for CO2 Storage from Coal-fired Power Facilities in the Black Warrior Basin of Alabama

ALTERNATE TITLES BLACK WARRIOR

PRESENTATION FORMATS digital map  
FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME University of Alabama  
CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE  
LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0001910.pdf>

RESOURCE LOCATION ONLINE LOCATION  
[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

#### SOURCE DATA

DESCRIPTION The University of Utah contributed data for the Weber Sandstone saline resource in Colorado.

#### SOURCE CITATION

TITLE Characterization of Most Promising Sequestration Formations in the Rocky Mountain Region

ALTERNATE TITLES ROCKY MOUNTAIN

PRESENTATION FORMATS digital map  
FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME University of Utah  
CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE  
LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0001812.pdf>

RESOURCE LOCATION ONLINE LOCATION  
[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

#### SOURCE DATA

DESCRIPTION The Illinois Geological Survey contributed data for portions of the St Peter Sandstone saline resource in Illinois and Michigan.

#### SOURCE CITATION

TITLE An Evaluation of the Carbon Sequestration Potential of the Cambro Ordovician Strata of the Illinois and Michigan Basins

ALTERNATE TITLES CAMBRO ORDOVICIAN

PRESENTATION FORMATS digital map  
FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

RESPONSIBLE PARTY

ORGANIZATION'S NAME Illinois State Geological Survey

CONTACT'S ROLE originator

RESPONSIBLE PARTY

ORGANIZATION'S NAME University of Illinois

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE LOCATION

[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0002068.pdf>

SOURCE DATA

DESCRIPTION No data submitted for v1204 dataset.

SOURCE CITATION

TITLE Characterization of Pliocene and Miocene Formations in the Wilmington Graben, Offshore Los Angeles, for Large Scale Geologic Storage of CO2

ALTERNATE TITLES WILMINGTON GRABEN

RESPONSIBLE PARTY

ORGANIZATION'S NAME Terralog Technologies USA

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE LOCATION

[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0001922.pdf>

SOURCE DATA

DESCRIPTION The Plains CO2 Reduction Partnership provided data for the upper Midwest and Central Canada (Iowa, Minnesota, Missouri, Eastern Montana, Nebraska, North Dakota, Eastern South Dakota, Wisconsin, Eastern Wyoming, Alberta, Northeastern British Columbia, Manitoba and Saskatchewan).

SOURCE CITATION

TITLE PCOR Coal 10K Carbon Sequestration Potential

ALTERNATE TITLES PCOR

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

RESPONSIBLE PARTY

ORGANIZATION'S NAME University of North Dakota, Energy and Environmental Research Center

CONTACT'S ROLE originator

RESPONSIBLE PARTY

ORGANIZATION'S NAME The Plains CO2 Reduction Partnership

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/rcsp.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/rcsp.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.undeerc.org/pcor/>

SOURCE DATA

DESCRIPTION As the primary entity responsible for compiling the NATCARB layers, the Kansas Geological Survey NATCARB Team worked closely with the DOE-NETL NATCARB Team to develop rules and methods for assembling the composite datasets.

SOURCE CITATION

TITLE KGS NATCARB

ALTERNATE TITLES KGS

RESPONSIBLE PARTY

ORGANIZATION'S NAME Kansas Geological Survey NATCARB Team

CONTACT'S ROLE originator

SOURCE DATA

DESCRIPTION No data submitted for v1204 dataset.

SOURCE CITATION

TITLE Geologic Characterization of the South Georgia Rift Basin for Source Proximal CO2 Storage

ALTERNATE TITLES GEORGIA RIFT

RESPONSIBLE PARTY

ORGANIZATION'S NAME South Carolina Research Foundation

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE

LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0001965.pdf>

RESOURCE LOCATION ONLINE LOCATION

[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

SOURCE DATA

DESCRIPTION The University of Kansas contributed data for the Arbuckle saline resource in Kansas.

SOURCE CITATION

TITLE Modeling CO2 Sequestration in a Saline Reservoir and Depleted Oil Reservoir to Evaluate The Regional CO2 Sequestration Potential of The Ozark Plateau Aquifer System, South-Central Kansas

ALTERNATE TITLES OZARK PLATEAU

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

RESPONSIBLE PARTY

ORGANIZATION'S NAME University of Kansas

CONTACT'S ROLE originator

RESPONSIBLE PARTY

ORGANIZATION'S NAME Kansas Geological Survey

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE LOCATION

[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0002056.pdf>

SOURCE DATA

DESCRIPTION No data submitted for v1204 dataset.

SOURCE CITATION

TITLE Gulf of Mexico Miocene CO2 Site Characterization Mega Transect

ALTERNATE TITLES GOM MIOCENE

RESPONSIBLE PARTY

ORGANIZATION'S NAME University of Texas at Austin

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE LOCATION

[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0001941.pdf>

SOURCE DATA

DESCRIPTION Southwest Regional Partnership on Carbon Sequestration provided data for the Southwestern United States (Eastern Arizona, Colorado, Kansas, New Mexico, Western Texas and Utah).

SOURCE CITATION

TITLE SWP Coal 10K Carbon Sequestration Potential

ALTERNATE TITLES SWP

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

RESPONSIBLE PARTY

ORGANIZATION'S NAME New Mexico Institute of Mining and Technology

CONTACT'S ROLE originator

RESPONSIBLE PARTY

ORGANIZATION'S NAME Southwest Regional Partnership on Carbon Sequestration

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/rcsp.html/](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/rcsp.html/)

RESOURCE LOCATION ONLINE

LOCATION <http://www.southwestcarbonpartnership.org>

SOURCE DATA

DESCRIPTION No data submitted for v1204 dataset.

SOURCE CITATION

TITLE Characterization of the Triassic Newark Basin of New York and New Jersey for Geologic Storage of Carbon Dioxide

ALTERNATE TITLES NEWARK BASIN

RESPONSIBLE PARTY

ORGANIZATION'S NAME Sandia Technologies LLC

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE LOCATION

[http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/arrasitechar.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/arrasitechar.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.netl.doe.gov/publications/factsheets/project/FE0002352.pdf>

SOURCE DATA

DESCRIPTION The United States 2012 Carbon Utilization and Storage Atlas - Fourth Edition (Atlas IV) provides updated information regarding carbon dioxide storage potential in the US and Canada and includes maps, summary tables and, in Appendices A and B, detailed methodologies.

SOURCE MEDIUM NAME online link

SOURCE CITATION

TITLE The United States 2012 Carbon Utilization and Storage Atlas

ALTERNATE TITLES Atlas IV

EDITION Fourth

OTHER CITATION DETAILS <http://www.netl.doe.gov> 1-800-553-7681

RESPONSIBLE PARTY

ORGANIZATION'S NAME US Department of Energy - National Energy Technology Laboratory

CONTACT'S ROLE publisher

RESPONSIBLE PARTY

ORGANIZATION'S NAME US Department of Energy - National Energy Technology Laboratory  
Carbon Sequestration Program

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/refshelf/atlasIV/](http://www.netl.doe.gov/technologies/carbon_seq/refshelf/atlasIV/)

SOURCE DATA

DESCRIPTION West Coast Regional Carbon Sequestration Partnership provided data for the Western United States and Canada (Alaska, Western Arizona, Western British Columbia, California, Hawaii, Nevada, Western Oregon and Western Washington).

SOURCE CITATION

TITLE WESTCARB Coal 10K Carbon Sequestration Potential

ALTERNATE TITLES WESTCARB

PRESENTATION FORMATS digital map

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

RESPONSIBLE PARTY

ORGANIZATION'S NAME California Energy Commission

CONTACT'S ROLE originator

RESPONSIBLE PARTY

ORGANIZATION'S NAME West Coast Regional Carbon Sequestration Partnership

CONTACT'S ROLE originator

RESOURCE LOCATION ONLINE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/infrastructure/rcsp.html](http://www.netl.doe.gov/technologies/carbon_seq/infrastructure/rcsp.html)

RESOURCE LOCATION ONLINE

LOCATION <http://www.westcarb.org/>

Distribution

DISTRIBUTOR

CONTACT INFORMATION

ORGANIZATION'S NAME NATCARB Map Team, US Department of Energy (DOE) National Energy Technology Laboratory (NETL)

CONTACT'S ROLE distributor

CONTACT INFORMATION

PHONE

VOICE 304-285-1354

VOICE 304-285-2006

ADDRESS

TYPE both

DELIVERY POINT 3610 Collins Ferry Road M/S F04

CITY Morgantown

ADMINISTRATIVE AREA West Virginia

POSTAL CODE 26507

COUNTRY US

E-MAIL ADDRESS [NATCARB.Maps@NETL.DOE.GOV](mailto:NATCARB.Maps@NETL.DOE.GOV)

## AVAILABLE FORMAT

NAME ESRI File Geodatabase

VERSION 10.0

FILE DECOMPRESSION TECHNIQUE zip

## ORDERING PROCESS

TERMS AND FEES None

## INSTRUCTIONS

GIS datasets in ESRI file geodatabase format are available online. Please contact NATCARB Map Team for custom requests.

## TRANSFER OPTIONS

### ONLINE SOURCE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/natcarb/download.html](http://www.netl.doe.gov/technologies/carbon_seq/natcarb/download.html)

## DISTRIBUTION FORMAT

\* NAME File Geodatabase Feature Class

## TRANSFER OPTIONS

### ONLINE SOURCE

LOCATION [http://www.netl.doe.gov/technologies/carbon\\_seq/natcarb/download.html](http://www.netl.doe.gov/technologies/carbon_seq/natcarb/download.html)

## Fields

### DETAILS FOR OBJECT NATCARB\_Saline\_10K\_v1204

\* TYPE Feature Class

\* ROW COUNT 139195

### DEFINITION

Vector polygon features representing saline storage resources in the USA and Canada

### DEFINITION SOURCE

NATCARB

### FIELD VOL\_HIGH

\* ALIAS VOL\_HIGH

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

### FIELD DESCRIPTION

High (P90) estimate of carbon storage potential in metric tonnes.

### DESCRIPTION SOURCE

Atlas IV

### RANGE OF VALUES

MINIMUM VALUE 0

UNITS OF MEASURE metric tonnes

### FIELD VOL\_LOW

\* ALIAS VOL\_LOW

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

### FIELD DESCRIPTION

Low (P10) estimate of carbon storage potential in metric tonnes.

### DESCRIPTION SOURCE

Atlas IV



RANGE OF VALUES  
MINIMUM VALUE 0  
UNITS OF MEASURE metric tonnes

FIELD VOL\_MED

\* ALIAS VOL\_MED  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Medium (P50) estimate of carbon storage potential in metric tonnes.

DESCRIPTION SOURCE

Atlas IV

RANGE OF VALUES  
MINIMUM VALUE 0  
UNITS OF MEASURE metric tonnes

FIELD RSC\_AREA\_CELL

\* ALIAS RSC\_AREA\_CELL  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

The area of the resource (square meters) that exists within the 10K cell. If the entire cell is covered by the resource, value = 100000000.

RANGE OF VALUES  
MINIMUM VALUE 0  
UNITS OF MEASURE square meters

FIELD ARRA\_PROJECT

\* ALIAS ARRA\_PROJECT  
\* DATA TYPE String  
\* WIDTH 20  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Name of the site characterization study project.

DESCRIPTION SOURCE

DOE-NETL

LIST OF VALUES

VALUE GOM MIOCENE

DESCRIPTION Gulf of Mexico Miocene - U. of Texas at Austin

VALUE NEWARK BASIN

DESCRIPTION Triassic Newark Basin of NY and NJ - Sandia Technologies

VALUE BLACK WARRIOR

DESCRIPTION Black Warrior Basin - U. of Alabama

VALUE WILMINGTON GRABEN

DESCRIPTION Wilmington Graben, Offshore Los Angeles - Terralog Technologies USA

VALUE TWO ELK

DESCRIPTION Two Elk Energy Park - North American Power Group

VALUE WYOMING  
DESCRIPTION U. of Wyoming

VALUE OZARK PLATEAU  
DESCRIPTION Ozark Plateau Study Area - U. of Kansas

VALUE SOUTH GEORGIA  
DESCRIPTION South Georgia Rift Basin - South Carolina Research Institution

VALUE ROCKY MOUNTAIN  
DESCRIPTION Rocky Mountain Region - U. of Utah

VALUE CAMBRO ORDOVICIAN  
DESCRIPTION Cambro-Ordovician Strata of the Illinois and Michigan Basins - U. of Illinois

#### FIELD SHAPE\_Area

- \* ALIAS SHAPE\_Area
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Area of feature in internal units squared.

DESCRIPTION SOURCE  
ESRI

DESCRIPTION OF VALUES Positive real numbers that are automatically generated.

#### FIELD OVERLAP

- \* ALIAS OVERLAP
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Flag indicating an overlapping resource with another partnership.

DESCRIPTION SOURCE  
KGS

LIST OF VALUES  
VALUE 0  
DESCRIPTION No overlap

VALUE 1  
DESCRIPTION Overlap exists with adjacent partnership

#### FIELD DUPLICATE

- \* ALIAS DUPLICATE
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Flag indicating data is a duplicate of data from another partnership. Data was not used to calculate summaries in the Atlas.

DESCRIPTION SOURCE  
KGS

## LIST OF VALUES

VALUE 0

DESCRIPTION Not a duplicate

VALUE 1

DESCRIPTION Duplicate data with adjacent partnership

## FIELD COL\_ROW

- \* ALIAS COL\_ROW
- \* DATA TYPE String
- \* WIDTH 20
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Unique ID for each 10 km X 10 km cell

## DESCRIPTION SOURCE

KGS

DESCRIPTION OF VALUES Cartesian coordinate pairs in "X - Y" format

## FIELD OBJECTID

- \* ALIAS OBJECTID
- \* DATA TYPE OID
- \* WIDTH 4
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Internal feature number.

## DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES Sequential unique whole numbers that are automatically generated.

## FIELD RESOURCE\_NAME

- \* ALIAS RESOURCE\_NAME
- \* DATA TYPE String
- \* WIDTH 50
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Name of the geologic storage resource.

## FIELD SHAPE\_Length

- \* ALIAS SHAPE\_Length
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Length of feature in internal units.

## DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES Positive real numbers that are automatically generated.

#### FIELD SALINITY\_TDS

- \* ALIAS SALINITY
- \* DATA TYPE Integer
- \* WIDTH 4
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Mean salinity (total dissolved solids) of storage resource

#### DESCRIPTION SOURCE

Atlas IV

#### RANGE OF VALUES

MINIMUM VALUE 0  
UNITS OF MEASURE ppm  
MEASUREMENT RESOLUTION whole number

#### FIELD PRESSURE\_PSI

- \* ALIAS PRESSURE
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Mean pressure (pounds per square inch) of storage formation

#### DESCRIPTION SOURCE

Atlas IV

#### RANGE OF VALUES

MINIMUM VALUE 0  
UNITS OF MEASURE PSI  
MEASUREMENT RESOLUTION whole number

#### FIELD TEMPERATURE\_F

- \* ALIAS TEMPERATURE
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Mean temperature (degrees F) of storage resource

#### DESCRIPTION SOURCE

Atlas IV

#### RANGE OF VALUES

MINIMUM VALUE 0  
UNITS OF MEASURE degrees F  
MEASUREMENT RESOLUTION whole number

#### FIELD POROSITY\_PCT

- \* ALIAS POROSITY
- \* DATA TYPE Single
- \* WIDTH 4
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Mean porosity (percent) of storage resource

#### DESCRIPTION SOURCE

Atlas IV

#### RANGE OF VALUES

MINIMUM VALUE 0

MAXIMUM VALUE 100

UNITS OF MEASURE percent

#### FIELD PERMEABILITY\_mD

\* ALIAS PERMEABILITY

\* DATA TYPE Single

\* WIDTH 4

\* PRECISION 0

\* SCALE 0

#### FIELD DESCRIPTION

Mean permeability (millidarcies) of storage resource

#### DESCRIPTION SOURCE

Atlas IV

#### RANGE OF VALUES

MINIMUM VALUE 0.0001

UNITS OF MEASURE mD

#### FIELD PARTNERSHIP

\* ALIAS PARTNERSHIP

\* DATA TYPE String

\* WIDTH 15

\* PRECISION 0

\* SCALE 0

#### FIELD DESCRIPTION

Abbreviation for RCSP.

#### DESCRIPTION SOURCE

Atlas IV

#### LIST OF VALUES

VALUE SWP

DESCRIPTION Southwest Regional Partnership on Carbon Sequestration

VALUE PCOR

DESCRIPTION The Plains CO2 Reduction Partnership

VALUE BSCSP

DESCRIPTION Big Sky Sequestration Partnership

VALUE MRCSP

DESCRIPTION Midwest Regional Carbon Sequestration Partnership

VALUE SECARB

DESCRIPTION Southeast Regional Carbon Sequestration Partnership

VALUE WESTCARB

DESCRIPTION West Coast Regional Carbon Sequestration Partnership

VALUE MGSC

DESCRIPTION Midwest Geological Sequestration Consortium

#### FIELD ASSESSED

\* ALIAS ASSESSED

\* DATA TYPE SmallInteger

- \* WIDTH 2
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Flag defining whether storage resource has been assessed for carbon storage potential

#### DESCRIPTION SOURCE

DOE-NETL/KGS

#### LIST OF VALUES

VALUE 0

DESCRIPTION Storage resource has not been assessed. Capacities must be <Null>.

VALUE 1

DESCRIPTION Storage resource has been assessed. Capacities may be "0".

#### FIELD THICKNESS\_FT

- \* ALIAS THICKNESS
- \* DATA TYPE Integer
- \* WIDTH 4
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Mean thickness (feet) of storage resource

#### DESCRIPTION SOURCE

Atlas IV

#### RANGE OF VALUES

MINIMUM VALUE 0

UNITS OF MEASURE Feet

MEASUREMENT RESOLUTION whole number

#### FIELD DEPTH\_FT

- \* ALIAS DEPTH
- \* DATA TYPE Integer
- \* WIDTH 4
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Mean depth (feet) of storage resource

#### DESCRIPTION SOURCE

Atlas IV

#### RANGE OF VALUES

MINIMUM VALUE 0

UNITS OF MEASURE Feet

MEASUREMENT RESOLUTION whole number

#### FIELD SHAPE

- \* ALIAS SHAPE
- \* DATA TYPE Geometry
- \* WIDTH 0
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Feature geometry.



DESCRIPTION SOURCE  
ESRI

DESCRIPTION OF VALUES Coordinates defining the features.

#### Metadata Details

METADATA LANGUAGE English (UNITED STATES)  
METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset  
SCOPE NAME \* dataset

\* LAST UPDATE 2013-05-13

ARCGIS METADATA PROPERTIES  
METADATA FORMAT ArcGIS 1.0  
METADATA STYLE FGDC CSDGM Metadata  
STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS 2012-12-07 12:25:58  
LAST MODIFIED IN ARCGIS 2013-05-13 10:36:16

AUTOMATIC UPDATES  
HAVE BEEN PERFORMED Yes  
LAST UPDATE 2013-05-13 10:36:16

#### Metadata Contacts

METADATA CONTACT  
ORGANIZATION'S NAME GIS Support Section, Kansas Geological Survey  
CONTACT'S POSITION NATCARB Team  
CONTACT'S ROLE point of contact

CONTACT INFORMATION  
PHONE  
VOICE 785-864-3965

ADDRESS  
TYPE both  
DELIVERY POINT 1930 Constant Ave  
CITY Lawrence  
ADMINISTRATIVE AREA Kansas  
POSTAL CODE 66047-3726  
COUNTRY US  
E-MAIL ADDRESS natcarb@kgs.ku.edu

HOURS OF SERVICE 8 am - 5 pm M-F