Developing the NACAP Program Plan

Prepared For:

North America Carbon Atlas Partnership

Prepared By:

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North America Carbon Sequestration Atlas

Introduction

In December, 2008, the North America Energy Working Group, involving officials from: (1) Natural Resources Canada; (2) Secretaria de Energia, Mexico; and (3) the U.S. Department of Energy, launched the North American Carbon Atlas Partnership (NACAP).

Today's meeting, hosted by the U.S. DOE's National Energy Technology Laboratory, is to provide an update on progress and to develop a "Program Plan" for delivering a high quality Atlas.

North America Carbon Sequestration Atlas

Purpose

The North America Atlas Partnership (NACAP) is a "Joint Carbon Dioxide Mapping Initiative Between the United States, Canada and Mexico."

The purpose of the Atlas is to help speed the development of a CO_2 source and geologic sinks geographic information system (GIS) and help build collaboration among the three North American countries on CO_2 capture and storage.

North America Carbon Sequestration Atlas

Program Plan

The purpose of the NACAP Program Plan is to communicate:

- How to accomplish the preparation and publishing of the Atlas.
- Establish the responsibility, management and support structure
- Discuss and define “how we work together”.

North America Carbon Sequestration Atlas

Background

A "Carbon Sequestration Atlas of the United States and Canada", Second Edition, was prepared and published in 2008:

- It is a joint product of DOE/NETL and the Regional Carbon Sequestration Partnerships.
- It includes seven U.S. regions and Western Canada (Alberta, B.C., Manitoba and Saskatchewan).
- The Third Edition of this Atlas is due to be published in 2010.

North America Carbon Sequestration Atlas

Getting Started

Three NACAP Work Groups have been tasked with providing overall guidance and technical foundation for the Atlas:

- Methodology: Ed Steadman
- Information Technology: Tim Carr
- Policy: Milena Sejnoha/Bob Wright/ J.M. Gonzalez

We heard progress reports from the three Working Groups earlier today.

This session - - Developing the NACAP Program Plan - - *is intended to be an open discussion to elicit your ideas, interest and support.*

North America Carbon Sequestration Atlas

Getting Started

During this session entitled - - “Developing the NACAP Program Plan” - - we will discuss (and seek to gain Partnership agreement on) a series of important issues surrounding the North America Carbon Sequestration Atlas, including:

- Content and format of the NACAP Atlas
- Preparation and publishing schedule
- Formation of the Atlas Development and Production Working Group (ADPWG)?
- Resource support
- Other issues

North America Carbon Sequestration Atlas

Content and Format

A great variety of content issues need to be addressed and resolved for the North America Atlas.

Provided for initiating discussion is a “strawman” Atlas content.

1. Introduction
   - Foreword, General Content
   - Greenhouse Gas Effect
   - Projected CO2 Emissions – Canada, Mexico, U.S.
2. Carbon Sequestration
   - Definition
   - National Progress - - Canada, Mexico, U.S.
   - National Database/GIS
3. Overview of Methodologies for Estimating CO_2 Sources and Sinks
   - CO_2 Emission Sources
     - Electricity, industrial, etc.
   - CO_2 Storage Capacity and Resources
     - Saline formations, oil and gas, coal seams, other (shales, basalts, etc.), terrestrial
4. Country by Country Chapters
   - Overall
   - Sub-Unit Sections
5. Key Appendices for Methodologies, Detailed Data and Conversion Units

North America Carbon Sequestration Atlas

Content and Format

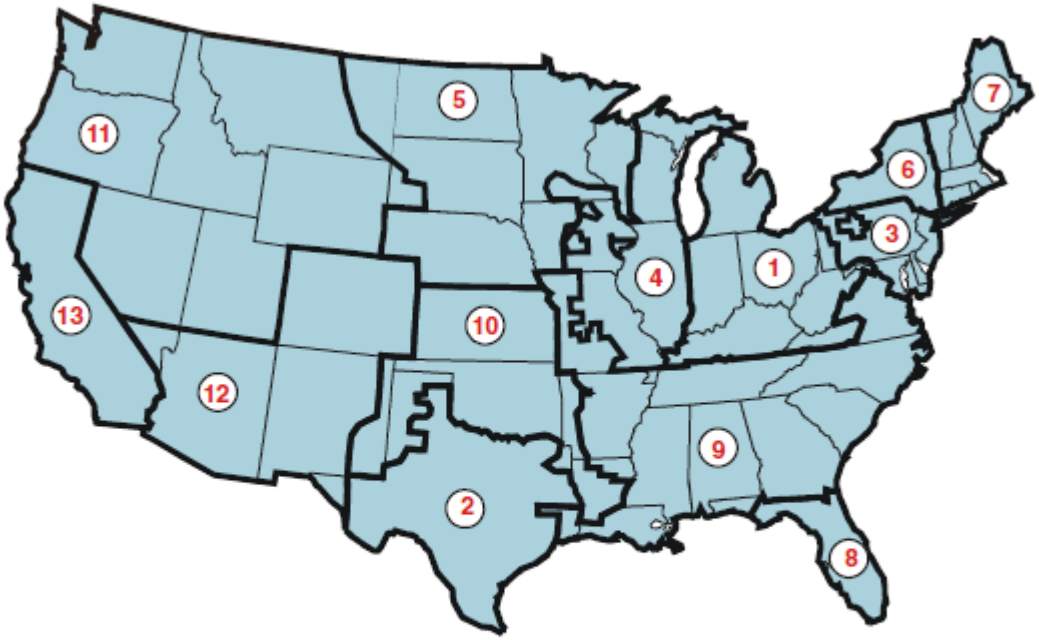
The Atlas is intended to cover all of North America, with separate sections for each of the three countries.

A key question to be addressed is the geographic and political sub-units by which to organize the individual Chapters for example:

1. For Canada - - Large Provinces (e.g., BC, Quebec, etc.) plus collection of smaller provinces (Maritime)?
2. For Mexico - - need guidance
3. For U.S. - - EIA Electricity or Market Regions, Oil and Gas Supply Regions, Other?

North America Carbon Sequestration Atlas

F2. Electricity Market Module Regions

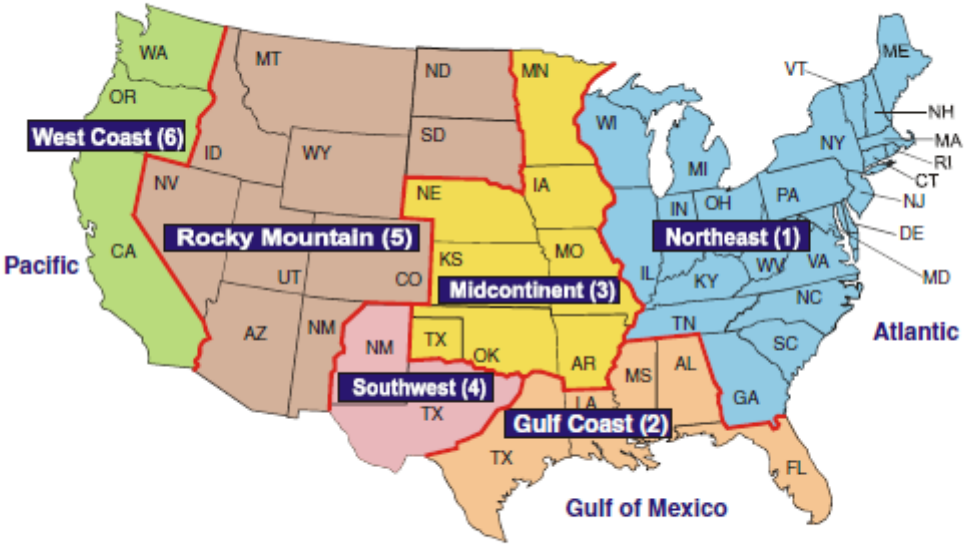


1 East Central Area Reliability Coordination Agreement (ECAR)
2 Electric Reliability Council of Texas (ERCOT)
3 Mid-Atlantic Area Council (MAAC)
4 Mid-America Interconnected Network (MAIN)
5 Mid-Continent Area Power Pool (MAPP)
6. New York (NY)
7. New England (NE)
8. Florida Reliability Coordinating Council (FL)
9. Southeastern Electric Reliability Council (SEF
10. Southwest Power Pool (SPP)
11. Northwest Power Pool (NWP)
12. Rocky Mountain Power Area, Arizona, New Mexico, and Southern Nevada (RA)
13. California (CA)

Source: EIA AEO 2009

North America Carbon Sequestration Atlas

F3. Oil and Gas Supply Model Regions



Source: EIA AEO 2009

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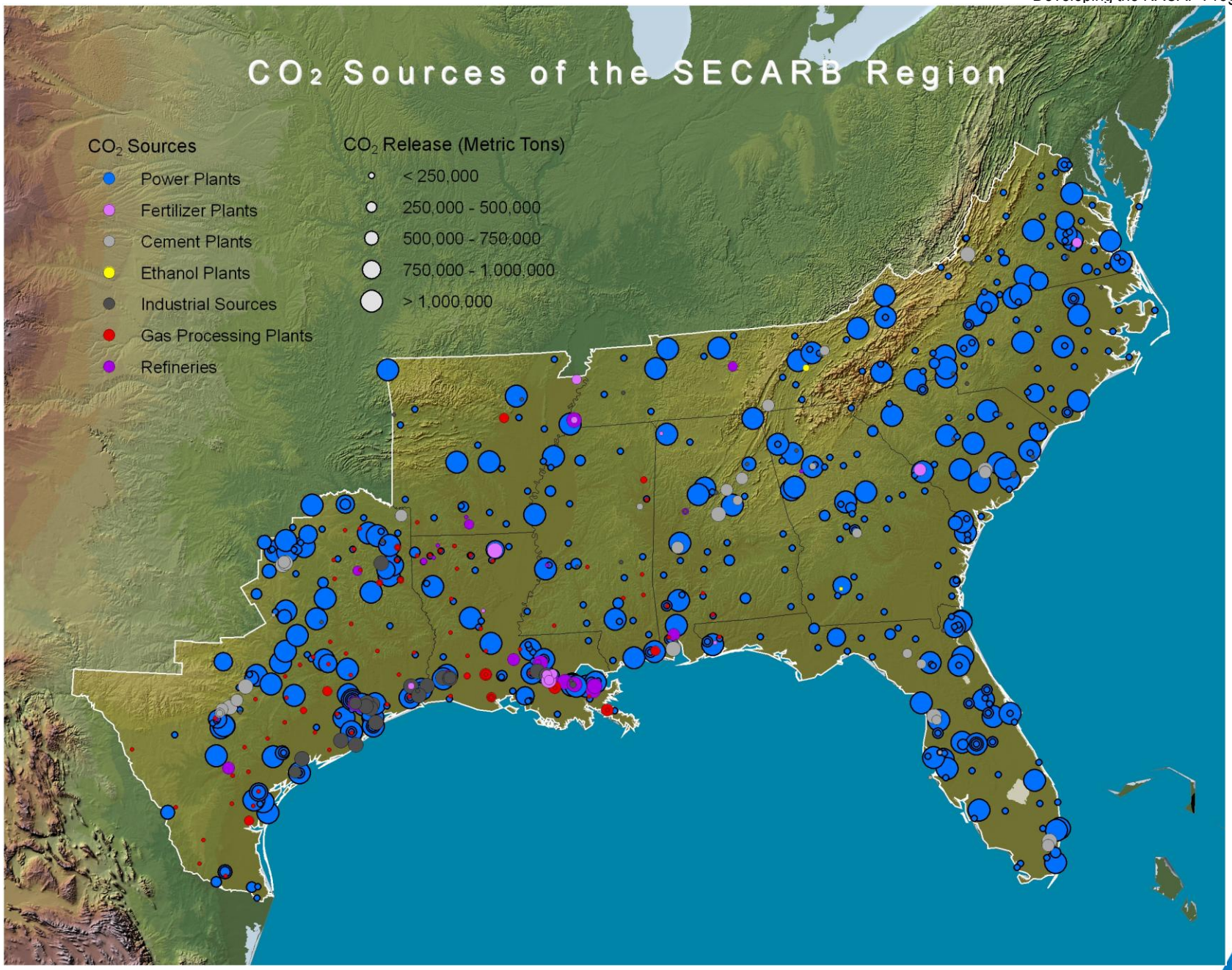
Content and Format

Maps and other illustrations will “bring the NA Atlas to life” - - making it attractive, easy to read and instructive. Based on your experience, what set of maps and illustrations would be most valuable?

On the following pages are a “strawman” set of potential maps and illustrations taken from the SECARB Regional Partnership Section of the 2008 Atlas.

- CO_2 Sources
- CO_2 Sinks
- Matching Sources and Sinks
- Field Tests



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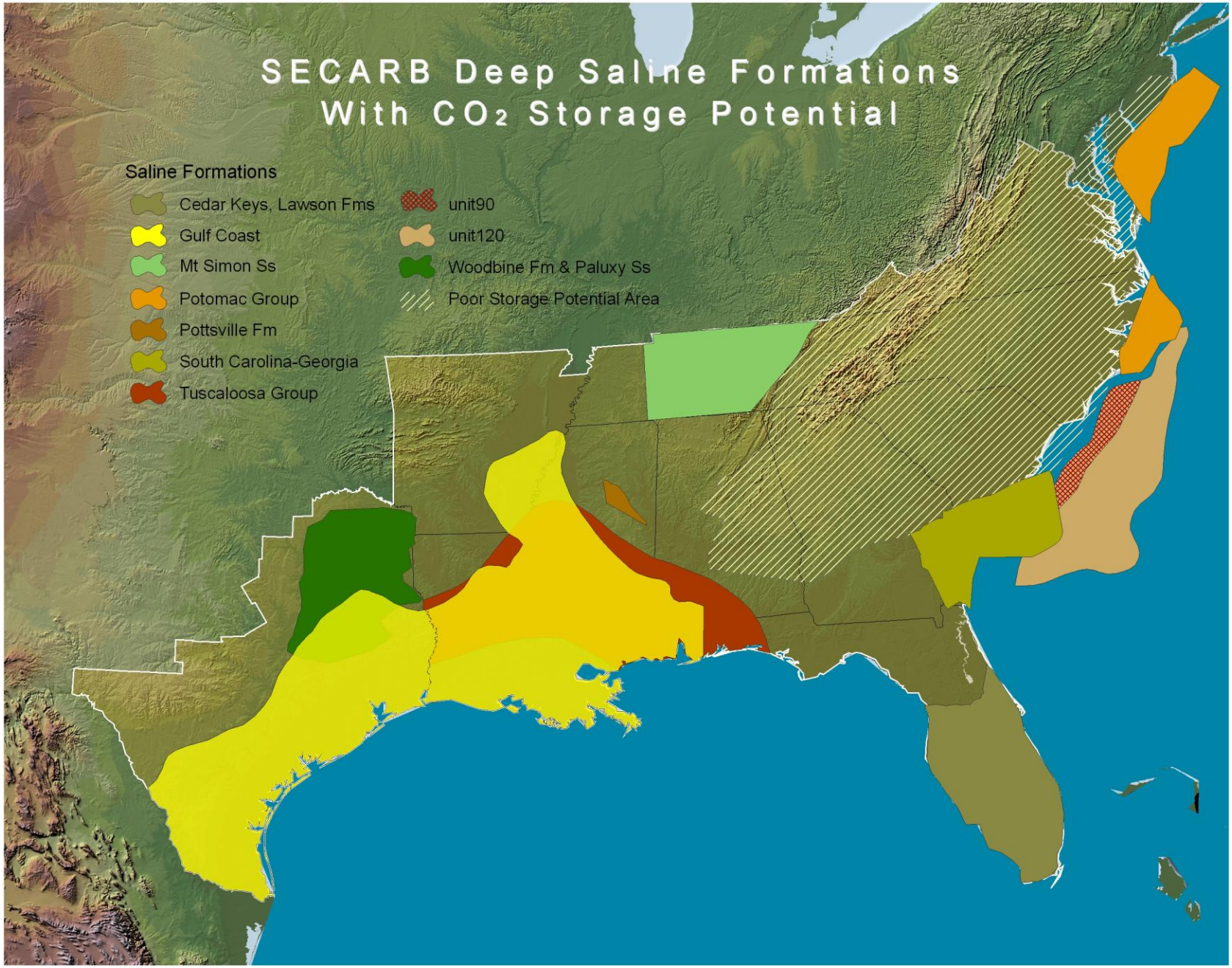

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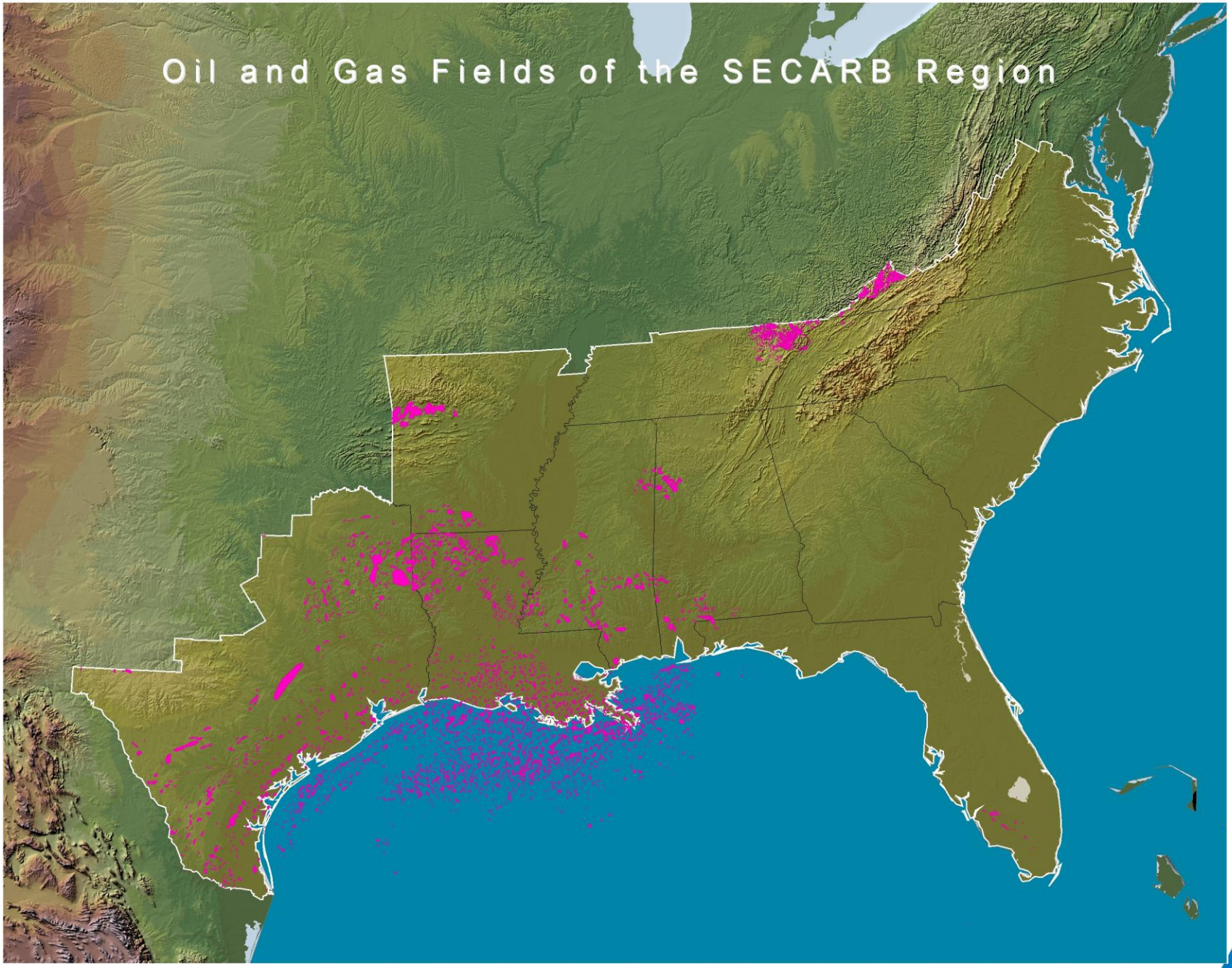

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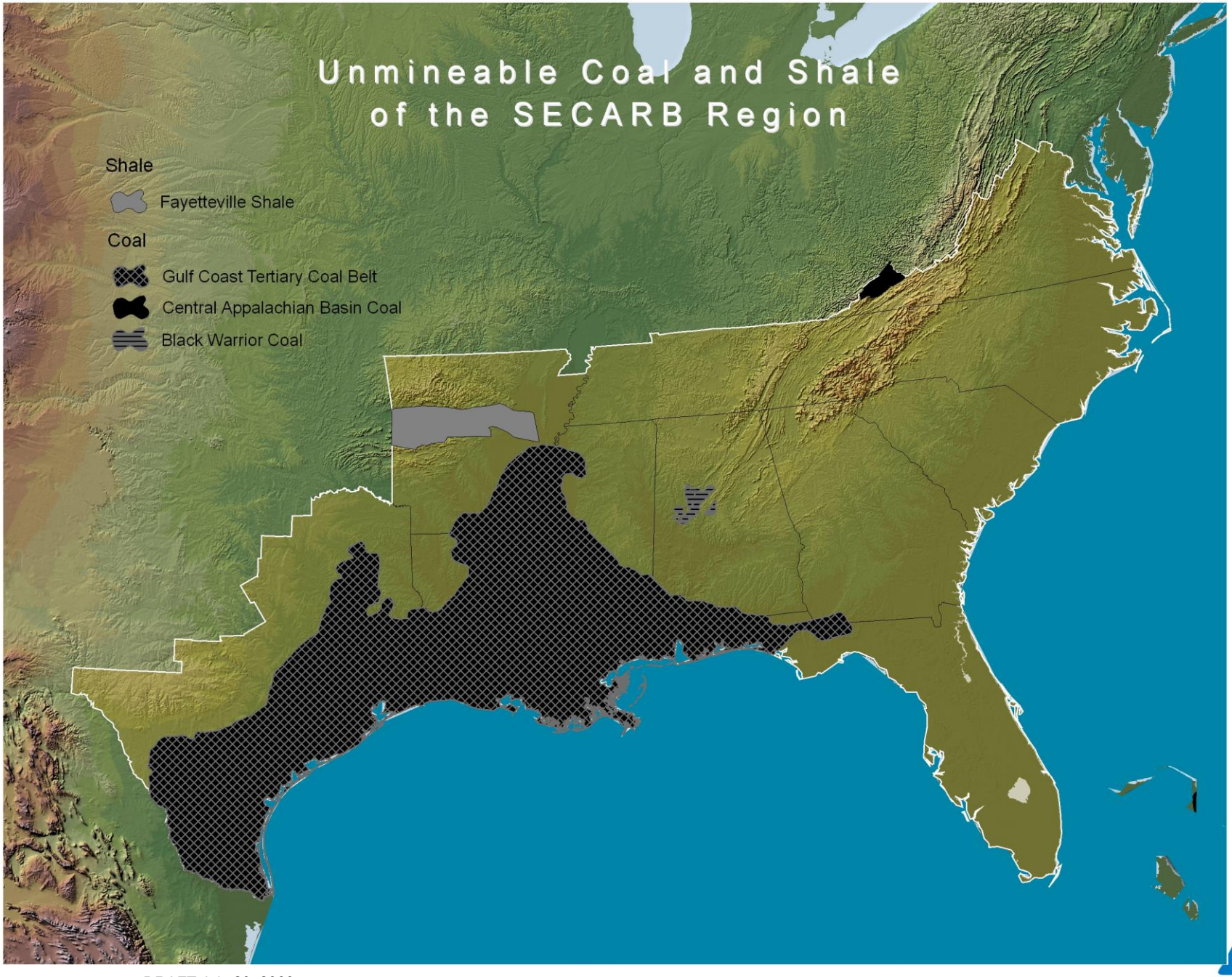

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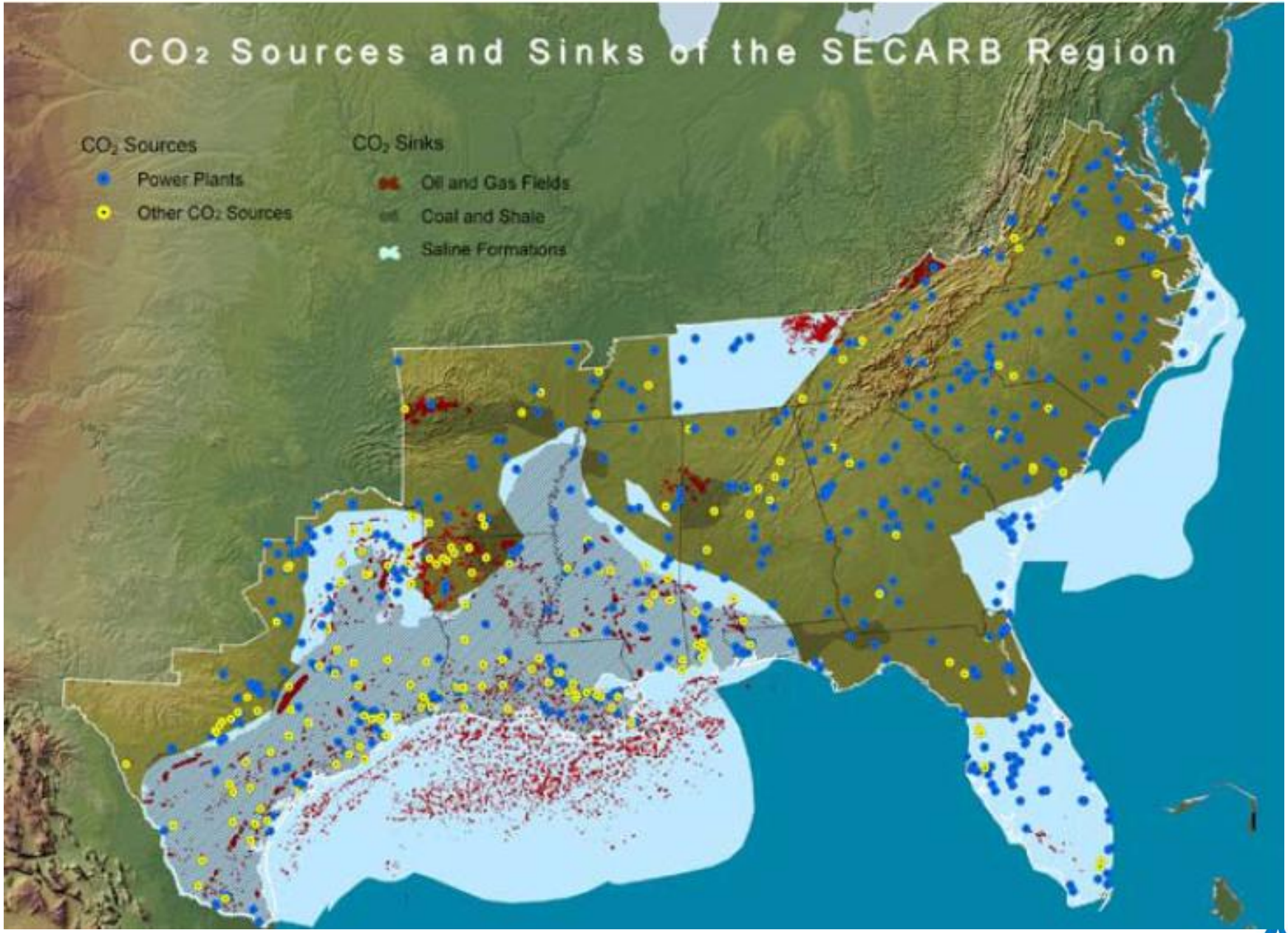

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North America Carbon Sequestration Atlas

Preparation and Publishing Schedule

The Partnership would like to gain your perspectives on the preparation and delivery schedule for the NA Atlas.

- The “third edition” RCSP Atlas will be published by DOE/NETL in 2010.
- Numerous RCSP Phase III and other CCS projects will be underway starting this year.
- Is a late year 2011 delivery schedule feasible?
  - Responsibilities and commitment of resources
  - First submission of materials
  - Final submission of materials
  - Layout for First Draft
  - Editing for Final Draft
  - Publishing and printing

North America Carbon Sequestration Atlas

Available and Expected Resource Support

Each country will be expected to commit to providing the resources for the content of the Atlas specific to their country.

- What resources do you have available?
- What languages will the Atlas need to consider?
- What about publishing and printing?

North America Carbon Sequestration Atlas

Atlas Development and Production Working Group?

To make progress between meetings of NACAP, the Partnership may need to form an Atlas Development and Production Working Group (ADPWG), including:

- Co-Chairs, at least one Co-Chair from each country.
- Working Group Members, at least two representatives from each country.
- Would the formation of such a Working Group be useful and productive?

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