AceEngineer Oil and Gas

Marine Offshore Structural Engineering

GOM Wells Data Analysis

Overview and Progress

02 April 2018

Agenda

- Introduction

- Summary

- Software Used

- Data Available from BOEM

  - Basic resources

  - Major resources

- Methodology

  - Data handling

  - Data visualization

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Introduction

- To identify the hydrocarbon discoveries with Paleogene age.

- Find the wells which are in active leases.

- Find the well related field status.

- Find the block operator.

- Plot the blocks and wells in google maps, showing operator details, lease start and end year.

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Summary

- The Lower Tertiary is Palaeocene in age and known to be the most active age for sand deposition within the Deepwater Gulf of Mexico.
- Showing different epochs in Lower tertiary period of Cenozoic era

Lower Tertiary (Paleogene)	Oligocene	Upper Oligocene
		Lower Oligocene
	Eocene	Upper Eocene
		Middle Eocene
		Lower Eocene
	Paleocene	Upper Paleocene
		Lower Paleocene

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Software Used

Module	software	Description	Comments
Xlrd	Python	Reading the data using excel file	
Pandas	Python	Manipulating excel	
Jupyter Notebook	Python	Python Notebook	
Xlwt	Python	Writing the data to excel file	

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Data Availability From BOEM

Basic Resources

- Gathering of wells data from the Database that officially placed publicly.

https://www.data.boem.gov/

- Search for Gulf of Mexico resource Evaluation.

https://www.boem.gov/Oil-and-Gas-Energy-Program/Resource-Evaluation/Geological-and-Geophysical-Data-Acquisition/GGData-Gulf-of-Mexico.aspx/

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Major Resources

- Complete study of BOEM site and understanding the Geological Ages of the Formation

https://www.data.boem.gov/Main/Paleo.aspx/

https://www.data.boem.gov/Paleo/Files/biochart.pdf/

- Identify wells data from Borehole raw data from BOEM

https://www.data.boem.gov/Well/Borehole/Default.aspx/

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METHODOLOGY

Code Explanation

Data Handling

- Data Automation from BOEM site.

- Finding the Paleogene data by creating array using different Epochs.

```
Epoch = ["Paleocene","Eocene","Oligocene"]
```

- Creating text document for the Paleogene wells after separation.

- Finding the Lower tertiary wells based on well API Number by sorting out the duplicate values

- Finding the company name, block number, block name and well status and respective latitude and longitude data by using well API number

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Data visualization

- By using latitude and longitude data of wells making interactive maps using python modules

- Based on different colouring defining well status
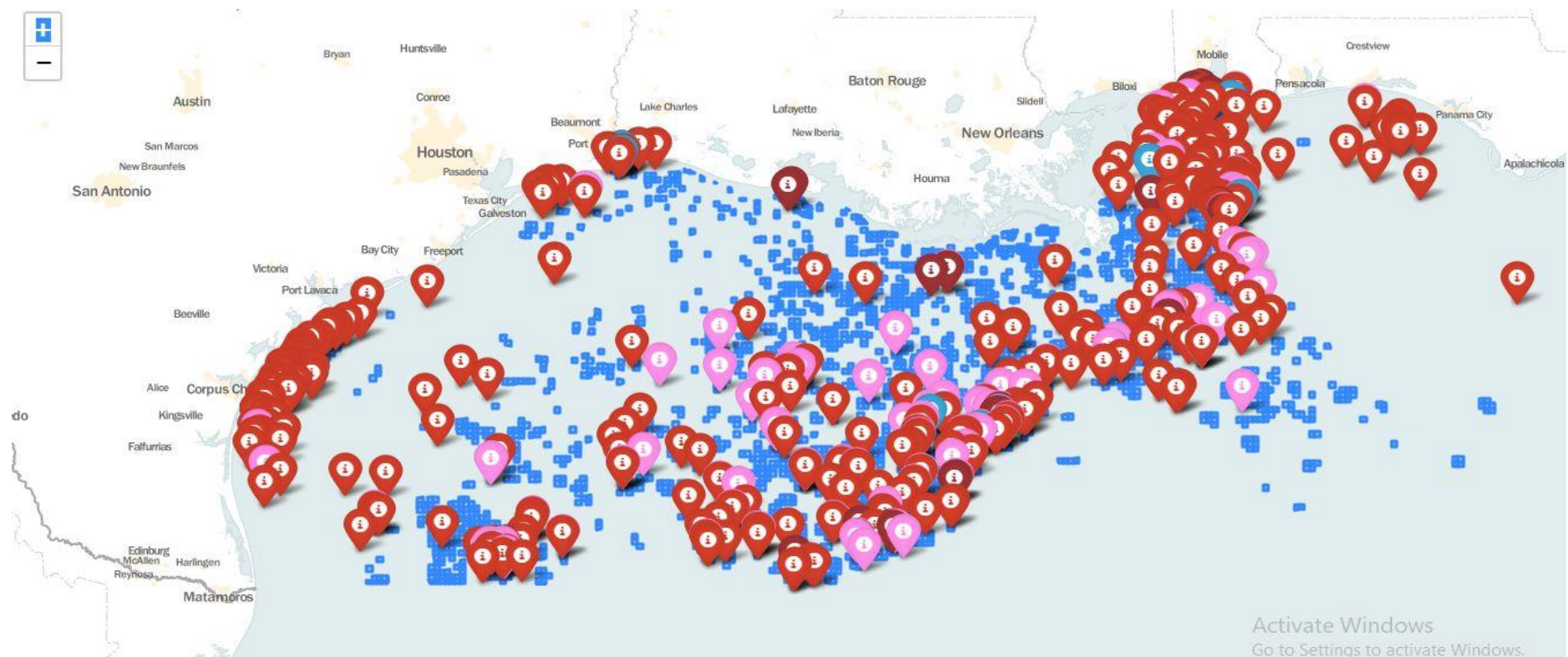
THANK YOU

For the opportunity to serve

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