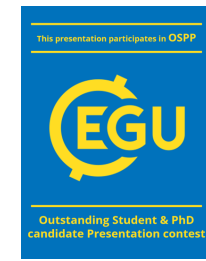


EGU23-1882: GeoCos v2.0: An open source web application for calculating Chance of Success values of exploration wells, Ayberk Uyanik



EGU23-1882

Aim & Scope

- Developing a simple and effective web based application to calculate CoS values interactively to reduce the risks

Technology Stack

FRONT-END



BACK-END



User Interface

GeoCos v2.0

Welcome to the web version of GeoCos!

Interactive risk assessment for your exploration wells!

by Ayberk Uyanik

in

Quick Look Analysis
Milkov's Approach (2015)-
Malvic's Approach (2009)
CCOP's Approach (2000)
Compare CoS Results

Milkov's Approach

The most recent table-based method has been proposed in 2015 by Alexei Milkov. The advantage of this method is to suggest a single CoS value for each petroleum system element. With extensively detailed options, it is applicable for all basins.

Go to Publication

Source Rock

Model Existence and Reliability

Model Availability: ☒ 1D-3D numerical model available ☐ No numerical model available

Maturity Level:

Kerogen type:

Data Existence and Reliability

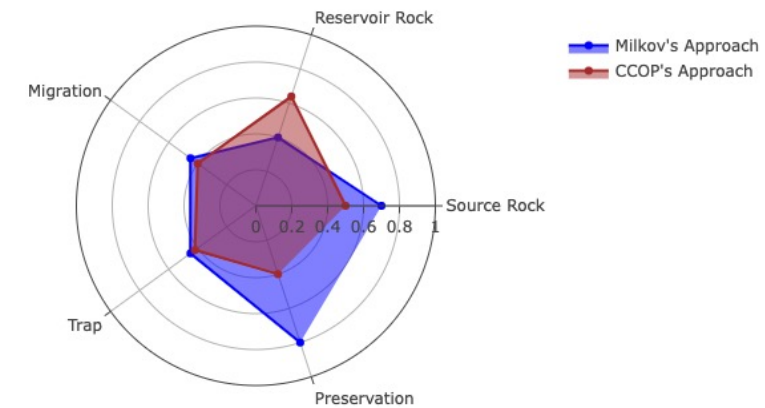
Data type:

Source Rock CoS

Suggested CoS 0.7

Chart Display

CoS Comparison Graph of Well-1

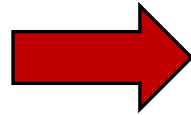


GitHub Repository; <https://github.com/Ayberk-Uyanik/GeoCos-v2.0>



Table Based Methods

- Milkov's Approach (2015)
- Malvic's Approach (2009)
- CCOP's Approach (2000)



FRONT-END



BACK-END



CODE DEVELOPMENT (IDE)



Visual Studio Code

GeoCos v2.0

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Header Section: with links to projects Github Repository including the source codes and developer's Linkedin profile

Quick Look Analysis
Milkov's Approach (2015)-
Malvic's Approach (2009)
CCOP's Approach (2000)
Compare CoS Results

3 Table-Based Methods:
Various methods, published in the last 20 years, have been implemented, a Quick Look Analysis section is also available

Milkov's Approach

The most recent table-based method has been proposed in 2015 by Alexei Milkov. The advantage of this method is to suggest a single CoS value for each petroleum system element. With extensively detailed options, it is applicable for all basins.

Go to Publication

Source Rock

Model Existence and Reliability

Model Availability: ☒ 1D-3D numerical model available ☐ No numerical model available

Maturity Level:

Drainage area; in early maturity window

Kerogen type:

Type I-II/Max. burial T > 140 C

Data Existence and Reliability

Data type:

Shows in the drilled basin, valid DHI

Source Rock CoS

Suggested CoS

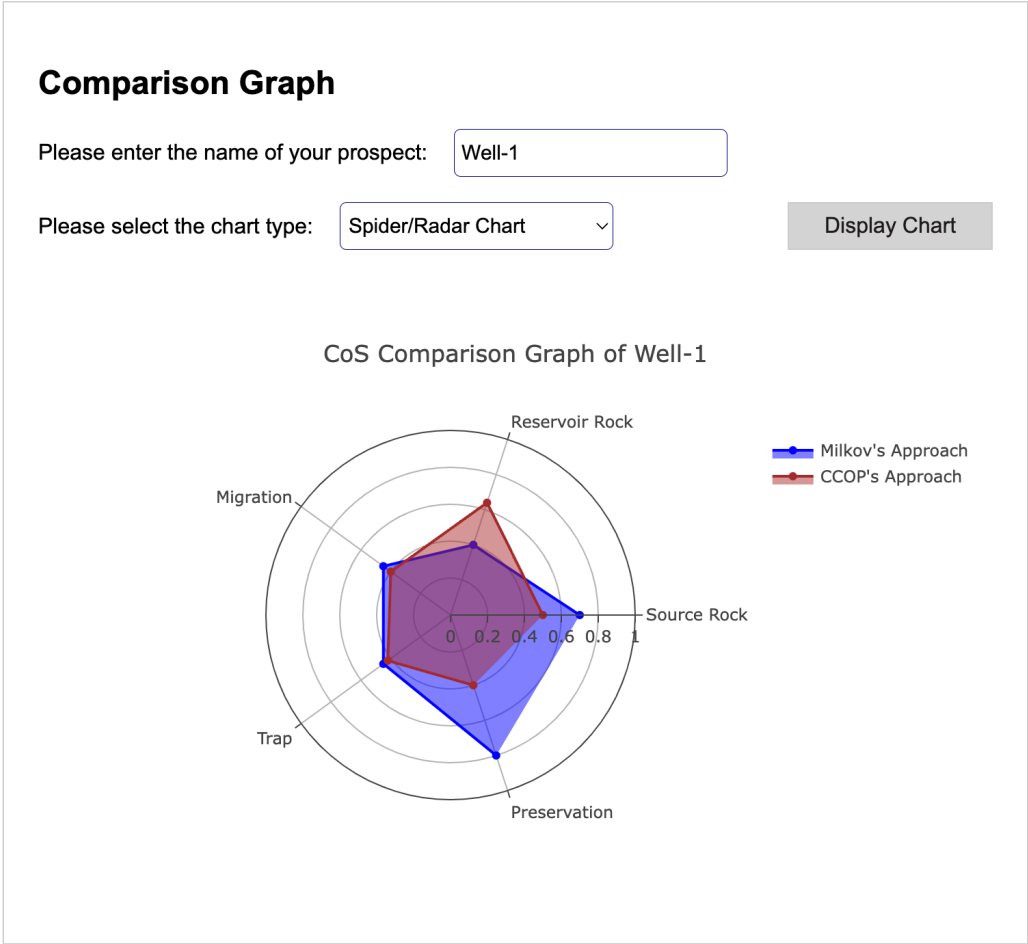
0.7

Interactive Geological Conditions Selection Section:
Users can select encountered geological conditions in the sedimentary basin for the exploration well, suggested Chance of Success values are displayed instantly

Quick Look Analysis
Milkov's Approach (2015)
Malvic's Approach (2009)
CCOP's Approach (2000)
Compare CoS Results-

- .
- .
- .

New Methods: Success rate calculation methods for geothermal exploration and CCS projects can be easily implemented for the project



Interactive Graph Display:

- CoS calculation results can be displayed as spider and bar charts to evaluate the amount of risk for each petroleum system element present for the well
- Generated graphs can be downloaded for further use in presentations, reports, papers, etc.
- Open-source nature allows further development



GitHub Repository; <https://github.com/Ayberk-Uyanik/GeoCos-v2.0>

New Features are on the way..



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