An open-source web application displaying present-day subsurface thermal conditions of the NE Mediterranean region

https://nemedtemp.herokuapp.com/

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PROBLEM DEFINITION

- Bottom Hole Temperature (BHT) determination is crucial to understand the thermal behaviour and basin modelling studies of sedimentary basins both for hydrocarbon and geothermal exploration projects

- BHT conversions of exploration wells might get lost due to several reasons including; project team change, diversion of focus or simply deletion

- Keeping the data in a database easily accessible with a web app to prevent the repetition

- Providing consistency between project workers with same user interface and visualisation style

WEB APPLICATION ARCHITECTURE

BACK-END

Excel

PostgreSQL

Spreadsheets → Datatables

FRONT-END

Visual Studio Code

plotly

Code Development

Application Layout

DEPLOYMENT

heroku https://nemedtemp.herokuapp.com/

https://github.com/Ayberk-Uyanik/NE-Mediterranean-Thermal-Conditions

OVERVIEW – MAIN PAGE

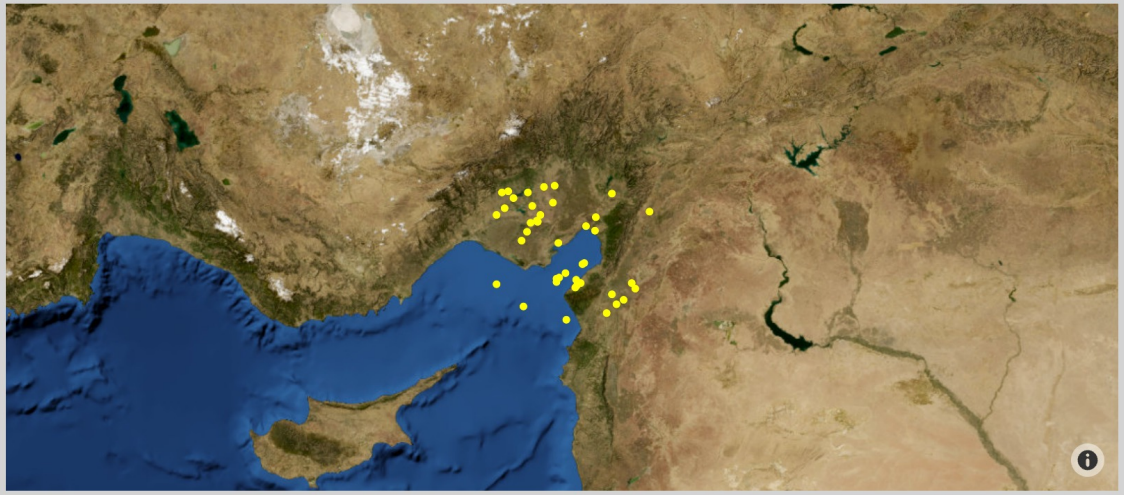
Subsurface Temperature Conditions of the NE Mediterranean Region

GitHub

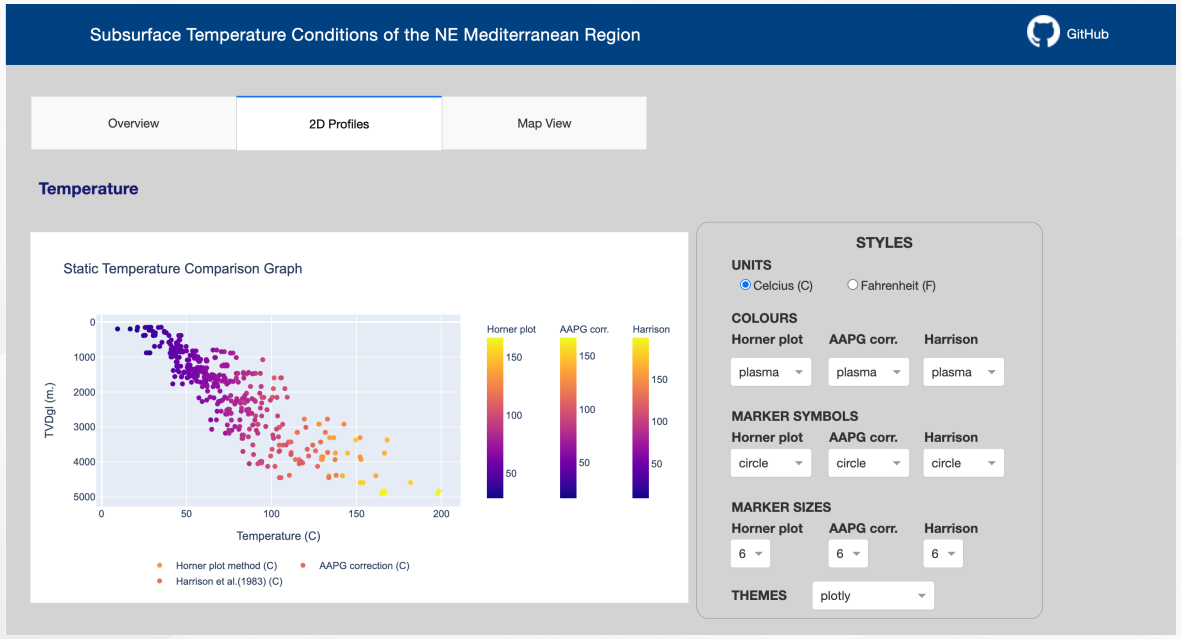
Overview | 2D Profiles | Map View

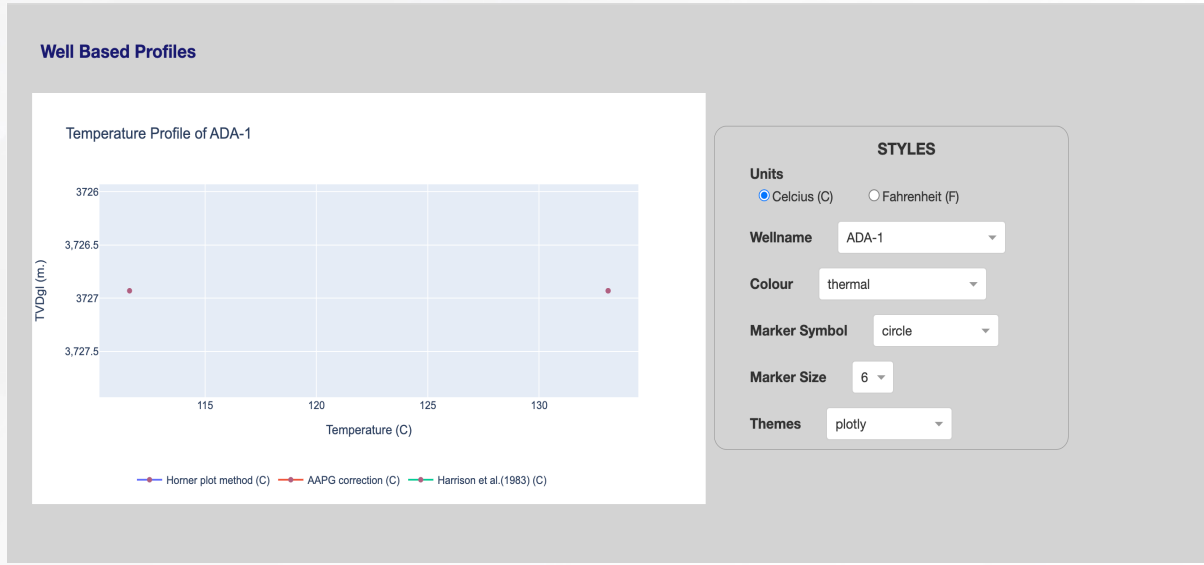
General Information

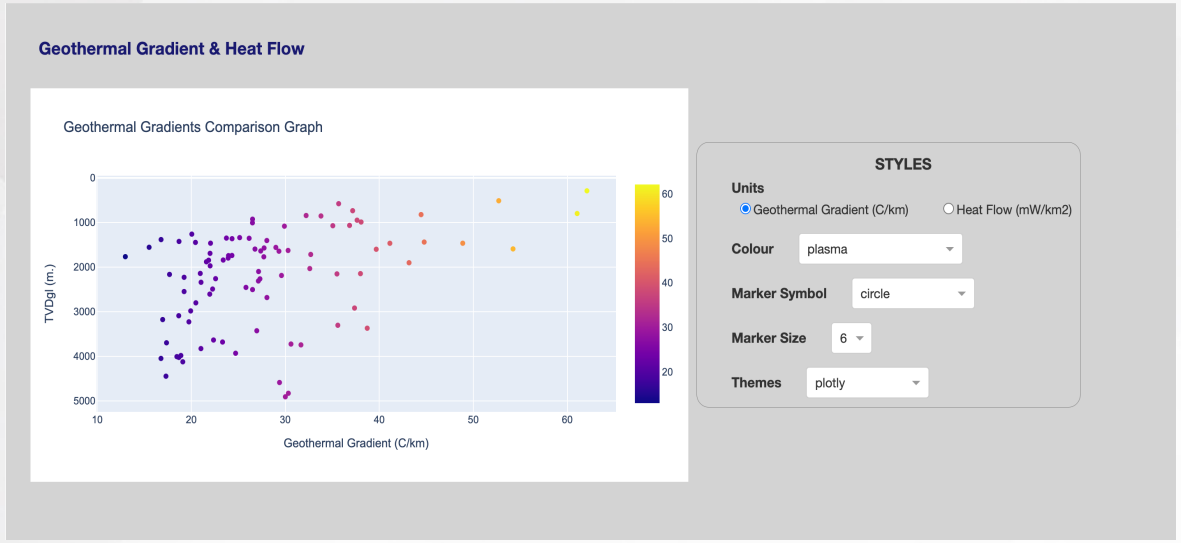
This dashboard displays the results of temperature study conducted in 2017. For the evaluation of the present day subsurface conditions, bottom hole temperatures of 93 wells have been converted into static formation temperatures. The results are displayed as cross-plots in '2D Profiles' section based on temperature, geothermal gradient and heat flow values. 'Map View' section depicts thermal conditions for every 500m from surface to 5km depth. On the map at the right hand side, key wells are shown.



2D PLOTS

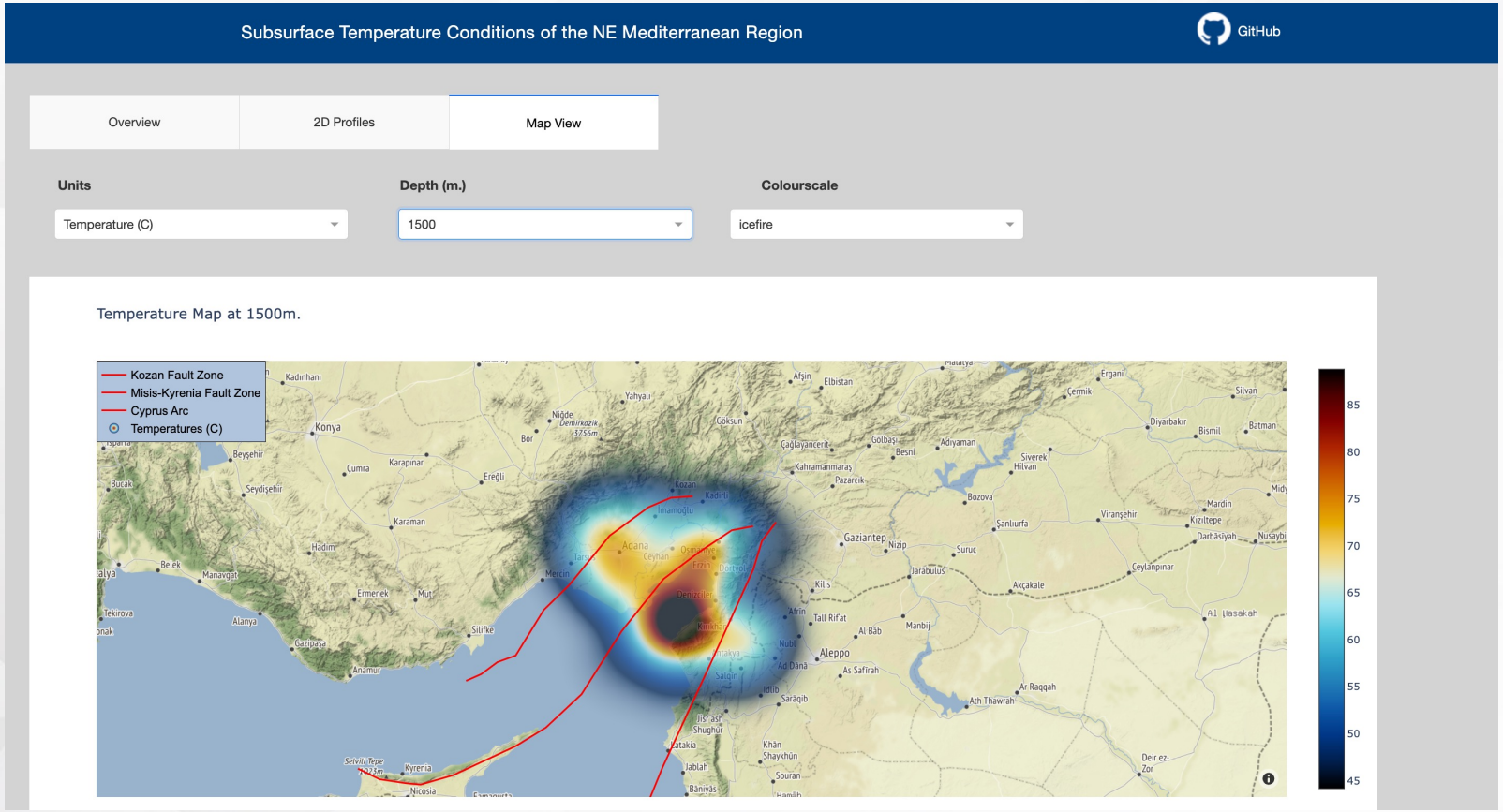






- Temperature, Geothermal gradient and Heat Flow vs. Depth
- All cross plots are interactive
- Dynamic styles and units
- Displaying of all wells or a single well
- Figures are downloadable for further use; scientific publishing, in-house presentations/reports, etc.

MAP VIEW



- Subsurface map displaying thermal conditions for every 500 meters
- Parameters; temperatures, geothermal gradients and heat flow
- Interactive maps for style change
- Better display of a particular area
- Maps are downloadable for further use; scientific publishing, in-house presentations/reports, etc.

THANK YOU

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