Bewustzijn heeft aandacht nodig

Gistperceptie onder dualtaskcondities

Raoul Grouls[1], Libby van den Besselaar[2], Eva Bakels[3], Kiki Piekartz[4]

Universiteit Utrecht, Kunstmatige Intelligentie, Nederland

1: r.h.grouls@students.uu.nl
2: l.l.m.vandenbesselaar@students.uu.n
3: e.e.bakels@students.uu.nl
4: k.g.piekartz@students.uu.nl

Universiteit Utrecht

Samenvatting

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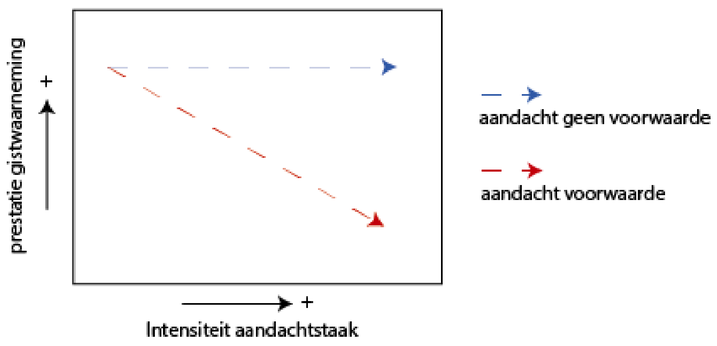
Introductie

Algeria is situated in (Block, 2011) northern Africa, bordering the Mediterranean Sea, between Morocco and Tunisia. Algeria has the 9th-largest reserves of natural gas in the world. It ranks 16th in proved oil reserves.

- Geothermal exploration program started in 1967 by National Oil Comapny SONATRACH.
- From 1983 onwards the geothermal research has been continued by the Renewable Energies Center of Algeria.

Hypothese

The geology of Algeria (Figure 1) is divided into two main structural units: the folded Tellian Domain in the North, and the Saharian Platform in the South.

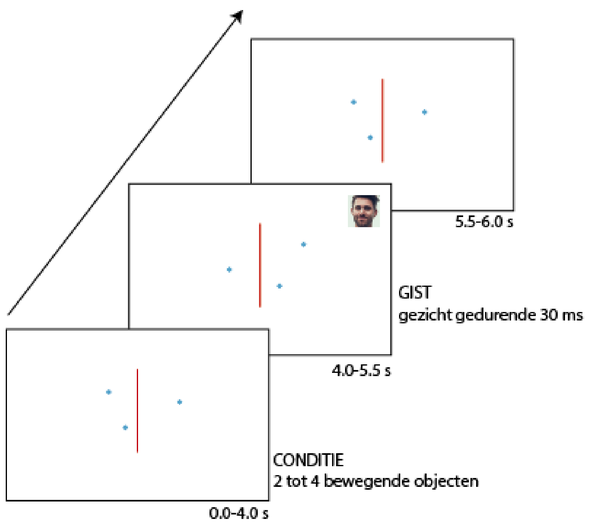


Figuur 1: Major geotectonics units of West Africa modified from Fabre. 1: Tertiary and Quaternary; 2: Alpine molasses; 3: Tertiary thrust sheet; 4: Secondary tabular; 5: Secondary plicative; 6: Primary plicative; 7: Primary tabular; 8: Precambrian and Precorce Cambrian of Sahara; 9: Cenozoic magma; 10: Megafault.

Methode

Demografie

med. leeftijd	SD leeftijd	min. leeftijd	max. leeftijd	man/vrouw	n
22	15	17	60	0.5	34

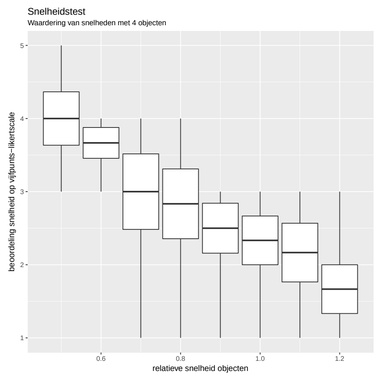


Figuur 2: (A) Temp. vs. depth for different regions.

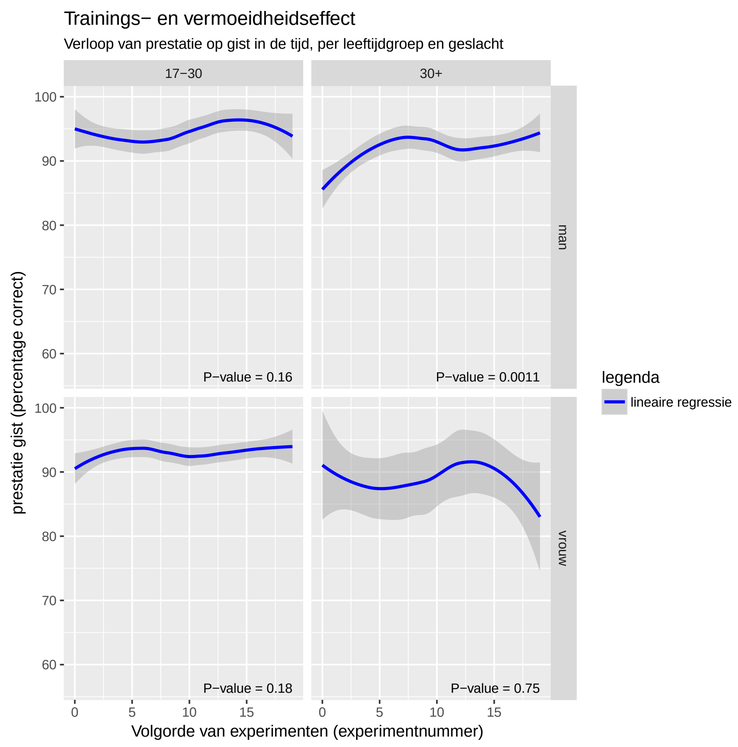
Resultaten

1. The Tlemcenian dolomites in the NW-Algeria: thermal waters are related to the Plio-Quaternary volcanic rocks; bicarbonate water type.
2. Carbonate formations in the NE-Algeria: area is 15,000 km^2; high flow rates (>100 L/s); highest temperature in Algeria (98 °C).

Hot Springs

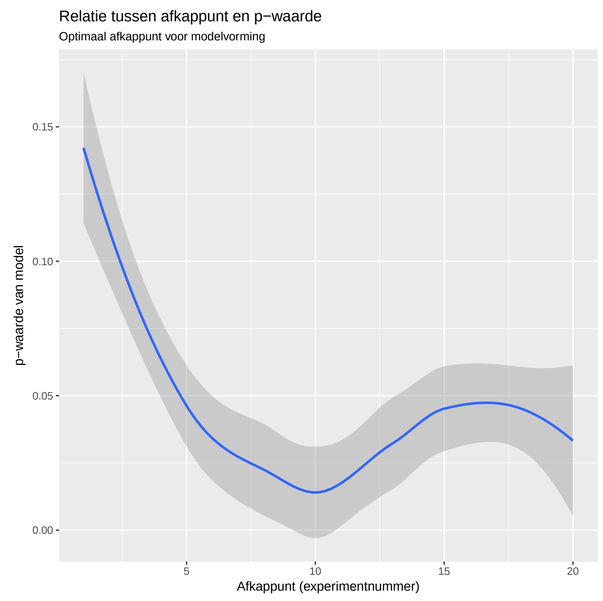


Figuur 3: Temperatures of the main hot springs of the northern part of Algeria

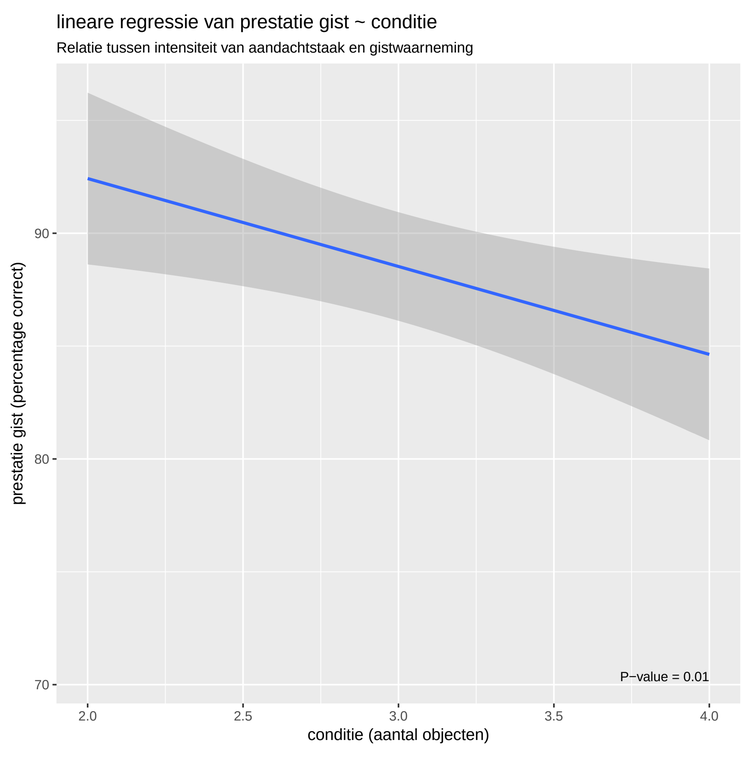


Figuur 4: Temperatures of the main hot springs of the northern part of Algeria

p	c2	afkap
0.07	-0.03	5
0.03	-0.03	8
0.01	-0.04	9
0.01	-0.03	10
0.04	-0.02	15
0.03	-0.02	17
0.02	-0.03	20



Figuur 5: Total Dissolved Solid (TDS) of the main hot springs of the northern part of Algeria

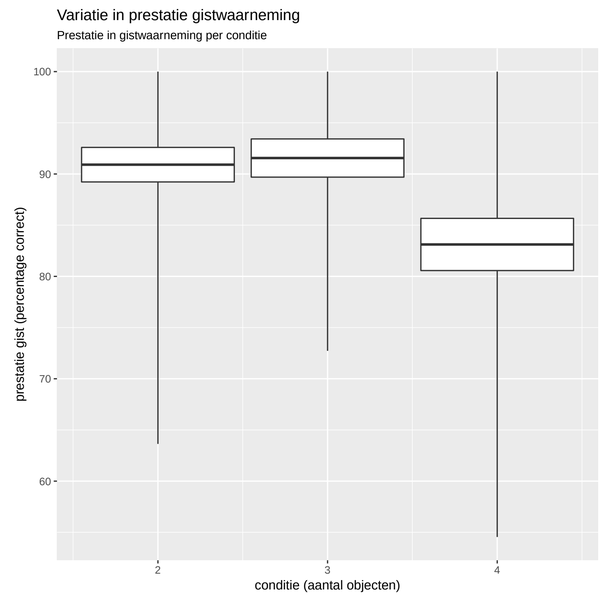


Figuur 6: (A) Mixing model to illustrate the relative contribution of magmatic, meteoric and crustal sources of gases in NE Algerian geothermal discharges. (B) Photo of the concretions of Hammam Meskhoutine (NE Algeria). The height of the concretions on successive conduits reaches 30 m.

Discussie

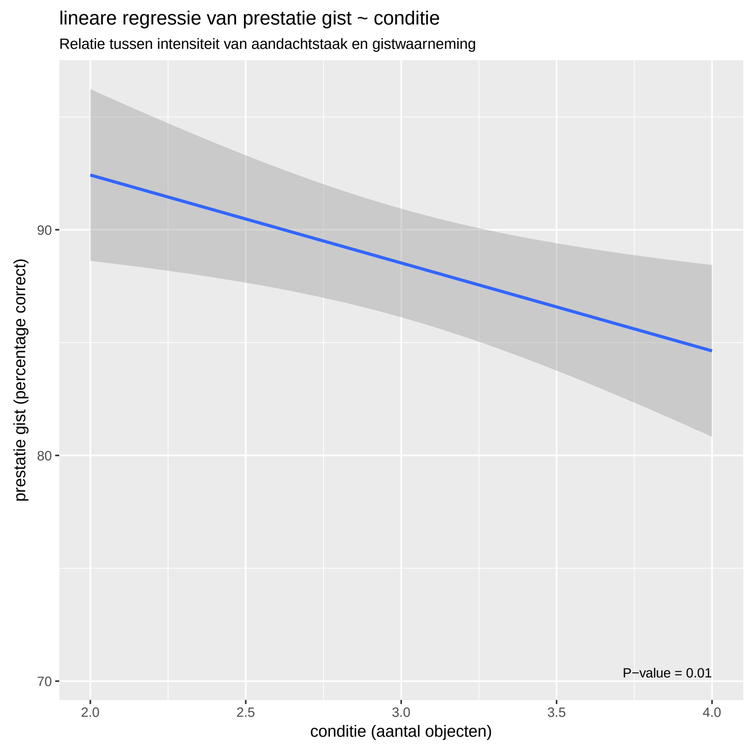
- Utilizations of the hot water in Algeria are balneology, space and greenhouse heating.
- Heat-pump in a primary school (NW Algeria) for heating and cooling purposes.
- Tilapia fish farming in south of Algeria (Ghardaia and Ouargla).
- Greenhouses for melon and tomato cultivation in South of Algeria (Ouargla and Touggourt).
- Future projects: binary-cycle geothermal power plant in Guelma (NE-Algeria); heat-pump in Khenchla (NE Algeria).

The total energy use for geothermal is about 1,778.65 TJ/yr.



Figuur 7: Location of Algerian geothermal uses sites

Geothermal Conceptual Models



Figuur 8: (a) Idealized northern Algerian geothermal system characterized by heating of the filtered meteoric water. (b) Idealized southern Algerian geothermal system, characterized by basement heating of the sedimentary basin

Conclusies

Despite being a petroleum- and gas-rich country, Algeria is making efforts to exploit its renewable energies. The Algerian government has adopted new renewable energy laws and financial support for the investors to facilitate the exploitation of the renewable energies for electricity production and direct utilizations. Algeria has relatively abundant geothermal resources especially in the northeastern parts but not totally used.

Literatuur

Block, N. (2011). Perceptual consciousness overflows cognitive access. *Trends in Cognitive Sciences*, *15*(12), 567575. doi: 10.1016/j.tics.2011.11.001