

Proposed Main Source of Cloud Charge

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Abstract

This article proposes a main source for cloud charge. It suggests that deserts are emitting charged water-vapor that ascends to the sky un-noticed. This charged water-vapor is produced as output of a vapor-geo-engine that works 24-hour daily. This geo-engine is powered by the earth's internal heat, which evaporates deep sea water penetrating continental voids at depths below three kilometers of sea surface. The sea water at these depths is rich with heavy isotopes of all elements constituting it, particularly hydrogen and oxygen. Some of these isotopes are stable under deep sea hydraulic pressure in excess of three hundred bars, but are un-stable at water table surface inside deep continental voids, that relieves the pressure to almost one bar. The un-stable isotopes disintegrate; and one of the disintegration products is the β -emission. This makes the water-vapor of the geo-engine charged electrically. The vapor ascends through soil voids; and at desert topologies, it reaches earth surface in gaseous state; ascending up to sky. The paper suggests some apparatus to test the validity of this proposal.

Keywords: Cloud-charge; Deserts; β -emission; Water-vapor; Geo-engine; Deep-sea; Continental-voids; Heavy-isotopes; Hydrogen; Oxygen; Hydraulic-pressure; Water-table; Un-stable; Disintegration; Stability

Introduction

A Desert is a topology in earth that:

- Exists at low altitude of few hundred meters above sea level.
- Has plenty of sand dunes.
- Has scarcity in water.

It is rich in soil voids.

Al-Kasimi [1-4] speaks about a vapor geo-engine that works 24-hours daily to generate a flux of water vapor. The vapor geo-engine is motivated by two natural dynamics: sea hydraulic pressure and earth core heat. Both work 24 hours daily.

On one hand, the sea hydraulic pressure pushes deep sea water continuously causing it to penetrate land soil voids. This makes the water table phenomena shown in Figure 1.

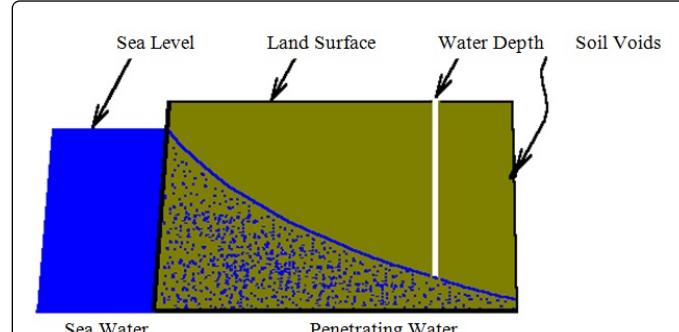


Figure 1: Water table diagram for the surface of penetrating water inside voids of sea-neighboring land.

On the other hand, earth core heat amounts at crust to a temperature gradient of: 25-30°C per kilometer depth. Hence, vaporization occurs at: 3-4 km below sea level. Salts are left behind. The vapor ascends up through soil voids as shown in Figure 2. This vapor flux escapes at low grounds to air and joins clouds.

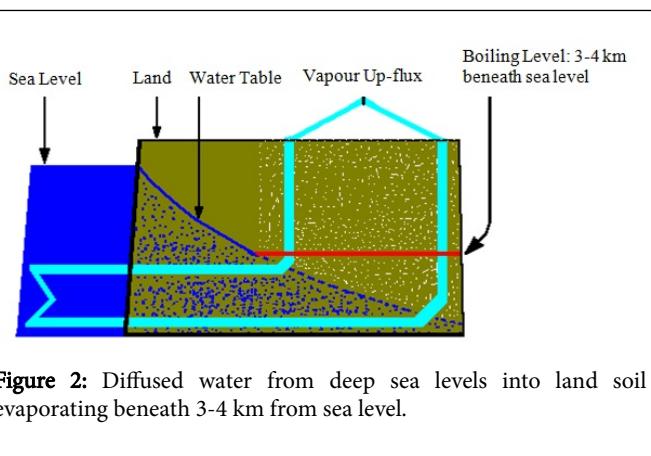


Figure 2: Diffused water from deep sea levels into land soil evaporating beneath 3-4 km from sea level.

Figure 2 also shows one of the most hidden sea circulations currents: the sea-land currents. It is thought that the vapour thermal mechanics over centuries of time have cracked and grinded low ground geological formations creating sand deserts.

Elemental Composition of Deep Sea Water

In deep sea water, some isotopes of Hydrogen and Oxygen exist stably (in low percentages); yet they turn un-stable at sea surface. Table 1 below shows [5,6] the heavy isotopes of both elements that turn unstable at sea surface, their half-life, and their disintegration-pattern (Table 1).

Heavy Isotopes	Symbol	Half-Life	Disintegration-Pattern
Hydrogen	^3H	12.33 y	β - to ^3He
Oxygen	^{19}O	26.9 s	β - to ^{19}F
	^{20}O	13.5 s	β - to ^{20}F
	^{21}O	3.4 s	β - to ^{21}F
	^{22}O	2.2 s	β - to ^{22}F

Table1: Data for Un-stable Heavy Isotopes of Hydrogen and Oxygen.

It can be noticed that at the water table surface, un-stable heavy Oxygen isotopes disintegrate to Fluorine in few seconds releasing some electrons. On the other hand, the un-stable heavy Hydrogen isotope (Tritium) disintegrates to Helium in years releasing electrons throughout. It is thought that ascending water vapor catches some of these charges of both types, in its journey from water table surface through soil voids to atmosphere then to clouds. This is thought to be the main source of cloud charge.

Suggested Testing-Apparatus

To test the validity of having charged vapor flux coming up from desert ground, a circular apparatus whose section is shown in Figure 3 is suggested to be installed on desert sand. The hanging Aluminum

cone can be 10 meters in diameter with head-angle of 120°C. It may leave one meter margin from sides and from naturally preserved ground beneath it. Hanged by proper insulated wire to a lockable hinge at the top of an insulated and protective conical structure, the aluminum cone will catch the flux of electric charge, causing electric current to flow to the earthed pole. This current can be measured using a Galvano-meter or a sensitive Ammeter. Water is expected to drip at the Aluminum base, due to vapor condensation (Figure 3).

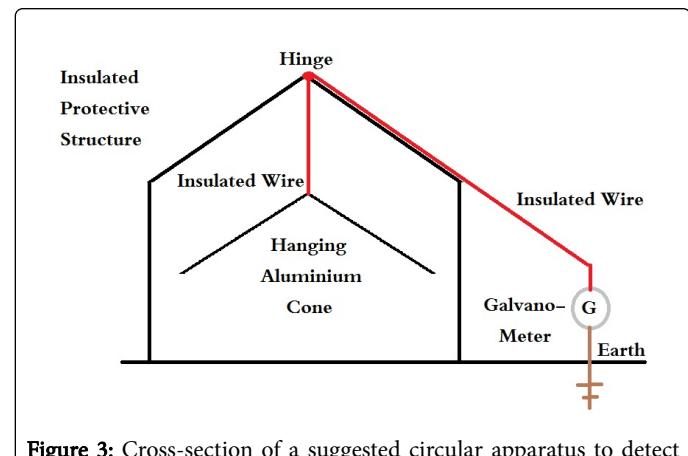


Figure 3: Cross-section of a suggested circular apparatus to detect charged vapor up-flux coming off desert-sand.

Conclusion and Recommendation

The paper proposes the existence of electrically-charged up-flux of water-vapor coming out of desert-sand, due to vapor-geo-engine and the disintegration of heavy isotopes in sea water that exist in low percentages at deep sea levels. It also recommends some apparatus to be used for the detection of such electric flux of charge. The author urges researchers to prove this and thus to establish a breakthrough in atmospheric sciences, allowing the utilization of such electricity. More research can be done to put some light to Fluorine Existence and Chemistry in continental depths at water table surface 3-4 km below sea surface.

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