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Mini Review

A Proposed Research to Find Out the Global Balance of Sea-Waves Impact on Earth-Beaches

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Abstract

This paper proposes a masterpiece research for honourable researchers, to find out the resultant force caused by sea-waves impact on Earth-beaches. It guides researches to dig out for hidden relations that affect overall performance of Earth environmental systems. It presents some expectations for researchers to confirm, using data and tools of concerned scientific community.

Keywords: Oceans; Deep/Shallow; Sea-Waves; Impact; Earth-Beaches; Balance; Resultant-Force; Hidden; Environmental-systems; Shoreline; Global; Coasts

Introduction

Several researchers work on Sea-Waves impact on shoreline. Some work on deep waves, others on shallow waves. Yet, most of them had had their work focused locally. William Allsop [1] is a typical example. The reason is to solve the various local shoreline problems, such as: corrosions, spells, structural failures, etc. Yet, to the knowledge of the author, no one has addressed the problem globally. The global coastline extends far beyond the estimated 120-thousands kilometres (three-folds of equatorial length, associated with the three continental blocks of: the Americas, Euro-Africa, and: Indo-China). Due to the curved nature of coastline, the actual length of global coastline is about five folds higher than the estimated one. It is found [2] to be: 620-thousands kilometres. Each single inch of this coastline is being continuously hammered at its various vertical layers, above or below water, with successive waves that run 24 hours daily. Each wave has its own characteristics and spectrum of wave-impacts that cover depths from sea-level to sea floor. The purpose of this paper is to propose two methods for estimating the global impact of sea-waves on Earth shoreline. The first method is to use estimates of each sea-wave strike-force along the coastline. The second method, on the other hand, is to use estimates of pressure profiles along the coastline. The paper concludes with reflections on what might be harvested as a result of the proposed plan.

Reference Axes

Researchers are advised, for simplicity, to define their reference axes to be:

a) Along latitude lines,

b) Along longitude lines, and:

c) Along altitude lines.

The Vector Natures of Both Sea-Wave Strike-Forces and Pressure Profiles

Researchers are reminded that sea-wave strike-force is a vector quantity, and so is its distribution. Likewise; pressure profile, though scalar, yet it is multiplied by infinitesimal area, which is also a vector quantity.

Estimating Global Impact Using Estimates of Sea-Wave Strike-Force along the Coastline

In this method, researchers will find for each sea-wave strike its impact on the shoreline by finding its resultant impulsive force via integrating its infinitesimal vector components. The latitude components in particular can be integrated to find out the global torque exerted on Earth crust that drives Earth to spinning. This component is also expected to be responsible for the mobility of

tectonic plates along the latitude lines. The longitude component, if integrated, is expected to have zero global resultant. This is because Earth has no spin along longitude lines. Yet, this component is expected to be responsible for the mobility of tectonic plates along the longitude lines. The altitude component, if integrated, is expected to have some global resultant. This component is expected to be responsible for the rise or fall of tectonic plates along the altitude lines.

Estimating Global Impact Using Estimates of Pressure Profiles along the Coastline

In this method, researchers will find for each vertical strip along the shoreline the resultant force pressing it via integrating the infinitesimal vector components resulting from multiplying the pressure by the directed infinitesimal area at each altitude level of that strip. Latitude, longitude, and altitude components can then be integrated to get the global corresponding resultants. The results of this method can be compared with the former one to make checks and balances.

Averages of Sea Level at Shoreline

One important parameter recommended to monitor for sea waves is the average sea level along the shoreline. This parameter varies with time, and averages can be found to recognize its effect. These averages can globally provide east-west water-head components along continental borders that can be transformed to pressure and integrated to check the global torque exerted on Earth crust, found by both methods.

Global Steady and Variable Torque Components

The global force component exerted on Earth crust along the Earth latitude lines is expected to be non-zero. This will result in a global torque around the axis of spin of Earth. This global torque is expected to have two components: one steady and another variable. The global steady component, if alone, can cause the Earth to spin with angular acceleration driving it to disastrous end. But, luckily, the global variable component is expected to act as a damper by shaking Earth and dissipating sea-wave power.

This is expected to be behind several phenomena:

a) Steady spin speed for Earth,

b) Dynamic life of Earth systems, and:

c) Distributed disastrous events such as: volcanoes, earthquakes, storms, tornadoes, etc.

Reflections and Expectations

The global impact on Earth crust of sea waves is expected to be the key driver for most Earth dynamics. It is expected that it sets its spin speed and causes its live behaviour. Once this is confirmed by researchers, it should be then expected that any disturbance to the sea wave system will directly affect both Earth spin speed and environmental systems.

Some logical disturbances claimed by the author are:

a) Rainfall, particularly the heavy and durable over oceans; where it temporarily interferes with the sea wave patterns.

b) Solar heat disturbance; where it temporarily redefines sea water currents through convection.

c) Solar electromagnetic disturbance; where it temporarily redefines the electrically charged sea water currents through electromagnetic deflection.

d) Solar eclipse, particularly over sea; where it temporarily drops sea temperature and affects sea water currents through convection. Same goes right with lunar eclipse but at a milder degree.

e) Sea geophysical disturbance, such as sea earthquake, sea tsunami, sea volcano; where it temporarily upsets the sea wave system.

f) Sea Meteorological disturbance, such as sea winds, sea tornadoes, etc.; where it temporarily upsets the sea wave system.

Conclusion

This paper proposed a novel research for honourable researchers. It outlined how to find out the resultant force caused by sea-waves impact on Earth-beaches. It guided researches digging out hidden relations affecting overall performance of Earth environmental systems. It presented some expectations for researchers to confirm, using data and tools of concerned scientific community.

References

1. (2005) William Allsop: "WAVE IMPACTS AT SEA WALLS".
2. https://science.nasa.gov/earth-science/oceanography/living-ocean

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