The Institute for Advanced Studies in Climate Change

### **Introduction:**

This paper will present novel concepts that show links between global weather mechanisms and large-scale natural hazards such as earthquakes. Research papers encountered on El Niño's and seismicity reported by <u>Daniel Walker</u> (1988, 1995, and 1999) provided the initial impetus for Institute for Advanced Studies in Climate Change (<u>IASCC</u>) to research and uncover unknown climate links. Originally a concept understood as gravitational teleconnections (Leybourne, 1996, 1997) was proposed as an active mechanism or link between tectonics and atmospheric pressure oscillations driving El Niño Southern Oscillation (<u>ENSO</u>). Finally after many years of study, in 2014 the Institute for Advanced Studies in Climate Change began embracing and promoting the "Earth as a Stellar Transformer" (EAST) concept.

In conventional 20th century theoretical scientific terms, earthquakes are driven by a collision of slow moving tectonic plates. So what could connect a relationship between earthquakes and climate change? The bottom-line, IASCC's concluding hypothesis is that solar electromagnetic activity driving energy and related space weather appears to dominate the relationships between earthquakes and naturally occurring climate drivers (Leybourne and Smoot, 2005). <u>Birkeland currents</u> (Fig. 1) sometimes "overcharge" the earth's core like a leaky capacitor (Gregori, 2002, 2006) stimulating earthquakes when the earth's core discharges. This may be associated with inner core jerks (Dziewonski, 1984, Quinn and Leybourne, 2010) coupled with electromagnetic fluid dynamics linked to orbital physics, and magnetic decay cycles (Quinn, 2010).

It appears from historical geology, archeology, astronomy, and mythology, the ancients may have previously uncovered this knowledge beforehand or perhaps were informed by more highly evolved or intelligent life forms. Perhaps these mysteries will eventually be resolved, but how has this science evolved in more modern times? How did we recently take steps toward the "Earth as a Stellar Transformer" as more than an intellectual concept?

## Scientific Breakthrough:

In 2015, the Stellar Transformer breakthrough was recognized when John Quinn's magnetic modeling (Quinn, 1997, 2010) of Earth's polar magnetic anomalies aligned with polar Delta – Y electrical circuit configurations (Fig. 2). These circuit geometries align with Earth's tectonic mantle gravity signatures (Fig. 3) exhibiting global temperature anomalies (Fig. 4). These electric circuit relationships seem to confirm a theoretical transformer ring-to-ring step down energy circuit observed from polar plasma rings (Fig. 5). The mid-ocean ridge encircling Antarctica (Fig. 6) connects with the deeper concentric spherical configurations of Earth's inner and outer core. Polar auroras seem to reflect relative positions of the inner/outer core relationship, while intense bright spots (Fig. 5) within the auroras signal energy transfers between Earth's circuitry. While these relationships or this particular scientific hypothesis has yet to be confirmed by "scientific authorities", the interrelationships between these geophysical datasets has a certain self evident quality that a knowledgeable or reasonable person may base their own conclusions.

# **Theoretical Constructs:**

To better understand these insights, we need to review Quinn's magnetic modeling (Fig. 7, Quinn, 1997) Fig. 7 as understood in terms of Giovanni Gregori's "Sea Urchin" model (Fig 8) wonderfully described in his book "Galaxy-Sun-Earth Relations. The origin of the magnetic field and of the endogenous energy of the Earth, with implications for volcanism, geodynamics and climate control, and related items of concern for stars, planets, satellites, and other planetary objects." (Gregori, 2002) In Fig. 7, Quinn's inverse harmonic magnetic modeling techniques showcase anomalies aligned with geologic hotspots, tectonic triple junctions and climate oscillation centers. While Gregori's endogenous electrical "Sea Urchin" energy model in Fig. 8 provides a framework to understand and support Quinn's magnetic modeling data. Gregori also includes a host of observational evidence outlined in his volume of works related to earthquakes, volcanoes, environmental and astronomical observations. (Gregori, 2002, 2006) In order to explore these relationships, an earlier synthesis transpired before tectonic electromagnetic relationships were explored. Without this earlier stage, no breakthrough discoveries of this kind would be forthcoming.

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### **Earlier Theoretical Constructs:**

Evolution of "Earth as a Stellar Transformer" originated by considering the scientific dilemma behind plate tectonic theory's failure to explain a link uncovered between El Niño's with the occurrence of six-month precursor earthquakes in the Pacific Basin by Daniel Walker. To address this mystery, a useful framework for investigating this scientific dilemma was considered. The concept of "Surge Tectonics" reveals an interesting relationship between tectonic energy releases and climate dynamics (Leybourne, 1998, 1999, 2001, 2002).

Observations were made that atmospheric pressure centers of the primary climate oscillation indexes, such as El Nino Southern Oscillation (ENSO – Leybourne and Adams, 1999, 2001) align directly over huge physical planetary tectonic vortex structures with significant magnetic and gravity signatures. "Surge Tectonics" (Meyerhoff, 1992, 1996) explain plate tectonic triple junctions in terms of intersecting flows of "tectonic mantle structures" that twist into vortex like columns. Traversing along and underneath the plate boundaries, "surge channels" flow into downward and upwelling spinning spirals (Smoot and Leybourne, 1997, 2001) similar to jet streams exerting control of high and low pressure cells in the atmosphere. These "Tectonic Vortexes", Gregori's "Sea Urchin Spikes", Quinn's "Magnetic Anomalies" contain induction field energies linked to Solar and Earth Stellar Transformers. These contribute to the electromagnetic attraction or repulsion driving ionospheric disturbances and related atmospheric pressure oscillations, originally introduced as gravitational teleconnections (Leybourne in 1996, 1997).

The original concept of gravitational teleconnections suggested that released thermal energy from increased earthquakes created density changes concentrated within tectonic vortex structures as the driver of atmospheric oscillations driving climate change (Leybourne, 1998). There were early objections to this thermal convection influence concept. Conventional scientific corners insisted that geologic processes took place over a very long time spans and did not possess the capacity to affect short-term climate drivers or weather patterns. At the time, this was a reasonable objection using simplified plate tectonic theory, which purported that the mantle plumes and Hadley Cell like circulation convection actions underneath tectonic ridges, took eons to rise through the mantle driving plate motions.

Using an airflow analogy, comparing an atmospheric Jetstream to a "Geostream" can be made to help visualize this phenomenon (Fig. 9). Given that this analogy holds true, it is a fairly simple step to appreciate how electrical charge, or joule energy associated with gravity density changes within tectonic vortex structures may transform climate through geoelectric processes of the Stellar Transformer. This dramatically influences density changes in the atmosphere directly above them like a spring altering pressures in the atmosphere.

Once you consider electrical transfer of energy from the earth's core ingested from solar energy through the magnetic poles, this objection easily disappears as the electro-mechanical driver becomes less tectonic and evolutionary in affect and observable or evident in cases of large solar storm impacts our planet. The concept of Stellar Transformer as an electrical driver connecting solar activity, space weather and earth electrical capacitance is more probable once this consideration is incorporated into solar energy impact models as they affect large-scale natural hazards such as hurricanes and earthquakes.

# **Popular Climate Change:**

We didn't mention CO<sub>2</sub>, as a driving factor or lagging indicator, but we cannot escape the topic. It is a well-documented fact that carbon dioxide and methane out gassing is common with fossil fuel mining, energy exploration, water drilling, hydrothermal venting, and volcanic eruptions. These outgasses are associated with the Earth's physical and chemical transformation during joule heating energy release mechanics. Traditionally CO<sub>2</sub> and CH<sub>4</sub> levels are considered lagging evolutionary indicators of global warming in accordance with ice core data (Monin et. al. 2001) and modern records (Quinn, 2010). Milankovitch cycles (Serbian geophysicist and astronomer Mutin Milankovic, 1920) consider orbital physics of eccentricity, axial tilt and precession as the main drivers of long-term climate cycles as seen in the ice and sediment core data (Leybourne, 1998). It is difficult to understand how CO<sub>2</sub> and CH<sub>4</sub> drive climate change if they are laggards to global warming episodes in documented climate data. Regardless, we are not attempting to support or debunk carbon dioxide as a driver or indicator of human impacts on climate change.

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### **IASCC Mission:**

Our mission at the Institute of Advanced Studies in Climate Change IASCC is to improve the deeper understanding of climate change by collaboration among the greater scientific research communities. We want to encourage multi-disciplinary research studies to expand the climate change knowledge base, and implement an improved understanding into global short and long range space weather, communications, earth weather, earthquake and climate modeling, mapping, and forecasting systems.

We believe that the concept of Earth as a Stellar Transformer (EAST) is one of many possibilities of the electrical affect that impacts the earth's large-scale natural drivers and has an effect of risk forecasting and disaster prediction.

### **Affiliated Research:**

One of the associated groups IASCC collaborates with is the <u>Suspicious Observers</u> (SO). They have a daily YouTube webcast along with other information and historical observations exhibiting examples of these phenomena. Another independent research group we enjoy working with is the Electric Universe (EU) <u>Thunderbolts Project</u> (Thornhill and Talbott, 2007) who explain some of these relationships in broader scales as interacting plasma fields (Peratt, 1991). They discuss many relationships between solar activity and the larger environment.

The International Earthquake and Volcano Prediction Center (IEVPC) conducts ongoing research successfully forecasting some of these natural hazard events based on solar activity and other methods. New Concepts in Global Tectonics (NCGT) has supported this area of research for over two decades, and publishes related articles many which would stand no chance of passing a conventional scientific "peer review" due to the controversial nature of the subject matter. Many other sites, including the National Philosophy Alliance (NPA), individual researchers, other research institutes, international and governmental agencies, too many to list here, contain and have exposed useful knowledge related to this area of science.

## **Independent Collaboration:**

The IASCC is always interested in entertaining and enabling collaboration, as part of our mission at the Institute of Advanced Studies in Climate Change. If you would like to join the conversation and contribute your specific thoughts or body of research for consideration and inclusion, please review "about us" on our website.

## WWW.IASCC.ORG

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