Long Range Earthquake Forecasting – Verified Quakescanner August to October 2016 Long Range Earthquake Forecast Review Demonstrates 71.4% Accuracy in Predicting Significant Earthquakes

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Abstract:

Since August 2016 I have publicly published long range earthquake forecasts on a rolling calendar month basis. Publishing the forecast on the Quakescanner Earthquake Blog page on the Visicom Scientific / Toridion Project site http://www.visicomscientific.com/page/Earthquake-Blog. The purpose of this paper is to analyse those forecasts with respect to the currently intended goal of the Quakescanner Project which is to establish solid evidence and result based support for the hypothesis that solar, gravitational, planetary and wider cosmological motions and interactions have a measurable effect on the number and severity of terrestrial seismic events. This is not to say that these are the only factors affecting earthquakes or that planetary alignments cause disasters **(which is a common misconception)**, but rather to make it clear that planetary motions, solar activity and cosmological factors do contribute to an overall picture of terrestrial climate and seismic behaviour and furthermore this data can be calculated, predicted and used to further enhance the excellent work of seismologists globally to increase the accuracy of earthquake forecasting. The paper shows that the Quakescanner Quantum Gravity Distortion model accurately forecast 71% of periods of significant earthquake activity with granular accuracy of 1 to 2 days for a 92 day period.

Keywords: Earthquake Forecasting, Quantum Gravity, Prediction, Climate

Introduction and overview:

I will begin by introducing the Quakescanner Project and describe what the current phase of research is focussed upon and what it hopes to ascertain and what it does not.

The first project phase aims to to develop a model which can predict in advance the periods of time in which earthquake activity is most likely on a global – and not local geographic basis. Why global as opposed to geographic? Because the project recognises that first the hypothesis which the project is built upon, namely that phenomenon such as gravity distortions in the local field of Earth, must first be investigated and upheld. If cosmological forces do indeed have an effect of Earth, then until those forces can be accurately predicted on a global daily basis over a sufficiently large time period – and significantly in advance, the notion of trying to pinpoint a specific location is simply useless. So, the first phase of the Quakescanner project was to test this principle hypothesis. The application is available publicly as an iOS app since early 2016 and although I had made many accurate advanced predictions based on the applications results, it was not until August / September that I began to publish long range forecasts for a complete month in advance. Using the first three of these publicly published forecasts, this paper determines whether the forecasts provided any advanced warning of earthquake activity based upon the use of quantum gravity distortion modelling.

Forecast data: (Visicom Scientific / Scot D. Forshaw 2016)

The forecast data that this paper is based on was published over a 3 month period. Although complete monthly advanced synopsis did not begin fully until September 3rd 2016 the August period being initially forecast in several public posts starting 12th August, from which I have compiled a retrospective forecast, from these a format was developed and this was used for the October 1st 2016 forecast and will be the future format until further notice. I have included the forecast summaries below and links to the public posts is found in the reference section. This paper examines those forecasts and the actual earthquakes recorded during the forecast period by the USGS service.

The forecasts:

August 2016: Issue date (12th August 2016 with retrospective compilation from public posts). As stated the August forecast is a compilation of public notices publish on the QS micro site before a format was decided upon by which to relate the long range forecasts. Therefore there are links to several posts issued to predict significant activity during the month.
Link: http://www.visicomscientific.com/page/Earthquake-Blog#U12082016A

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Post 11TH AUGUST 2016 08:46 UTC

So after the Mag 5.1 earthquake hits California, I'm looking at what Quakescanner has lined up for the month ahead.
Having been tied up with work I have had little time this month to take a look back over July to see how Quakescanner performed at predicting the most significant size earthquakes across the world. The results are really quite amazing, with the quakescanner indicators lighting up with predictions of serious tidal anomalies in the 24 hours leading up to earthquakes on the 21st, 25th, 29th July and the **4th August**. The readout giving a strong heliocentric anomaly for midday **9th August + 24 hours** , so falling into the direct window of large 5.1 earthquake that struck Upper Lake California in the early hours of the morning 10th August.. Look to the rest of August I am seeing some serious indications of anomalies up to and shortly after the **16th August** and so if the past accuracy of Quakescanner is anything to go by, Mid/Late August is on track t produce some pretty big 6.0+ Magnitude earthquakes - "or at least thats the theory!"
All for now, be safe. :)

Update 12TH AUGUST 2016 04:55 UTC

Yesterday I posted the short article (below bold italic) on FaceBook warning that increased activity was on the way on the run up to the **16th August** 2016, with QS showing an increased 99%! risk of 6.0+ Magnitude #earthquakes for today **12th August** 2016. This morning, I got chance to update the Quakescanner earthquake prediction blog page. This morning has seen the 2 two largest earthquakes since the 4th August. A 7.2 and 6.1 Magnitude striking regions around Fiji. Once again Quakescanner appears to have predicted this increase in activity and correlated it to gravitational distortions predicted using its algorithms.

Update 21st AUGUST 2016 05:55 UTC

More unsettled conditions as we move towards August 26th with significant risk of 6+ Mag events on all days.
It has been a highly active few days with earthquakes reaching 7.4 Magnitude. Quakescanner has been particularly accurate for the last 2 weeks predicting some significant tidal distortions that resulted in aftershock events reaching mid 6's. I have not had a great deal of time to update the blog but did manage to update Twitter with the most significant event forecast updates. Checkout the Quakescanner Twitter feed at @Quakescanner for details of these.

The next few days as we are already starting to see is forecast to have a high potential for large magnitude activity. On the **26th August** a large tidal distortion seems to be the highlight of the month, but as we already know, effects of these disruptions can swing either very low or very high on the day. What is more likely is the day before or after the distortion will produce the most severe activity.
With this in mind and looking to the Quakescanner readout for **the next few days**, the general prognosis would be a significant increase in 6.0+ magnitude earthquake events interspersed with short term very quiet periods.
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September 2016: Issue date 3rd September 2016 for 30 days (27 remaining)
Link: http://www.visicomscientific.com/page/Earthquake-Blog#U03092016A

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Long Range Earthquake Forecast and Solar Outlook for September 2016 Issued 09/03/2016

Following a high activity end to August, September opened with a bang as a 7.1 magnitude quake struck off New Zealand on the 1st and subsequently two 5.6 magnitude events in the California and Oklahoma USA on the 3rd.

The general synopsis: Earth is currently entering the front of a turbulent region as it exits a Neptune induced current and into more stable space on the **9th of the month**. After a high activity start, things settle until the **9th** then **after the 22nd** the risk of significant activity is very high on all days.

Weekly outlook: Several small distortions are present until the 9th making the transit bumpy with some tidal variance giving increased risk on the 4th. The 9th to the 13th shows significant distortions, with Magnitude 6+ possible in all active regions especially the 9th 11th and 12th though tidal aftershocks could extend the effect a further 24 hours.

Mid month the **16th 20th and 21st** look favourable for M5-M6 events also. It is the last week of **September 23rd to 30th** that are the most worrying with major tidal distortions on several days in particular the **26th +/- 24 hours** indicating 99% probability of significant seismic activity.
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October 2016: Issue date 1st October 2016 for 31 days
Link: http://www.visicomscientific.com/page/Earthquake-Blog#U10012016A

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Long Range Earthquake Forecast and Solar Outlook for October 2016 Issued 10/01/2016 #California Bulletin

All eyes focus on California this weekend as USGS issue California Earthquake Advisory. The string of earthquakes in Southern California from 26th through 27th of September fit perfectly into the Quakescanner Long Range Earthquake Forecast issued on 3rd September 2016. Quakescanner is forecasting that the period of increased activity that began in the last week of September will likely increase with peak activity (in distortion terms) around 3rd October with isolated high risk on 6th October.

The first half of October is predicted to be highly active with a number of tidal distortions continuing **until the 6th**.

Mid month from **October 16th** the risk forecast increases particularly **22nd** , **26th,27th and 28th** of the month. A further update will be issued later in the month so please check back for that.
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Earthquake activity data sourced from USGS:

Comparison data was obtained from the USGS United States Geographic Survey service at http://earthquake.usgs.gov/earthquakes/map/. Data was obtained for 3 metrics, magnitude 4.5 + earthquakes, 5.0+ earthquakes and finally USGS defined "significant earthquakes" defined normally as 6.0+ events and any event on US territory that is potentially damaging or out of the ordinary.

Data sets covering the above for the period 1st August to October 31st is available on the following link:

> 4.5 Mag earthquakes : Link (USGS 2016)

Comparison results:

The comparison is a straightforward look at every date specifically mentioned in the forecasts above as being high risk versus the occurrence of significant earthquakes in the 92 day period. See conclusion for more details and expansion on further evaluation.

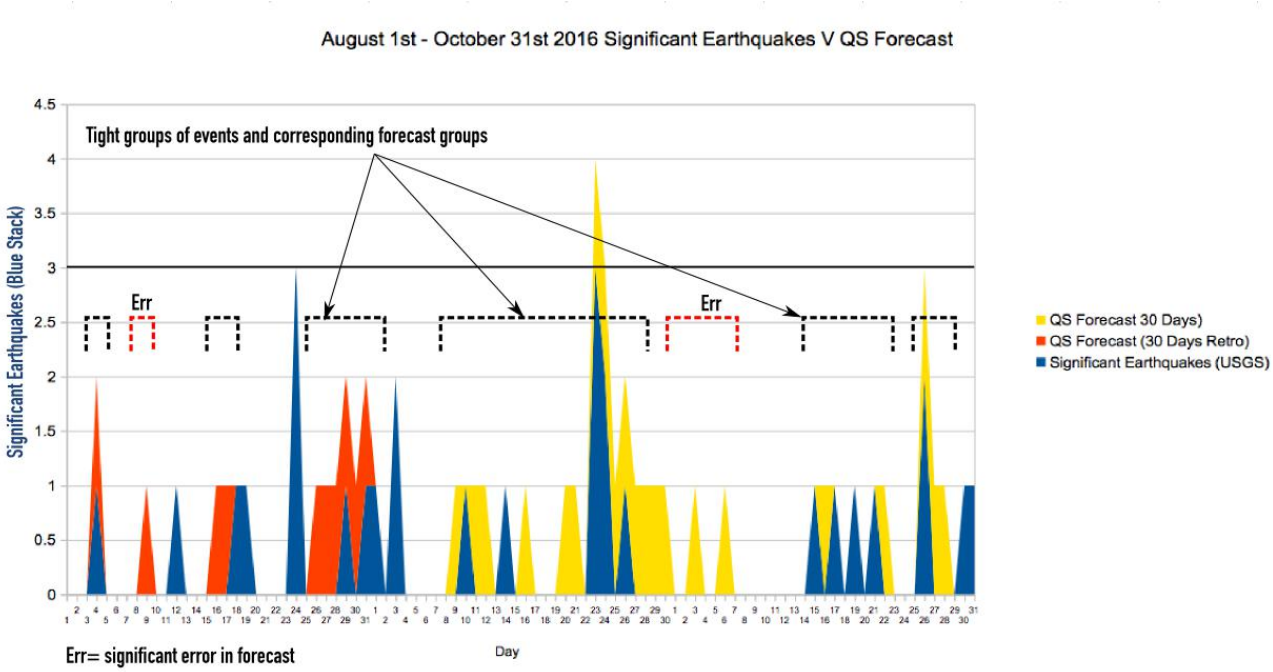

Illustration 1: 92 Day stacked overview of significant earthquakes reported by USGS versus the days specifically mentioned as high risk by the forecasts.

The following analysis offers a utter worst case view of the forecasts with respect to both the entire period and also with respect to the number of days predicted to be high risk.

Looking to illustration 1, we see the blue areas which are the actual significant earthquakes designated by USGS and the days of the period specifically forecast as high risk in the texts of the forecasts. Of 21 days with significant events the forecasts correctly identified 7 days exactly and 15 days within 24 hours or closer accuracy, which is the default error of QS forecast models. Of the 32 days forecast as high risk, 15 days were false alarms, being isolated by more than 24 hours from a significant event.

Therefore:

Firstly, we look at the success rate. With respect to the number of actual significant earthquakes (21) and the number of accurate days forecast the following is found:

- 33% (7/21) of significant events forecast exactly
- 71.42% (15/21) of significant events forecast to within 24 Hrs
- 46.6% (7/15) of the accurate days forecast were exactly to the day
- 65.2% (60/92) days accurately forecast no significant events

Secondly, we look at the error rate. With respect to the number of days actually forecast as high risk (32) – 17 out of 32 days (53%) forecast were false alarms being isolated by more than 24 hours from a significant event. However out of the 92 day period this represents a false alarm rate of less than 19% in the entire period which is very good indeed.

- 54% (17/32) forecast false alarms with respect to forecast dates
- 19% (17/92) false alarms in the entire period of 92 days
- 34.8% (32/92) dates forecast of which 19% in total were false alarms

Comparison conclusion:

To recap the results of the above process for validating the accuracy of the Quakescanner model:-

With respect to the number of accurately forecast days (15) out of 21 actual days that produced significant events, the model demonstrated an accuracy of better than 71%, with over 46% of those days being exactly correct. Again very good and well above the rate that would be expected for a simple coin toss or random sample method.

The Quakescanner long range forecasts were successful in accurately identifying 71% of days in the 92 day period most likely to produce significant earthquakes, of which 46% were exactly accurate and overall 19% of the forecast warnings were false alarms in the true sense of the word. This result has probability of accuracy that out performs a simple random sample or coin toss method by a large margin and shows a high degree of ability to isolate identifiable groupings of events interspersed between periods of quiet.

Capturing the forecast data:

Capturing the data from the model is the first requirement and this is achieved by running a simulation of QGD inside the Quakescanner system. Each month since August 1st a 30 day simulation is run using the latest version of the Quakescanner application. A video of the entire simulation from August 1st to October 31st is available online at (**https://youtu.be/EJdhRRzXkoU**). The data produced is saved into spreadsheet format for evaluation. Quakescanner produces several key metrics by which it provides visual indicators that assist the forecaster in determining the strength and time of hypothesised distortions in the gravitational tidal fields within which Earth is currently sat. Illustration 2 and 3 show example displays from the application.

Forecasting overview and goal exploration:

Quakescanner is a publicly available application first published in early 2016 on iOS

platform and currently at version 1.3 and 1.4 in beta. V1.4 was used for the purposes of this paper. The application produces a complex set of variables and visualisations and some understanding of the model approach and the readout is required in order to make proper use of the software. The author being the creator has of course some advantage here, however to avoid confusion and to make the paper as simple to understand as possible the author has chosen to stick to the facts. Namely choosing only to compare the advance long range forecast texts as they were published against the actual earthquakes reported by USGS. For the reader, it is worth noting that there are many other ways to compare the multiplex of data derived from the Quakescanner system, however this paper has a purpose and it is served by "keeping it stupid simple" and answering 2 simple questions:-

1: "can it be shown that the long range forecasts made by an educated user of the software model, provided a true representation of the facts as reported by USGS"?

The question leaves little room for manoeuvre. The results of this paper clearly show that the forecasts offered a comfortable 71% overall accuracy with a 19% false alarm count over a 92 day period.

2:"can the results be demonstrated to be more accurate than a random sample set (e.g a set of random predictions for each of the 92 days in the period observed)"?

With 92 days with yes or no options the number of permutations of significant events is essentially a 92 bit number. 2^92 or 4.951760157141 52E27 ways to "guess the right combination". The model demonstrated that 60 out of the 92 days were accurately forecast to have no significant activity or 2^60 or 1.15292150460685E18 to 1 chance of guessing the right combination of dates. Any combination of a random set of 50/50 or 46 days on 46 days off would not have come close tot he accuracy demonstrated herein.

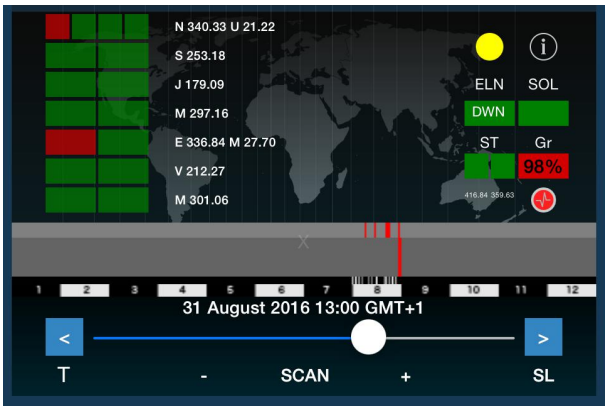

Illustration 2: QS Application Readout 1

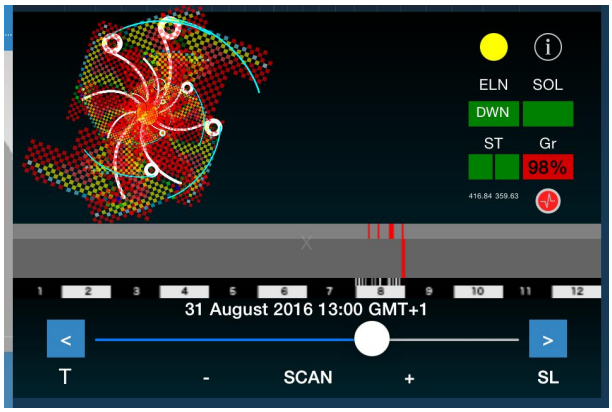

Illustration 3: QS Application Readout 2

Trend Analysis

Illustration 4 shows the number of 5+magnitude earthquakes reported by USGS in the 92 day forecast period against the reported risk factor (0-10 = 0-100%) forecast data. Also included in the graph is the significant events and QGD data presented in the previous graph (Illustration 1). The purpose is to determine if the general trend of activity forecast by Quakescanner's model correlates with observed earthquake activity. The graph demonstrates that Quakescanner was encouragingly accurate in predicting increase and decrease in seismic activity when both QGD and risk forecasts are combined as mutally

inclusive factors, which is the technique employed when interpreting Quakescanner output. By this I mean that when QGD are in force they dominate the risk factor. This is more honest and accessible than trying to average out factors to make the data 'look better'.

Overall Conclusion

The how's and why's of how the model works, what the quantum theory behind it might be or the interpretation of the data by the forecaster in making the original forecasts published from which this paper derives its conclusions are largely irrelevant for the purpose of determining the facts as presented. Those familiar with my work in El Nino prediction (Forshaw 2016), quantum memory models (Forshaw,2016) and superfluid gravity (Forshaw, 2016) may be already familiar with these principles, those who are not can read further from the references below. What this paper set out to do was honestly and transparently evaluate the accuracy of a 3 written long range forecasts for significant earthquakes against the factual data published by the US Geographic Survey. The approach to evaluating is open, non sensational and straightforward.

Representing only a three month window it is of course narrow and over the coming year monthly long range forecasts will be produced and evaluated in the same fashion. However this first publication shows compelling evidence that the first hypothesis of the Quakescanner Project – namely "*that the planets and the sun all interact in such a way as to modulate space/gravity/energy and plasma in such a way as to have an effect on Earth climate and seismic activity*", is on solid ground.

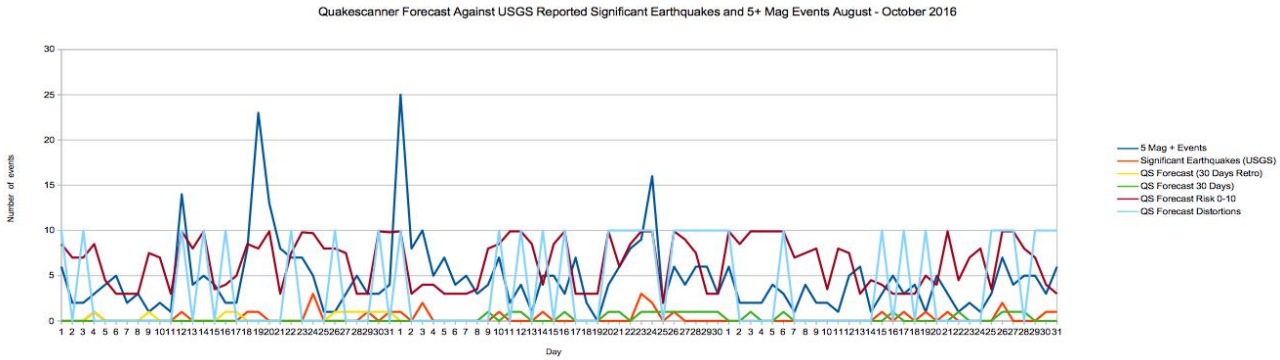

Illustration 4: Overall trend of Quakescanner risk and distortion forecast against USGS reported significant events and 5+ magnitude events August - October 2016

Future:

It may be too soon to consider the future of the project, for now the results will be published quarterly and evaluated in this format. If however the hypothesis holds with similar accuracy then the implications for long range seismic activity forecasting are deep indeed. If as the author believes Earth is affected by distortions in gravity and space and these distortions are predictable then the next phase of the project is to formulate how these periods of high risk (in a space sense) can be driven into terrestrial seismic forecasting to augment and improve the process. Had for example seismologists taken the forecast predictions included in this paper in advance of the Italy earthquake, could they have upscaled their calculations and forecast the geographic location on the event with significantly more confidence than currently possible?

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