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The geological and paleomagnetic record indicate that around 750 million and 580 millions years ago glaciers grew near the equator, though as of yet we do not fully understand the nature of these glaciations. The well-known Snowball Earth Hypothesis states that the Earth was covered entirely by glaciers. However, it is hard for this hypothesis to account for certain aspects of the biological evidence such as the survival of photosynthetic eukaryotes. Thus the Jormungand Hypothesis was developed as an alternative to the Snowball Earth Hypothesis. In this talk we investigate previous models of the Jormungand state and look at the dynamics of the Hadley cells to develop a new model to represent the Jormungand Hypothesis. We develop an analytical approximation to the model using a finite Legendre expansion and prove the existence of an attracting one-dimensional invariant manifold using geometric singular perturbation theory. The resultant model gives a stable equilibrium point near the equator with strong hysteresis that satisfies the Jormungand Hypothesis. (Received January 03, 2014)