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USGS Data– Earthquake and Tectonic Plates Analysis

Data Description:

In an attempt to analyze earthquake data, selected json format data from USGS- United States Geological Survey website that provided past week's GeoJSON data of earthquakes with a magnitude of greater than 2.5 and data is updated every five minutes. For better visualization of data, we used some base maps (satellite map, grayscale map and outdoor map) and overlay maps(Earthquake markers and fault lines) in order to plot a second data set on our map.. The dataset looks like below:

JSON Feed: https://earthquake.usgs.gov/earthquakes/feed/v1.0/summary/2.5_week.geojson

```
{
  "type": "FeatureCollection",
  "metadata": {
    "generated": 1560750490000,
    "url": "https://earthquake.usgs.gov/earthquakes/feed/v1.0/summary/2.5_week.geojson",
    "title": "USGS Magnitude 2.5+ Earthquakes, Past Week",
    "status": 200,
    "api": "1.8.1",
    "count": 255
  },
  "features": [
    {
      "type": "Feature",
      "properties": {
        "mag": 4.8,
        "place": "90km SE of L'Esperance Rock, New Zealand",
        "time": 1560746986878,
        "updated": 1560750019040,
        "tz": -720,
        "url": "https://earthquake.usgs.gov/earthquakes/eventpage/us6000411a",
        "detail": "https://earthquake.usgs.gov/earthquakes/feed/v1.0/detail/us6000411a.geojson",
        "felt": null,
        "cdi": null,
        "mmi": null,
        "alert": null,
        "status": "reviewed",
        "tsunami": 0,
        "sig": 354,
        "net": "us",
        "code": "6000411a",
        "ids": ",us6000411a,",
        "sources": ".us."
      }
    }
  ]
}
```

Observations:

- Considering circle markers in United States, we could notice high number of earth quakes around California (SFO and San Diego Area) and Alaska States (Anchorage Area). Most of these are ranging in magnitude of 2.5-5, whereas 3 are of them falling into a range of 4-5 magnitude.
- As the size of markers is in proportion to magnitude of earthquakes, we could see Alaska had a highest magnitude of earthquakes compared to California.



Conclusions:

Based on the observations, we could conclude that Anchorage area in Alaska state is at higher risk of earthquake frequency and its magnitude followed by California State's SFO city.