Tom -

Geoinquiries – Earth Science

1. Topography and our national heritage

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=78dfc2b49bfb424d8ed559ddb66211f8>

Yosemite's Hidden Treasures

[USA Topo Maps](http://education.maps.arcgis.com/home/item.html?id=99cd5fbd98934028802b4f797c4b1732)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. Using remote sensing to avoid disasters

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=0ee186c87ce34543b656a625bf42f28f>

[Oso landslide area of interest](http://education.maps.arcgis.com/home/item.html?id=b3cc571d1a2b4c15a8722685a1d5b3b3)

[Hillshade Post Slide](http://education.maps.arcgis.com/home/item.html?id=6456ba6dd5284f78a57dc842e7e0c21f)

[Oso Image After Landslide](http://education.maps.arcgis.com/home/item.html?id=39a3eccb36034a5ea1168572ddfc0820)

[Oso Image Before Landslide](http://education.maps.arcgis.com/home/item.html?id=62d4d933f641452ab5aa3a4ecd774bed)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. Mining the world’s most used minerals

<http://www.arcgis.com/home/webmap/viewer.html?webmap=f728abfbfaff439dbc155a39ac27988e>

Mining Resources

Sources of Minerals

[Metal Smelters and Refining Centers](http://www.arcgis.com/home/item.html?id=d9eb70fe73824f30aa3f8a8794e54c21)

[CopperMineDens](http://www.arcgis.com/home/item.html?id=74734bc303d2475f90bbfe15b1e26fb7)

[IronMineDens](http://www.arcgis.com/home/item.html?id=bf4185128e04461fb08b7a3e78488ee3)

[AluminumMineDensity](http://www.arcgis.com/home/item.html?id=7e8785edff31415f9d31ad806ccd7d79)

[GoldMineDensity](http://www.arcgis.com/home/item.html?id=3c9f255071344c6780d98c45a71c1f09)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. Rock types tell stories

<http://www.arcgis.com/home/webmap/viewer.html?webmap=4c349b6d96694c59940f37c99532f023>

Sedimentary Rocks

[NA Rock Types](http://www.arcgis.com/home/item.html?id=6532e5dfb43d453892dddfc39d76827a)

[World Physical Map](http://www.arcgis.com/home/item.html?id=c4ec722a1cd34cf0a23904aadf8923a0)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. North American landforms

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=a28c42395a65472ea52b9b0a560d5e7a>

Landform Marker

[North American Landforms](http://education.maps.arcgis.com/home/item.html?id=d39b416f017c47a48c71210e100a467a)

[World Shaded Relief](http://education.maps.arcgis.com/home/item.html?id=9c5370d0b54f4de1b48a3792d7377ff2)

[USA Topo Maps](http://education.maps.arcgis.com/home/item.html?id=99cd5fbd98934028802b4f797c4b1732)

Light Gray Canvas

[World Light Gray Canvas Base](https://services.arcgisonline.com/ArcGIS/rest/services/Canvas/World_Light_Gray_Base/MapServer)

[World Light Gray Reference](https://services.arcgisonline.com/ArcGIS/rest/services/Canvas/World_Light_Gray_Reference/MapServer)

6 Cracked plates

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=2d07a4a00e3f49b09c96ac9b73d7e5f4>

[Global Quakes of Large Magnitude 5.8 or Greater](http://education.maps.arcgis.com/home/item.html?id=47da9f0a9c92416794eaefbc882c87c2)

[South American Quakes](http://education.maps.arcgis.com/home/item.html?id=e367786cd8e54ff89cd0a9262b1b3e25)

[South American Cities](http://education.maps.arcgis.com/home/item.html?id=ec7dd0c6fc204b3587220b666d1d94ee)

[California Quakes](http://education.maps.arcgis.com/home/item.html?id=c44e05ffcfff4a40beaf31696f170e59)

[Caribbean Quakes](http://education.maps.arcgis.com/home/item.html?id=f1496ecb332545b2a76fc389c6a96ffc)

[Mid Atlantic Quakes](http://education.maps.arcgis.com/home/item.html?id=f360e03dd3134ef7a886bf15f62a647c)

[Plate Boundaries](http://education.maps.arcgis.com/home/item.html?id=5f01bc7f78d74498aa942455fcd0dc10)

[Relative Motion at Plate Boundaries](http://education.maps.arcgis.com/home/item.html?id=4c28bdf067c046d6ba65c96c0b19433e)

[Absolute Plate Motions](http://education.maps.arcgis.com/home/item.html?id=1ab6e6ed8c3b4792a0bf11e991eda9d2)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. The earth moves under our feet

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=5a500f3f709c4ea08fd2e3d4dbdb810a>

Finding Epicenter Tools

[Who Felt VA 2011 Quake](http://www.arcgis.com/home/item.html?id=39487fb620b9449db6c62084c4e4020b)

[Global Seismographic Network](http://www.arcgis.com/home/item.html?id=0328674b890f472fb858f5b6b6cd486d)

[Earthquake Faults](http://www.arcgis.com/home/item.html?id=223fd022e0d74fb2831b274008e87140)

Topographic

[World\_Topo\_Map](https://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. Plate type effect on volcanoes

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=140510ed00944ad596b8ebfde48c8a56>

Volcano Cross Sections

Elevation Cross Sections

[Plate Boundaries](http://education.maps.arcgis.com/home/item.html?id=6d703a9a07384c2580a83302c584973d)

[Global Volcanoes](http://education.maps.arcgis.com/home/item.html?id=40708331b6c64a20837a1524848930b9)

Oceans

[World Ocean Base](https://services.arcgisonline.com/arcgis/rest/services/Ocean/World_Ocean_Base/MapServer)

[World Ocean Reference](https://services.arcgisonline.com/arcgis/rest/services/Ocean/World_Ocean_Reference/MapServer)

1. Mountain building

<http://education.maps.arcgis.com/home/item.html?id=6cea0e0c450c4d22860336f8b4c64862>

[Volcanoes Global](http://education.maps.arcgis.com/home/item.html?id=40708331b6c64a20837a1524848930b9)

[World Mountain Ranges](http://education.maps.arcgis.com/home/item.html?id=fe75afc587c3466db1253ff128a6ec4e)

[Tectonic Boundaries](http://education.maps.arcgis.com/home/item.html?id=20ff87ce05a84ff190c3255d0d3bd059)

[Ranges Away From Boundaries](http://education.maps.arcgis.com/home/item.html?id=1fd13079e8704dc887ab5aa8a41f63d7)

[Plate Motions (mm / year)](http://education.maps.arcgis.com/home/item.html?id=1ab6e6ed8c3b4792a0bf11e991eda9d2)

Terrain with Labels

[World Terrain Base](https://services.arcgisonline.com/ArcGIS/rest/services/World_Terrain_Base/MapServer)

[World Terrain Reference](https://services.arcgisonline.com/ArcGIS/rest/services/Reference/World_Reference_Overlay/MapServer)

1. A river runs through it

<http://www.arcgis.com/home/webmap/viewer.html?webmap=0b758b822e924506aa1bd4678ac68120>

Boundary Markers

[Watersheds](http://www.arcgis.com/home/item.html?id=12c5a82a29674936a0512ccee2768abd)

[US Watershed Boundaries](http://www.arcgis.com/home/item.html?id=39408892e9fc46e58115e2f95ad5889b)

[World Rivers](http://www.arcgis.com/home/item.html?id=72b3c92478fb4f6e8878fe9650caaa51)

[World Shaded Relief](http://www.arcgis.com/home/item.html?id=6ea8c596b7b447bf84a6f72e78268790)

[Light Gray Base](http://www.arcgis.com/home/item.html?id=ed712cb1db3e4bae9e85329040fb9a49)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. Ocean features

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=355d9113eb62467f99f9c06171c31244>

Ocean Bottom Profiles

Continental Rise Example

Continental Slope Example

[Continents](http://education.maps.arcgis.com/home/item.html?id=6e1816a0c83344fd8b0b199a8b16c18c)

[Volcanic Hotspots](http://education.maps.arcgis.com/home/item.html?id=145bd28556824b4db6aba2fc70e4a7cd)

[VolcanoesGlobal](http://education.maps.arcgis.com/home/item.html?id=40708331b6c64a20837a1524848930b9)

[Plate Boundaries](http://education.maps.arcgis.com/home/item.html?id=5f01bc7f78d74498aa942455fcd0dc10)

[Ocean Features](http://education.maps.arcgis.com/home/item.html?id=f84227f1e1574f25bf4145acb0d642d9)

[Plate Motions](http://education.maps.arcgis.com/home/item.html?id=1ab6e6ed8c3b4792a0bf11e991eda9d2)

Oceans

[World\_Ocean\_Base](http://services.arcgisonline.com/arcgis/rest/services/Ocean/World_Ocean_Base/MapServer)

[World\_Ocean\_Reference](http://services.arcgisonline.com/arcgis/rest/services/Ocean/World_Ocean_Reference/MapServer)

1. Fluid Earth: Winds and currents

<http://www.arcgis.com/home/webmap/viewer.html?webmap=066009cc797c4f1e89113303a7172413>

Where Winds Blow

[Prevailing Winds](http://www.arcgis.com/home/item.html?id=87e9a3b706974cc1b631b122ddb93c7e)

[Spring Ocean Surface Temperature](http://www.arcgis.com/home/item.html?id=c04262b22444456891a1ac801564e08b)

[Ocean Currents](http://www.arcgis.com/home/item.html?id=6cf2c7a472094af9a3a4ea7afa4b7827)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. How’s the weather?

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=fac7e84e4bfc4de89f61027326a447d2>

Weather Map Symbols

[Weather Stations](http://education.maps.arcgis.com/home/item.html?id=6b955faefa7843feb67658a02c92ff60)

Topographic

[World\_Topo\_Map](https://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

1. Tropical storms

<http://www.arcgis.com/home/webmap/viewer.html?webmap=882cadc198954579bc01b1a2baccfebe>

[Hurricane Wind Strength](http://www.arcgis.com/home/item.html?id=5d73bf3d74d04cf6bd1eb8cde1753cb2)

[Hurricanes 2005](http://www.arcgis.com/home/item.html?id=e03f837afc8348a7b7e77f8eef10552d)

[Sea Temperatures 05 (degs C)](http://www.arcgis.com/home/item.html?id=b03bbaeadbed45a7bf3c6cb414371d28)

Topographic

[World\_Topo\_Map](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

15 Climate change

<http://www.arcgis.com/home/webmap/viewer.html?webmap=cd0517ec82d4444ea9ed77e964355d93>

[Countries](http://www.arcgis.com/home/item.html?id=0337028a68f74a31b84721786ce65235)

[Climate Shifts Koeppen-Geiger](http://www.arcgis.com/home/item.html?id=7a53584fa55643df969f93cec83788e1)

[First Quarter 2014 Temp Anomaly](http://www.arcgis.com/home/item.html?id=5f4deb808b884ee48f682cc5a12d4e9a)

[Second Quarter 2014 Temp Anomaly](http://www.arcgis.com/home/item.html?id=4d0178b0352d4d688913d32c3dc51e15)

[Third Quarter 2014 Temp Anomaly](http://www.arcgis.com/home/item.html?id=3729cd186b4847e5a36a09da8688f0be)

[Fourth Quarter 2014 Temp Anomaly](http://www.arcgis.com/home/item.html?id=1154be468c304da794a2e0edfaec0e4f)

Light Gray Canvas

[World Light Gray Canvas Base](https://services.arcgisonline.com/ArcGIS/rest/services/Canvas/World_Light_Gray_Base/MapServer)

[World Light Gray Reference](https://services.arcgisonline.com/ArcGIS/rest/services/Canvas/World_Light_Gray_Reference/MapServer)

Level 2

1. Cracked Plates: Earthquake-Prone (map-- Cracked plates)

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=2d07a4a00e3f49b09c96ac9b73d7e5f4>

same layers

2 Earth Moves: Seismic Stations (map-- The earth moves under our feet)

<http://www.arcgis.com/home/webmap/viewer.html?webmap=e7bb0603266745afba7be3b9ea279599>

same layers

3 Mountain Building: Volcanoes (map-- Mountain building)

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=6cea0e0c450c4d22860336f8b4c64862&extent=-180,-64.4154,153.2812,75.3537>

same layers

4 Rivers: Watershed Analysis (map-- A river runs through it)

http://www.arcgis.com/home/webmap/viewer.html?webmap=0b758b822e924506aa1bd4678ac68120

same layers

5 Oceans: Hot Spots (map-- Ocean features

<http://education.maps.arcgis.com/home/webmap/viewer.html?webmap=355d9113eb62467f99f9c06171c31244>

same layers