

**GOD AND NATURAL DISASTERS:
REFLECTION AND DISCUSSION**



WHO AM I?

- Geologist (someone who studies the earth)
- Working mainly on mineral resources and groundwater
- Other interests – Mars research, planetary geology, planetary exploration
- Previously worked in exploration industry in Australia, South America and elsewhere
- President Mars Society Australia



DISASTERS, SUFFERING AND THE QUESTIONS THEY RAISE

- Human disasters – technical failure, injustice, conflict
- Biological suffering – aging, disease, natural selection
- **Physical disasters – earthquakes, floods, eruptions**
 - Why does God allow them to happen?
 - Judgment on sin?
 - Consequences of the fall?
 - Is this is best of all possible worlds?



CULTURALLY INFLUENCED QUESTIONS?

- Cartesian separation of humanity from the world?
 - Mastery over nature?
 - Expectations of a perfect world?



Under the Tsunami
wave off Kanagawa
by Katsushika Hokusai
1829-1833

LISBON EARTHQUAKE AND TSUNAMI

- **The Prophecy**

- 1752 a nun told her confessor that there would be a terrible event on All Soul's Day

- **The event**

- November 1st 1755.
- Estimated magnitude 9.0
- Felt in Scandinavia, Italy, north Africa,
- Tsunami reached England, W. Indies
- 70-100 thousand dead, 200 thousand homeless



- **Responses**

- The wrath of God?
 - The sins of king Jose?
 - The millions of Indians slaughtered in the lust for gold?
 - Requital for the Inquisition (the Inquisitional Palace destroyed by fire)?
- “Like an accident in the street. God may be the ultimate cause, but that does not mean the earthquake dead had been executed on official Divine instructions“ (anon.)
- Rousseau - death toll was due to the un-natural practice of living in cities
- Voltaire - contra Leibniz clearly this was not the “best of all possible worlds”
- Kant developed the philosophy of the sublime (and a theory of seismology)

LISBON EARTHQUAKE AND TSUNAMI (cont.)

• Reconstruction

- Martial law
- "Bury the dead and heal the living" (Sebastião José de Carvalho e Melo)
- Debris cleared in a year
- Lisbon rebuilt over 15 years, including first earthquake proof buildings in western world
- Research by Melo into details of earthquake and its consequences (beginning of scientific seismology)
- Input from visiting scholars from the Tokogawa Shogunate (despite cultural isolation of Japan)



<http://www.phenomena.org.uk/lisbon.htm>

http://en.wikipedia.org/wiki/1755_Lisbon_earthquake#Relief_and_reconstruction_efforts

WHAT DEFINES A NATURAL DISASTER?

- Is it a natural disaster if people are not involved?
- Tunguska meteor 1908 – 10-15 megatonnes, no deaths or injuries – a phenomenon
- Chelyabinsk meteor 2013 – 0.5 megatonnes, 1200 injuries – a disaster
- Perhaps we need a different terminology
- The events may be cataclysmic but necessarily disastrous



GEOLOGICAL PERSPECTIVE

- **Cataclysms have always been part of the Earth's history**
- **They are often creative, or have creative aspects**
- **Good things (i.e. natural resources) come from them, things which are gifts of God's providence**
- **Civilisation built in active tectonic zones**
- **People often chose to live in these areas**



NATURAL CATAclysms AS PART OF GOD'S CREATION



Earthquake



Flood



Volcano



Fire

CONSEQUENCES



Volcano – fertile soil



Fire - biodiversity



Flood – replenished aquifers



Earthquake – mineral resources

CREATION BY CATACTYSM

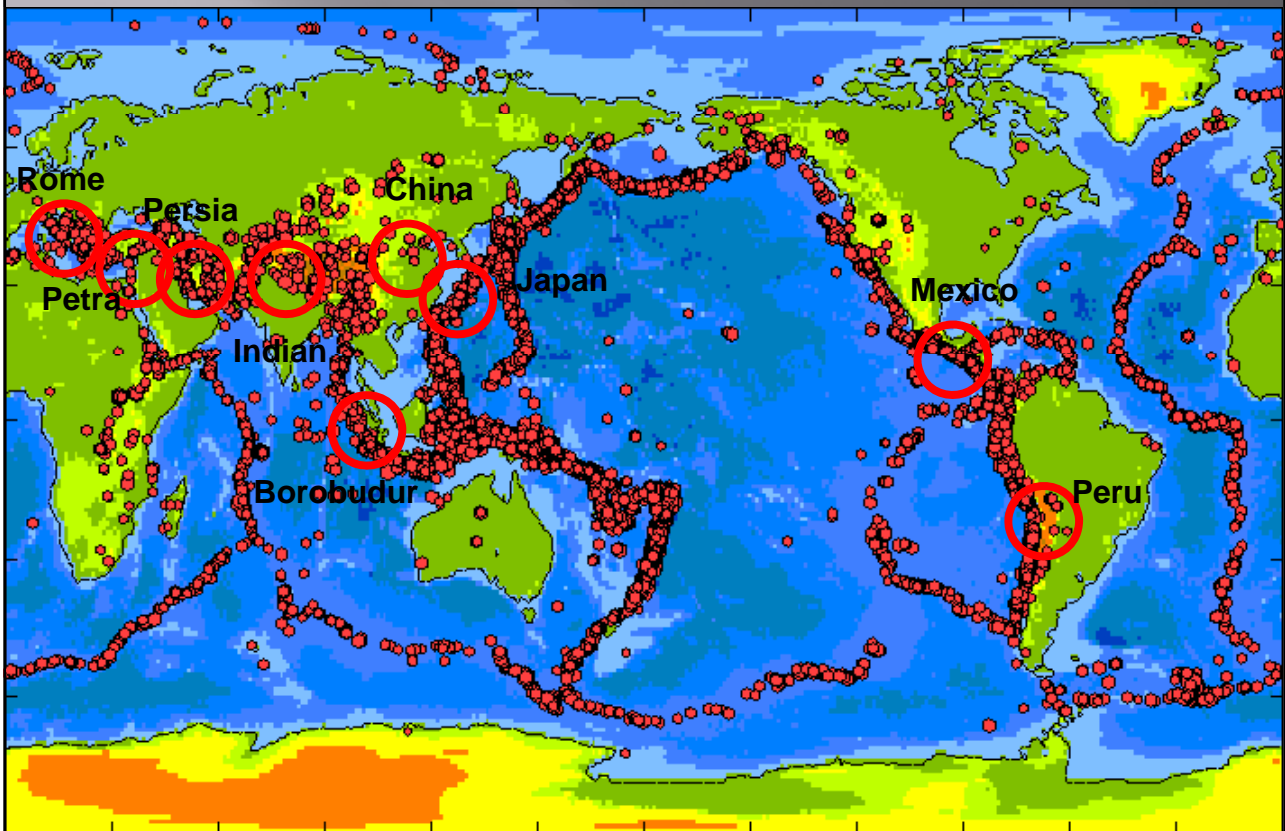
Earth + Theia = Moon



TECTONICALLY ACOSOME HISTORICALLY SIGNIFICANT CIILISATIONS



PLATE BOUNDARIES – A KEY TO THE RISE OF CIVILISATION?

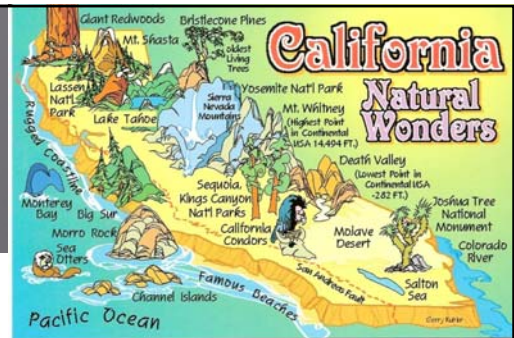


CALIFORNIA



- 38 million people (nearly twice Australia)
- 424,000 km² (twice Victoria, half NSW)
- Economy US\$2.2 trillion (1.5 times Australia)

WHY LIVE IN CALIFORNIA?

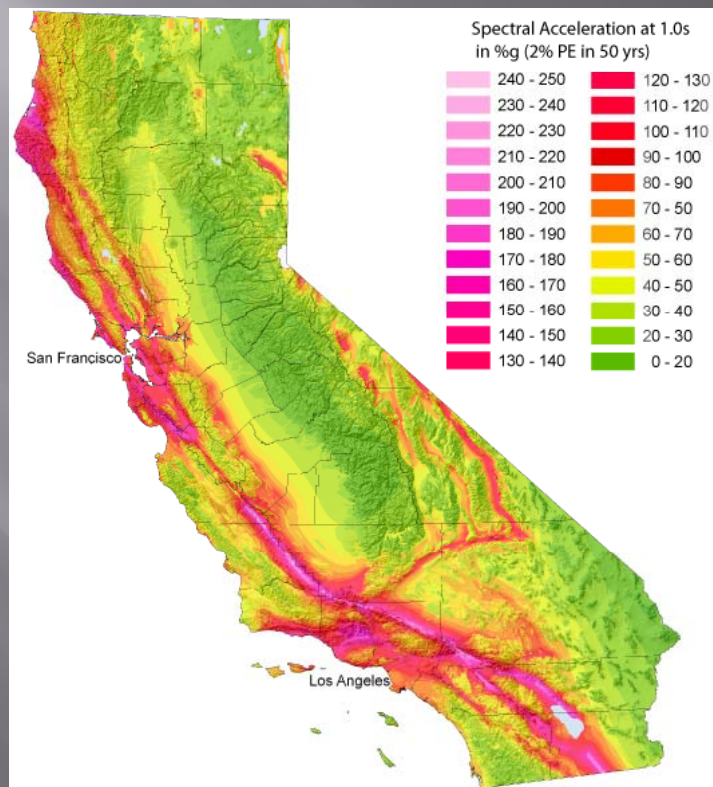


ONE SLIGHT PROBLEM.....



THE PROBLEM AND THE BLESSING

With tectonic activity California would not be as attractive



PEOPLE INDIVIDALLY CHOOSE TO LIVE IN CATACTYSM – PRONE AREAS



JUSTICE AND LOCATION



BEAUTY IN CREATION

Lake Taupo NZ



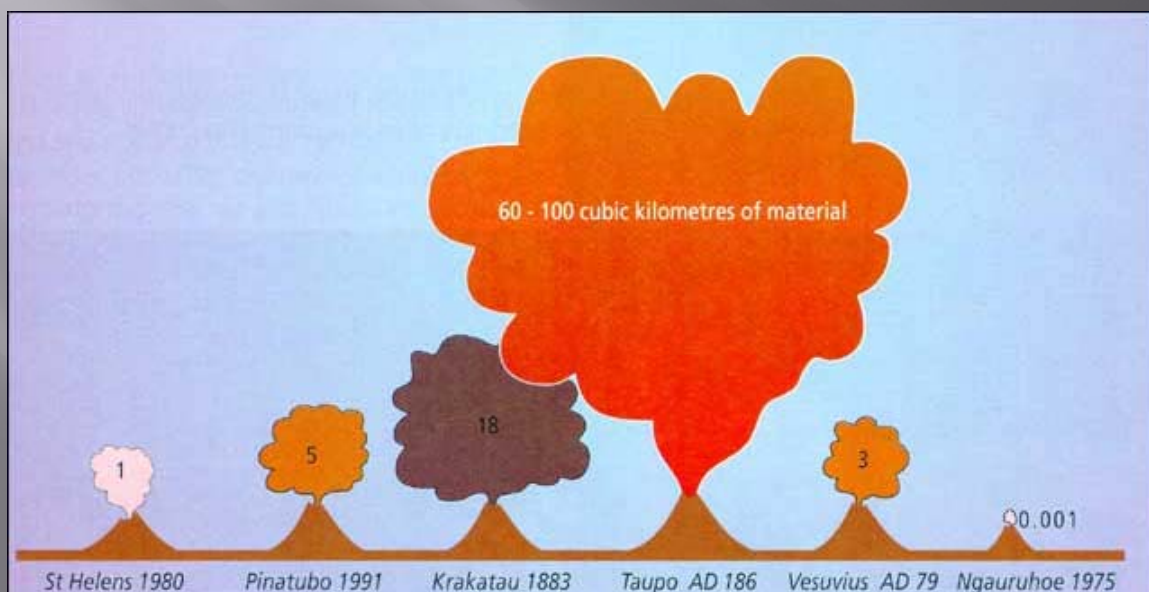
TAUPO IS A SUPER VOLCANO

History of eruptions going back ~26,000 years

186 AD eruption most violent in the last 5000 years

Up to 100 cubic km of ash ejected (30 cubic km in a few minutes)

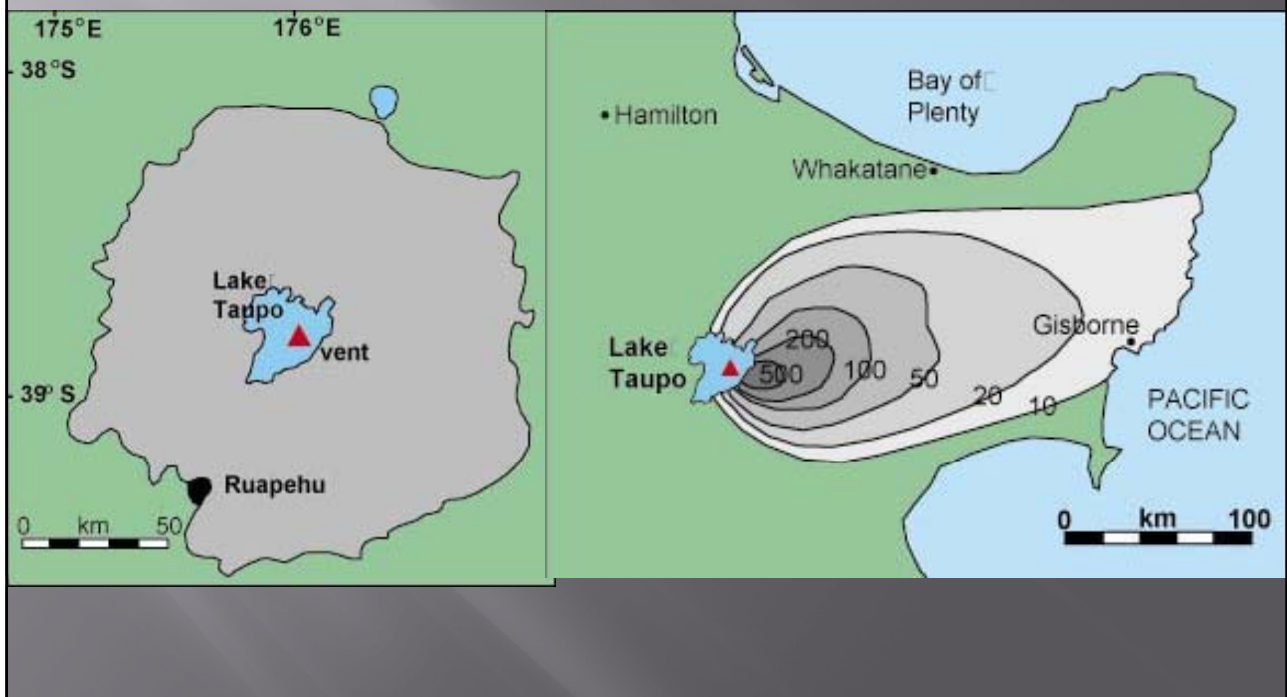
Super-Plinian eruption column reached height of 50 km



AD186 CONSEQUENCES

Ignimbrite extent

Ash thickness cm



SUMMARY

- Cataclysmic events are an integral part of the created world
- They are creative and beneficial as often as they are destructive
- Cataclysmic events only become disasters when people are caught up in them
- However people chose to live in dangerous places – they find them desirable
- Areas subject to such events appear conducive to the rise of civilisation
- Even though at times the marginalised are pushed to live in dangerous areas



... it is not a few deaths roving the world around him that make (beings) miserable. It is a bent (being) that would blacken the world... I do not think the forest would be so bright, nor the water so warm, no love so sweet if there were no danger...

Lewis



*I love a sunburnt country,
A land of sweeping plains,
Of ragged mountain ranges,
Of drought and flooding rains,
I love her far horizons,
I love her jewel sea,
Her beauty and her terror –
The wide brown land for me.*

McKellar



DISCUSSION

- What says the Scriptures?
- Issues for discussion



BIBLE VERSES

- **Genesis 19:23-25** Fire falls on the Cities of the Plain in judgment
- **Exodus 19:16-18** Storm & earthquake point to the presence of God BUT
- **1 Kings 19:11-13** God is absent from the fire and the wind and the earthquake
- **Job 1:19** A storm is sent by Satan to try Job BUT
- **Job 38:1** God speaks to Job out of the storm
- **Job 9:13-19, 26:12** God subdues the sea monster (Rahab) that opposes him during creation (BUT is God worse than the monster he destroys?)
- **Ps. 74:14** The many-headed sea monster (Leviathan) is crushed during creation BUT
- **Job 3:8** Leviathan still lurks at the fringes of the world, possibly causing eclipses
- **Job 41:-1-34** Leviathan is one of God's creatures, awesome and sublime
- **Ps. 104:25-26** Leviathan is one of God's creatures at play in the sea, bringing glory to God.
- **Job 40:15-24** Behemoth is one of God's creatures, awesome and sublime
- **Matthew 7:24-27** Building on sand (i.e. in a wadi) rather than on rock is foolishness
- **Luke 13:1-7** Catastrophe may not be judgment but is always a warning

FOR DISCUSSION

1. **Providence:** If what we call natural disasters are also part of God's providence, providing us with soil, air, water, and mineral resources, how should we regard them?
2. **Creation:** If such events have been part of creation from the beginning, what does Genesis 1 mean when it talks about creation being "good"?
3. **Judgement:** Under what circumstances could we consider a natural disaster to be a judgement of God?
4. **Randomness:** If some tragedies are random what is our response?
5. **Satan:** Under what circumstances could we consider a natural disaster to be a trial sent by Satan?
6. **Human sin as a cause of natural disasters:** In what way can human sin lead to or exacerbate natural disasters?
7. **Human responsibility:** In what way does the command to "subdue the earth" refer to preparing for and managing natural disasters? Will we one day control volcanoes?
8. **Natural cycles:** Churches pray for an end to drought or deliverance from flood. But these in Australia are the result of natural cycles. How then should we pray?
9. **Justice:** What is the just response to people to whose to live in cataclysm – prone areas? What should be the response to those forced by circumstances to do so?