SANGO 2019 Memo
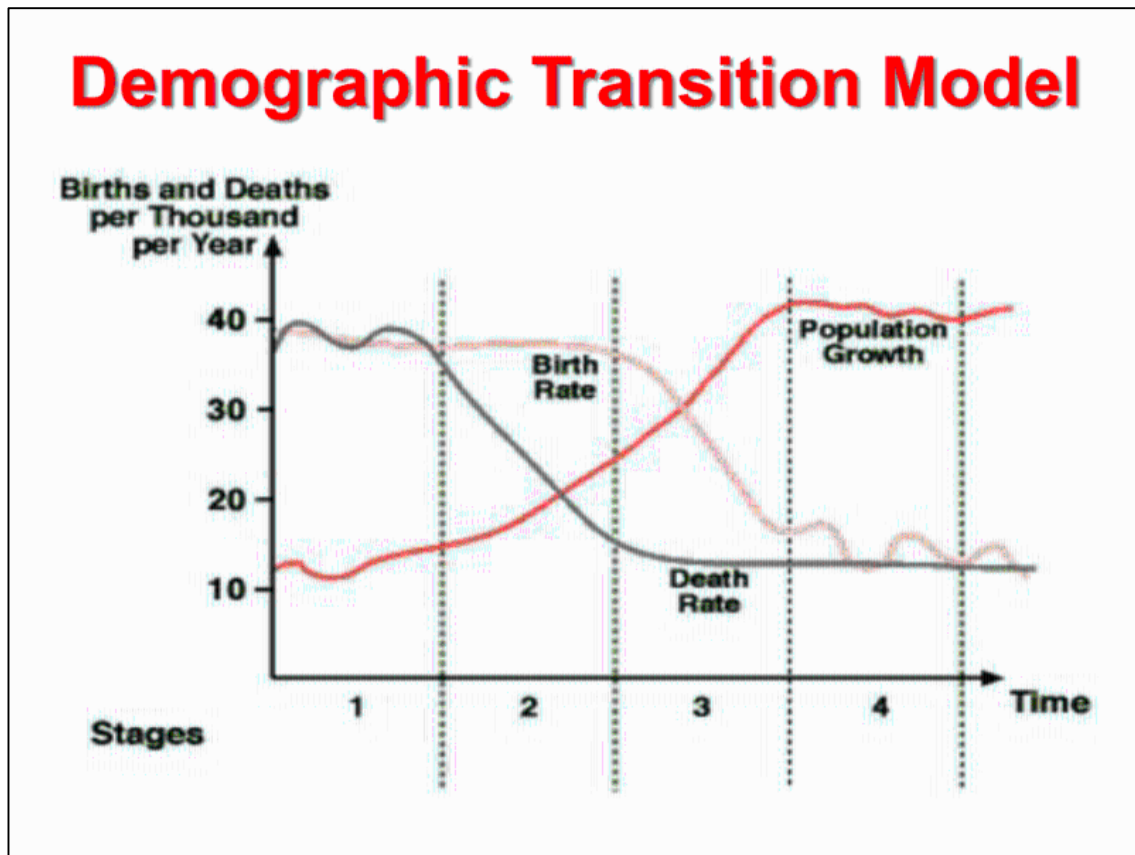
1. Based on the population density map of China, it can be correctly inferred that:
   a. **Western China is mountainous where subsistence agriculture is practiced.**
   b. North-eastern China is a desert area dedicated to goat farming.
   c. Northern China is urbanized with significant industrial operations.
   d. Eastern China is dedicated to agricultural production on the floodplains.
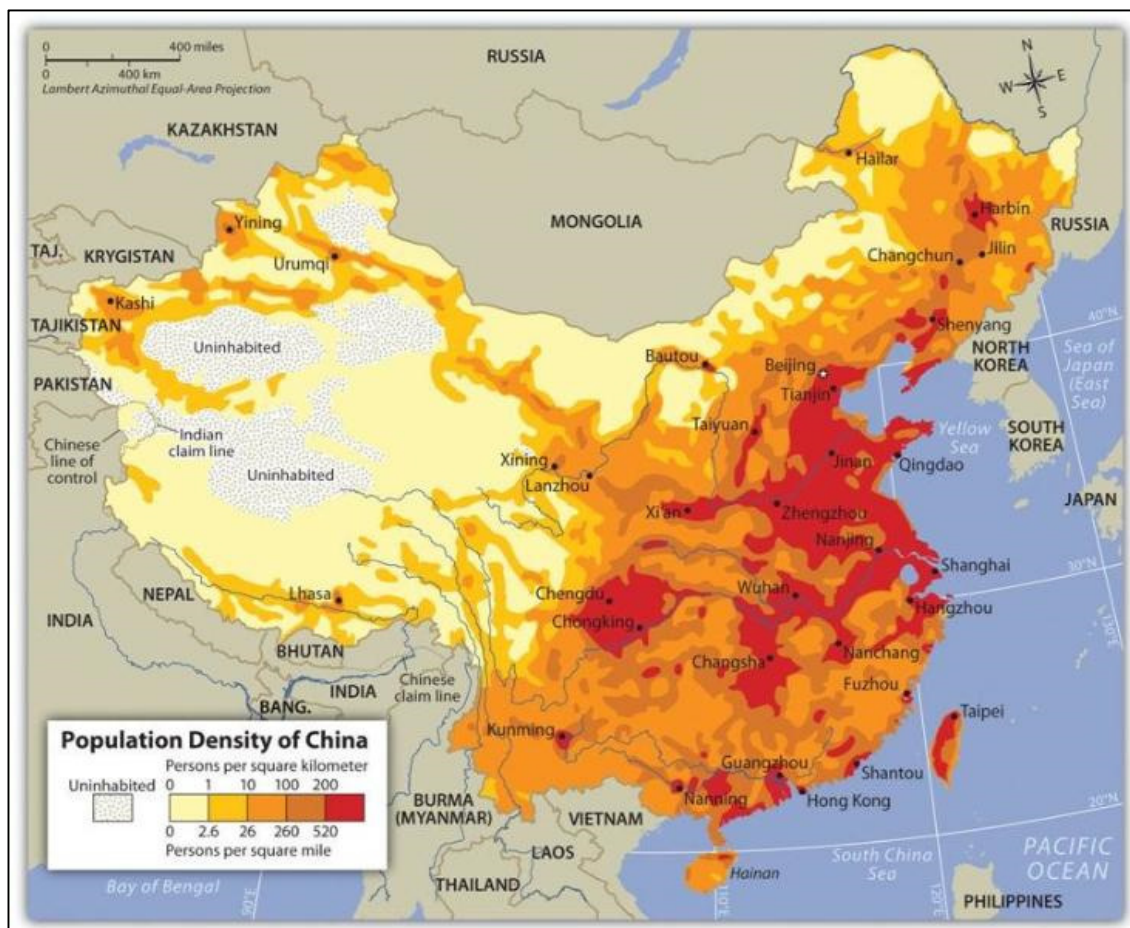
2. Which of the four stages in the demographic transition model are considered "homeostatic" stages, that is, when the forces of demographic change are in equilibrium?
   a. Stages 1 and 3.
   b. Stage 3 and 4.
   c. Stages 2 and 3.
   d. Stages 1 and 4.

Demographic Transition Model

Births and Deaths per Thousand per Year

Birth Rate

Death Rate

Population Growth

Stages 1 2 3 4 Time

3. Which of the following strategies was identified by the 2004 United Nations International Conference on Population and Development as <u>the most powerful approach</u> for reducing the global population growth rate?

    a. Removing anti-contraception laws in conservative countries.

    b. Reducing vaccination rates.

    c. Empowering women in less-developed countries.

    d. Enforcing demographic growth rate targets.

HUMAN POPULATION GROWTH

World population (billions) vs. Year, 1050–2017. Source: Estimated / United Nations.
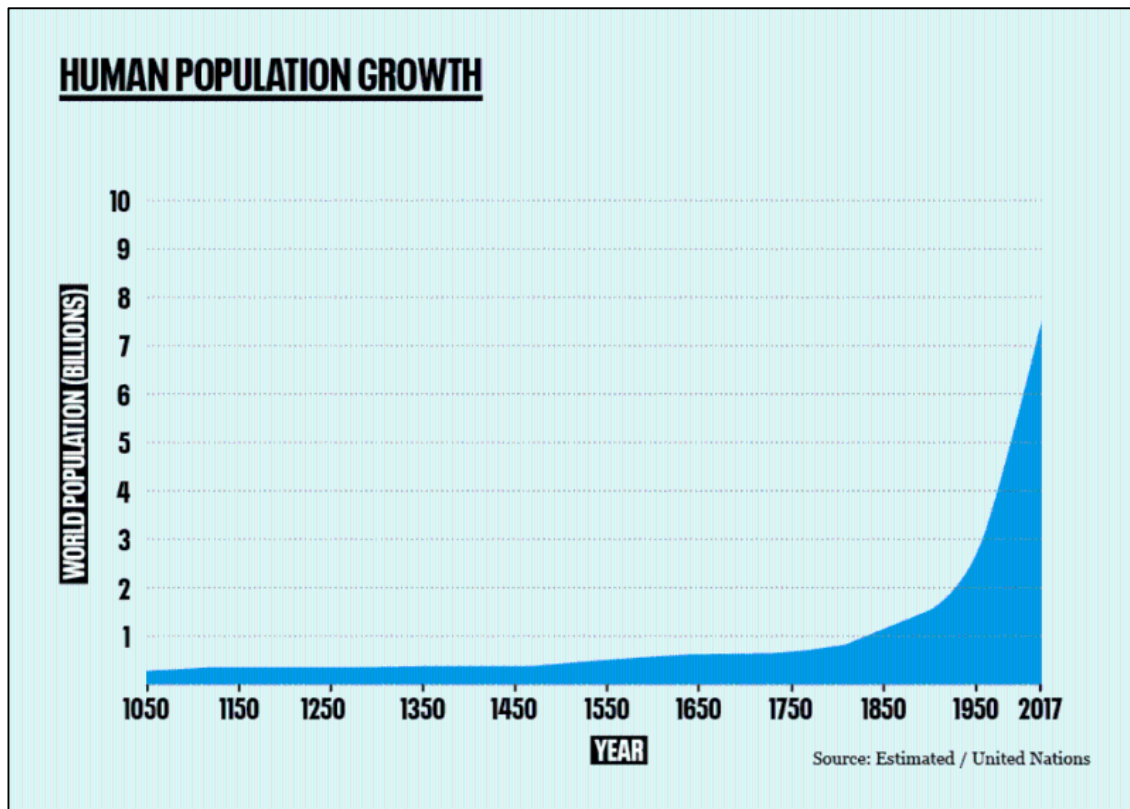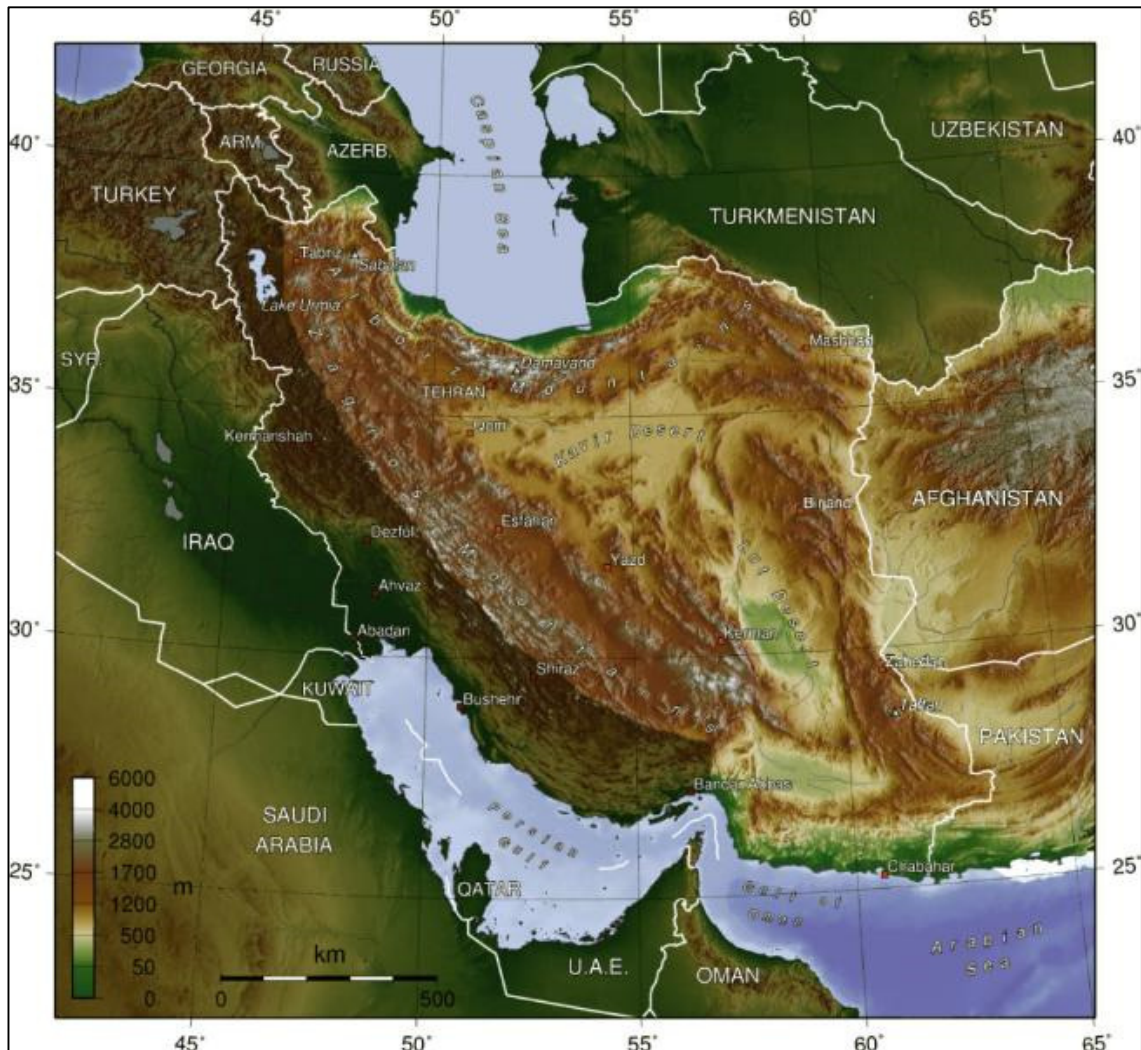
4. At the centre of this relief map is the country of Iran. What type of landscape feature dominates the Iranian landscape?
   a. Floodplain.
   b. Plateau.
   c. Rift valley.
   d. Mesa.

5. The islands of the Pacific are home to some of the world's first climate change refugees. This is primarily because of:
   a. Floods destroying agriculture.
   b. Tropical cyclones destroying infrastructure.
   c. Rising sea levels inundating habitable areas.
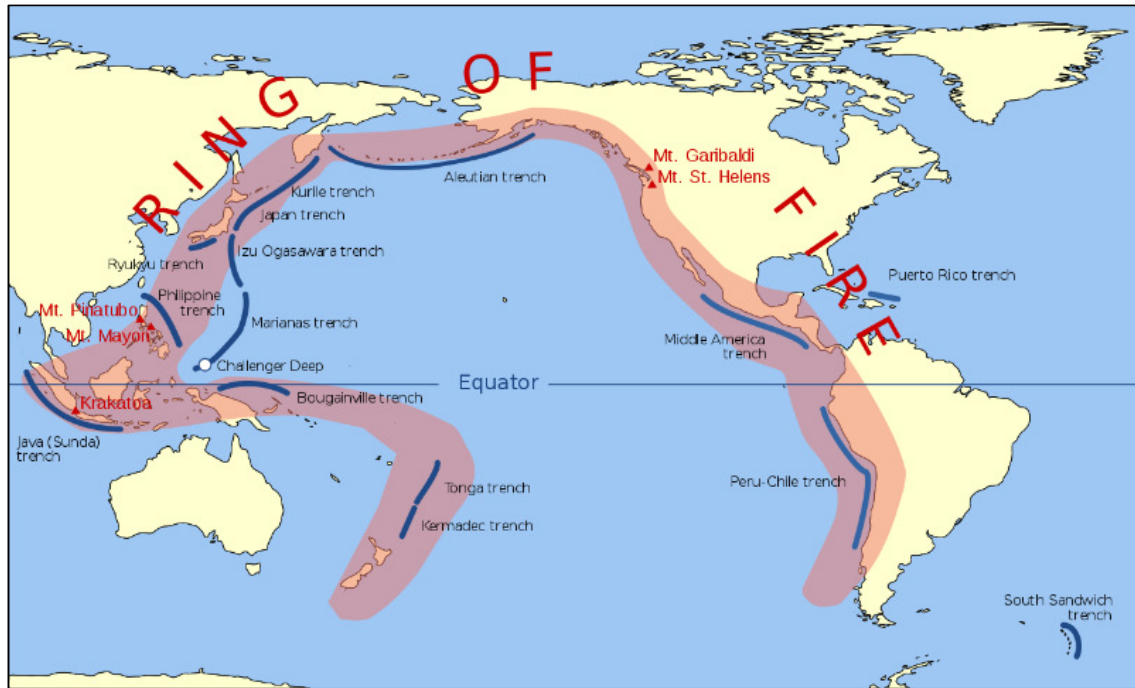   d. Increasing ocean salinity causing fish die off.

6. The correct labels for the numbers 3, 6, 12, and 13 in this cross-section of a volcano are, in order:
      a. Lava, sill, magma, vent.
      b. Magma, dyke, lava, plume.
   c. Lava, sill, magma, plume.
      d. Magma, dyke, lava, vent.
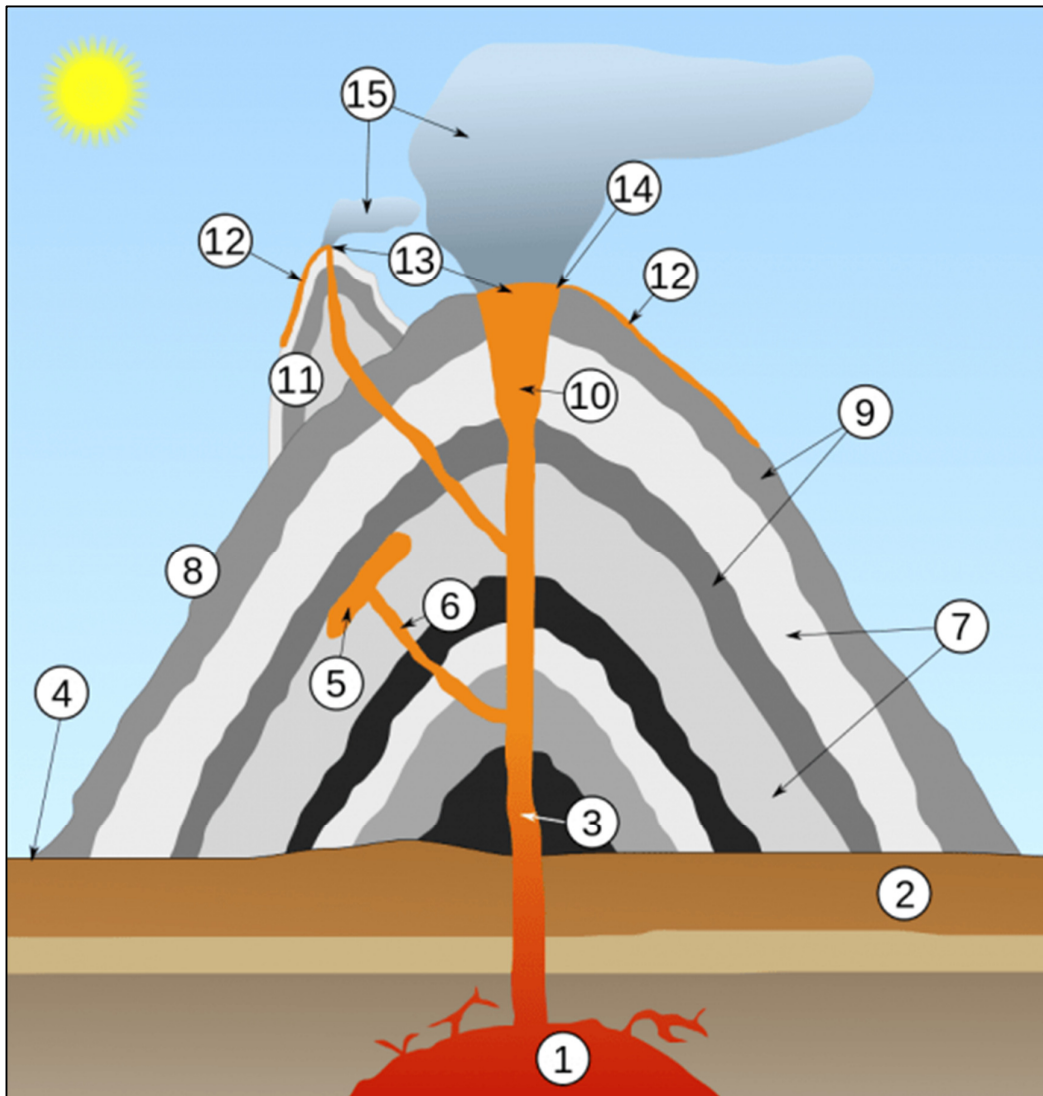
7. The Pacific 'ring of fire' is associated with:
   a. Earthquakes.
   b. Volcanoes.
   c. Subduction tectonics.
   d. All of the above.

8. The moon has a dark (or far) side, as only one side of the moon is ever illuminated. This is because:

a. The moon's rotation and orbit closely track the earth's.
b. The moon does not rotate on its own axis.
c. The sun never shines on the dark/far side of the moon.
d. The moon is always in the earth's shadow.
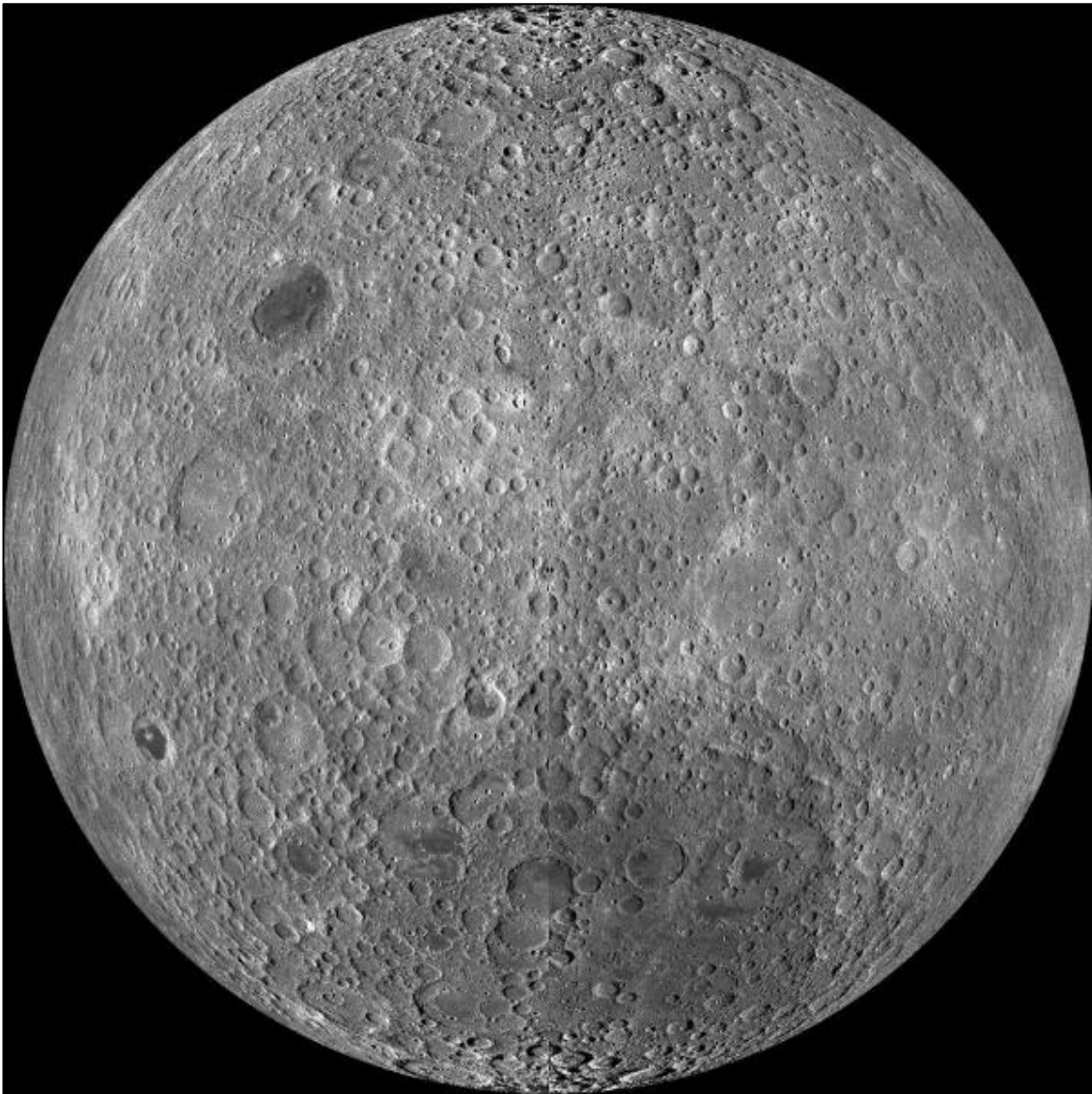
9. This map of the island of Borneo depicts:
      a. Desertification.
      b. Biodiversity loss.
      c. Urban growth.
      d. Deforestation.
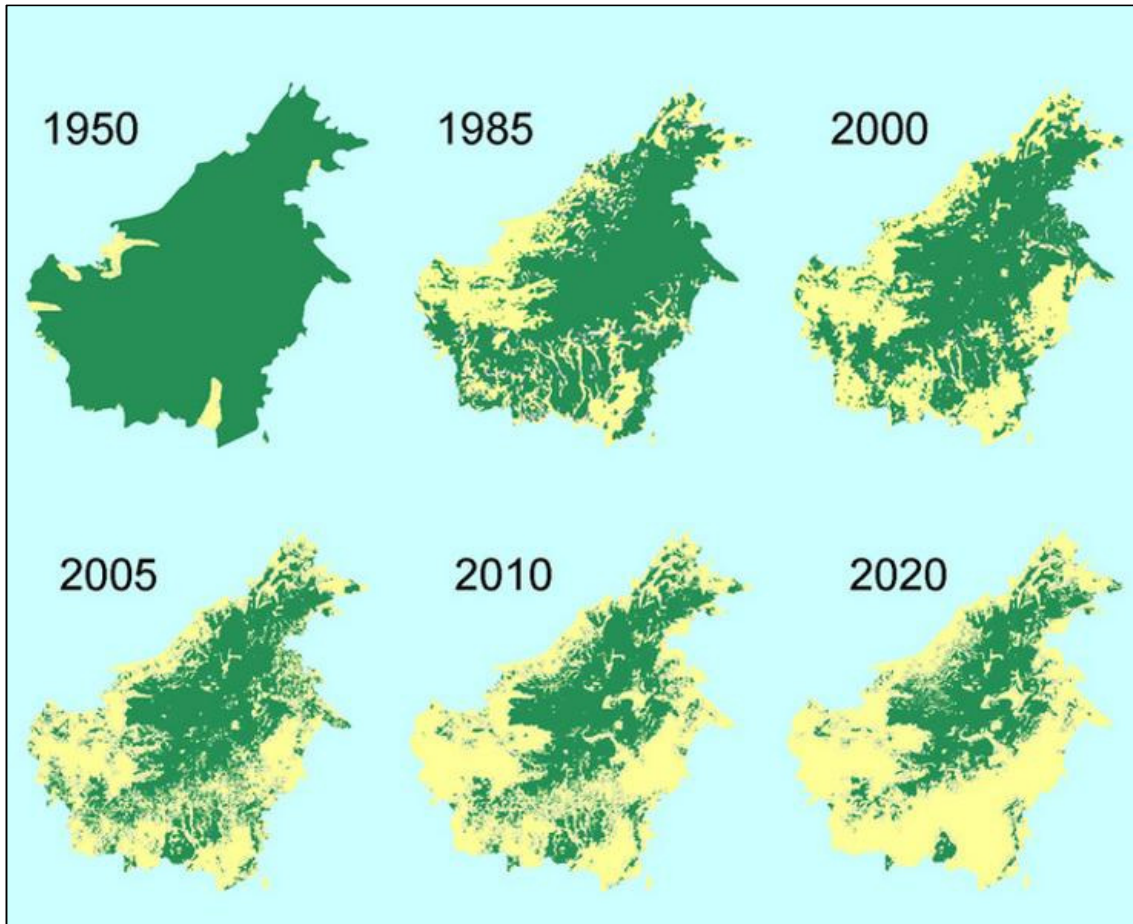
10. This photo was taken during the cherry blossom festival. What is the name of the mountain in the background?
   a. Mt. Fuji.
   b. Mt. Fujihama.
   c. Mt. Fukujin.
   d. Mt. Fukue-jima.

11. Charles Darwin visited these remote islands in 1835. He studied various species there as part of his thesis on natural selection. What is the name of this group of islands?

      a. The Easter Islands.
      b. The Hawaiian Islands.
      c. The Galapagos Islands.
      d. The Cook Islands.
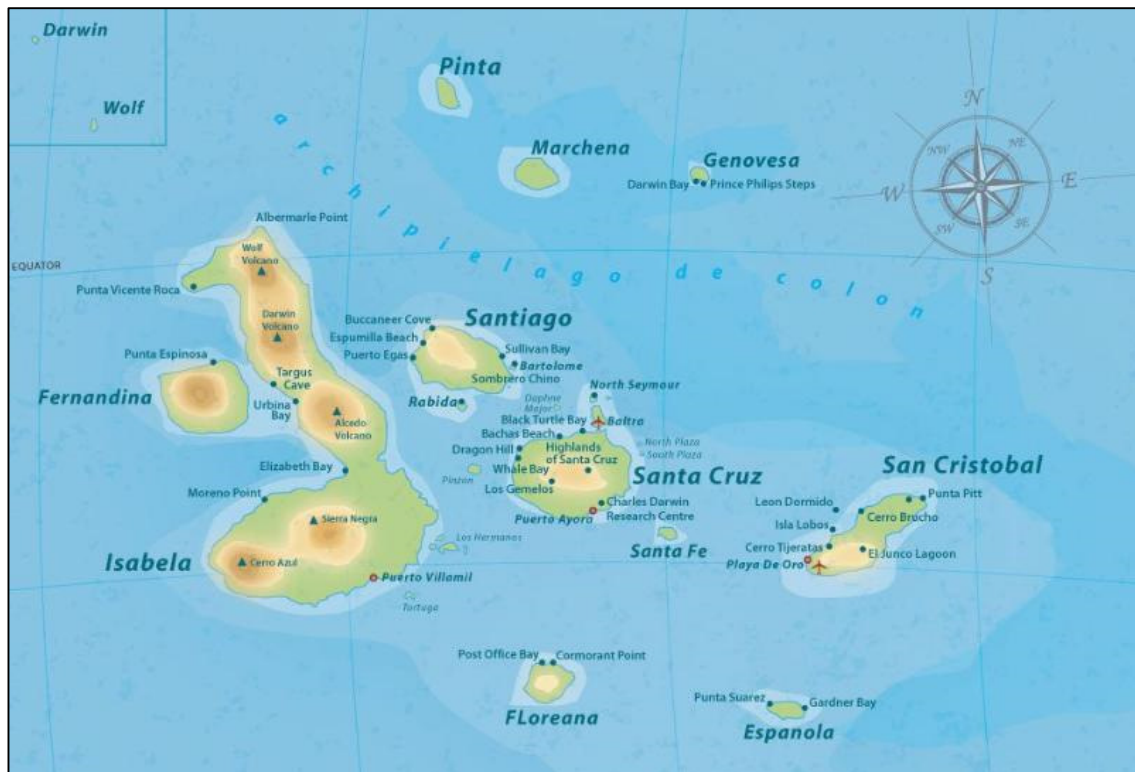
12. Challenger Deep, part of the Mariana Trench is the deepest known point on Earth. What process created this geomorphic feature?
    a. Orogeny.
    b. Plate tectonics.
    c. Subduction.
    d. Folding.

Mariana Trench
10,994m

Mount Everest
(World's highest peak)
8,848m

Commercial airline
(Common cruising altitude)
10,668m

10,000

8,000

Matterhorn
(Alps peak)
4,478m

RMS Titanic
(Final resting depth)
3,800m

Cuvier's beaked whale
2,992m

6,000

4,000

2,000

Burj Khalifa
(World's tallest structure)
830m

0

SCMP
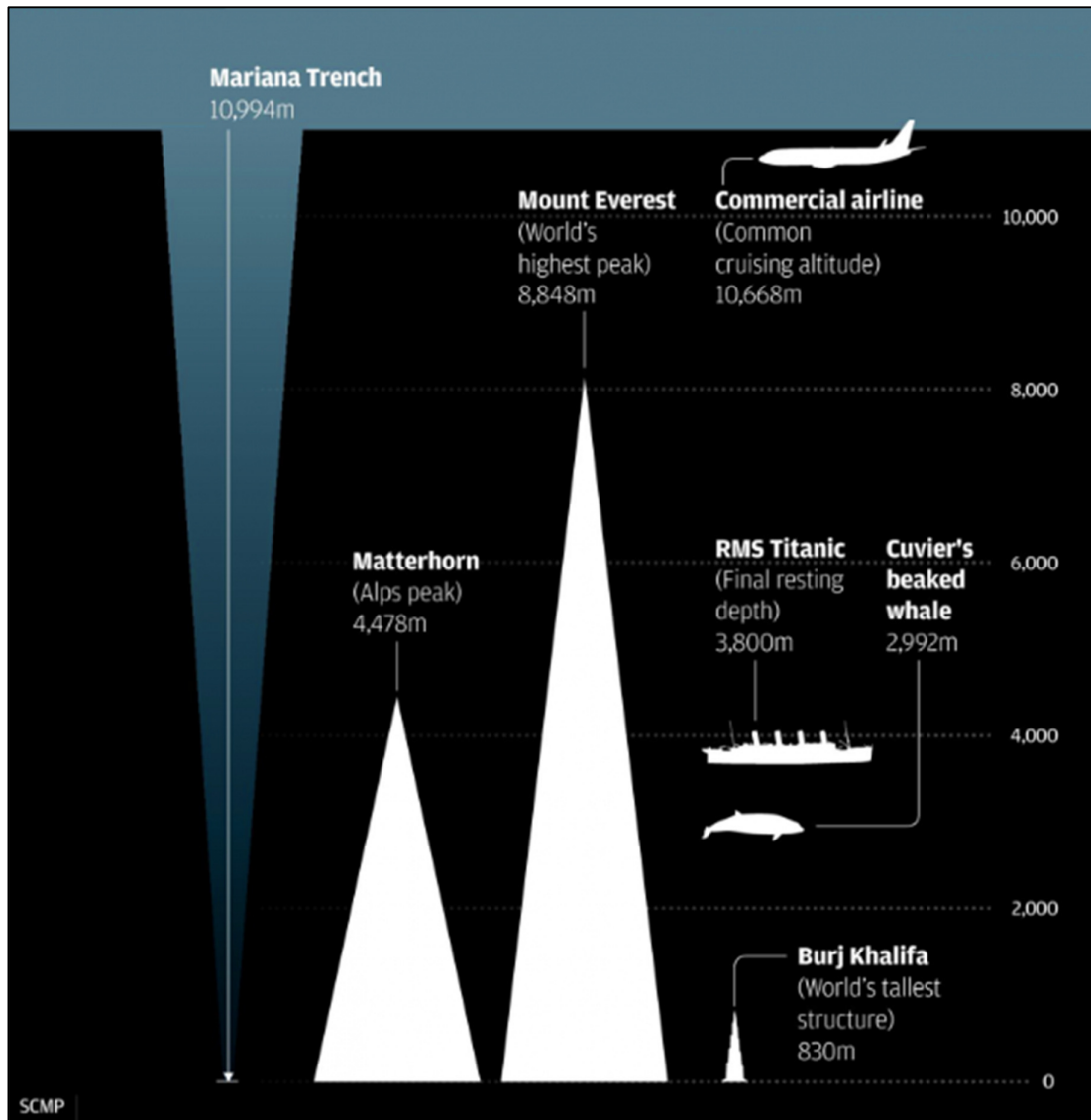
13. This country is located near China and India. The main religion is Buddhism. It has committed to measuring progress using a Gross National Happiness (GNH) index. The name of this country is:
    a. Nepal.
    b. Bhutan.
    c. Tibet.
    d. Mongolia.

14. Orangutans are critically endangered, facing an extremely high risk of extinction in the wild. The main reason for this is:
    a. Extermination by farmers.
    b. Habitat destruction by palm oil producers.
    c. Bush meat hunting.
    d. Poaching for traditional medicines.

15. Study the map of South Africa that shows winds associated with various atmospheric systems. Name the pressure systems depicted by numbers 1, 2 and 3, respectively.

    a. South Atlantic Anticyclone; a Mid-Latitude Cyclone; and the South Indian Anticyclone.

    b. The South Indian High Pressure; a Coastal Low; and the South Atlantic High Pressure.

    c. A Heat Low; a Trough of Low Pressure systems; the Kalahari High Pressure.

    d. The South Atlantic Anticyclone; a Mid-latitude Cyclone; and a South Indian Tropical Cyclone.

16. In which city in Asia will you find the headquarters of the following companies: Samsung electronics, Hyundai Motor, KIA Motors, LG electronics?
    a. Hanoi, Vietnam.
    b. Seoul, South Korea.
    c. Osaka, Japan.
    d. New Delhi, India.

17. Which is the world's deepest and oldest lake?
    a. Lake Tanganyika.
    b. Lake Baikal.
    c. Lake Maracaibo.
    d. Lake Superior.

18. In which country, during the months of June and July 2018, did a widely publicised cave rescue to extract trapped members of a junior football team take place?

 a. Vietnam.
 b. Indonesia.
 c. Cambodia.
 d. Thailand.

19. In which country will you find the world's oldest university?

      a. University of Taxila, Pakistan.

      b. University of Nalanda, India.

      c. University of Al-Karaouine, Morocco.

      d. University of Al Azhar, Egypt.

20. Rainfall in Southern Africa is strongly influenced by the Inter Tropical Convergence Zone (ITCZ). The ITCZ changes position during the year, moving between the Equator and the Tropics of Cancer and Capricorn. Why does the ITCZ change position? Chose the most correct answer.

      a. It tracks the path of El Niño.
      b. It tracks the Sun.
      c. It tracks the trade winds.
      d. It tracks the surface temperature of the Earth.
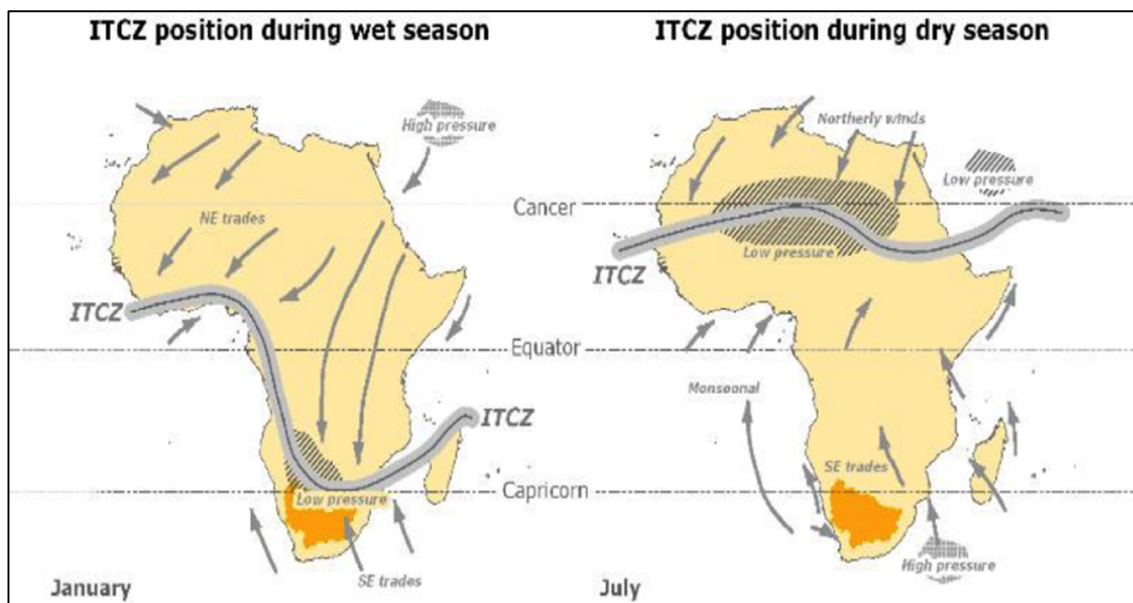
21. This picture shows water hyacinth in Lake Victoria in 2018. Introduced in the late 1980s, the plant now dominates the lake. What is the main cause of the spread of the plant?

    a. A lack of natural predators.
    b. Farmers planting it to harvest flowers for sale.
    c. Farmers planting it as animal fodder.
    d. An abundance of nutrients/eutrophication.

22. Scientists have discovered an unprecedented die-off of sea life in the Great Barrier Reef. Surveys based off Cape York, Australia's north-eastern tip, found up to 50 percent mortality in the reef from coral bleaching. What is the most significant cause of this bleaching?
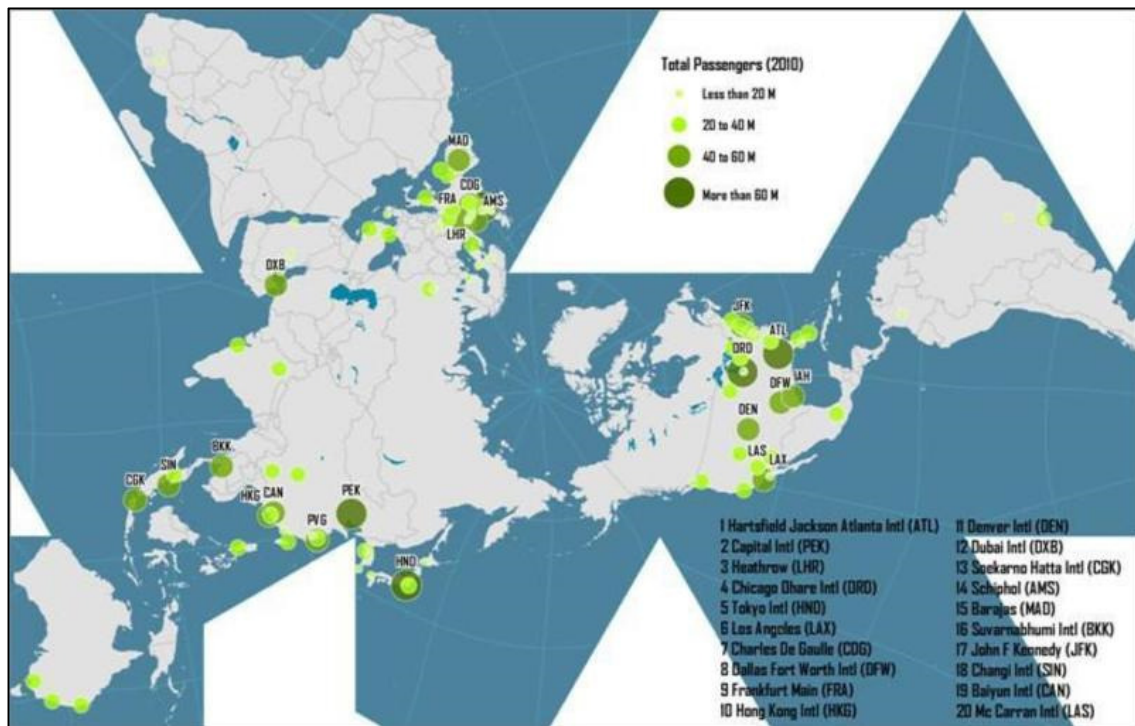   a. Pollution associated with surface run off from rivers and cities, especially of silt and nutrients.
    b. Oceanic waters becoming more acidic due to higher carbon dioxide levels in the atmosphere.
    c. Loss of the ozone layer, thereby more ultraviolent light penetrates the ocean and bleaches the coral.
    d. Heat stress associated with rising air and sea temperatures.

23. Most of the world's largest airports shown in the map are located between:
   a. The Arctic Circle and the Tropic of Cancer.
   b. The Equator and the Tropic of Cancer.
   c. The Equator and the Tropic of Capricorn.
   d. The Arctic Circle and the North Pole.

Total Passengers (2010)
- Less than 20 M
- 20 to 40 M
- 40 to 60 M
- More than 60 M

1 Hartsfield Jackson Atlanta Intl (ATL)
2 Capital Intl (PEK)
3 Heathrow (LHR)
4 Chicago Ohare Intl (ORD)
5 Tokyo Intl (HND)
6 Los Angeles (LAX)
7 Charles De Gaulle (CDG)
8 Dallas Fort Worth Intl (DFW)
9 Frankfurt Main (FRA)
10 Hong Kong Intl (HKG)
11 Denver Intl (DEN)
12 Dubai Intl (DXB)
13 Soekarno Hatta Intl (CGK)
14 Schiphol (AMS)
15 Barajas (MAD)
16 Suvarnabhumi Intl (BKK)
17 John F Kennedy (JFK)
18 Changi Intl (SIN)
19 Baiyun Intl (CAN)
20 Mc Carran Intl (LAS)

24. This famous building was partially destroyed by fire in April 2019. With 13 million annual visitors, it is a major tourist attraction, because it is:
   a. A significant spiritual home for many Catholic people.
   b. Over 850 years old.
   c. The setting of Victor Hugo's novel "The Hunchback of Notre-Dame".
   d. An outstanding example of Gothic architecture.

25. Based on information contained in the graph, select the most correct answer for why Americans are more likely to go to Mexico for medical treatment.

    a. Mexico is home to many expatriate Americans, so they will naturally seek out medical attention where they live.

    b. Mexico is highly price competitive when it comes to medical procedures.

    c. Mexico is very close geographically to the USA and so it is easy to travel there.

    d. Americans do not need visas to travel to Mexico, making it an appealing destination.

Medical tourism by country

Five of the countries visited most often for medical treatment

■ Estimated annual number of medical tourists from the U.S. — '000s*

■ Approximate cost relative to the U.S. — percent

Mexico   Thailand   Costa Rica   India   Singapore

* Estimates are rough; most patients are not tracked
Sources: Deloitte, Josef Woodman (consultant and author of Patients Without Borders)

REUTERS

Reuters graphic/Stephen Culp

22/10/09

26. Gorillas pose with their conservation rangers for a selfie. Where in Africa are the most common places to go on a gorilla safari and see gorillas in the wild?
   a. The Democratic Republic of Congo, the Central African Republic, Rwanda, and the Congo.
   b. The Democratic Republic of Congo, the Central African Republic, Rwanda, and Angola.
   c. Uganda, Rwanda, Gabon, and Nigeria.
   d. Cameroon, Uganda, Rwanda, and Equatorial Guinea.
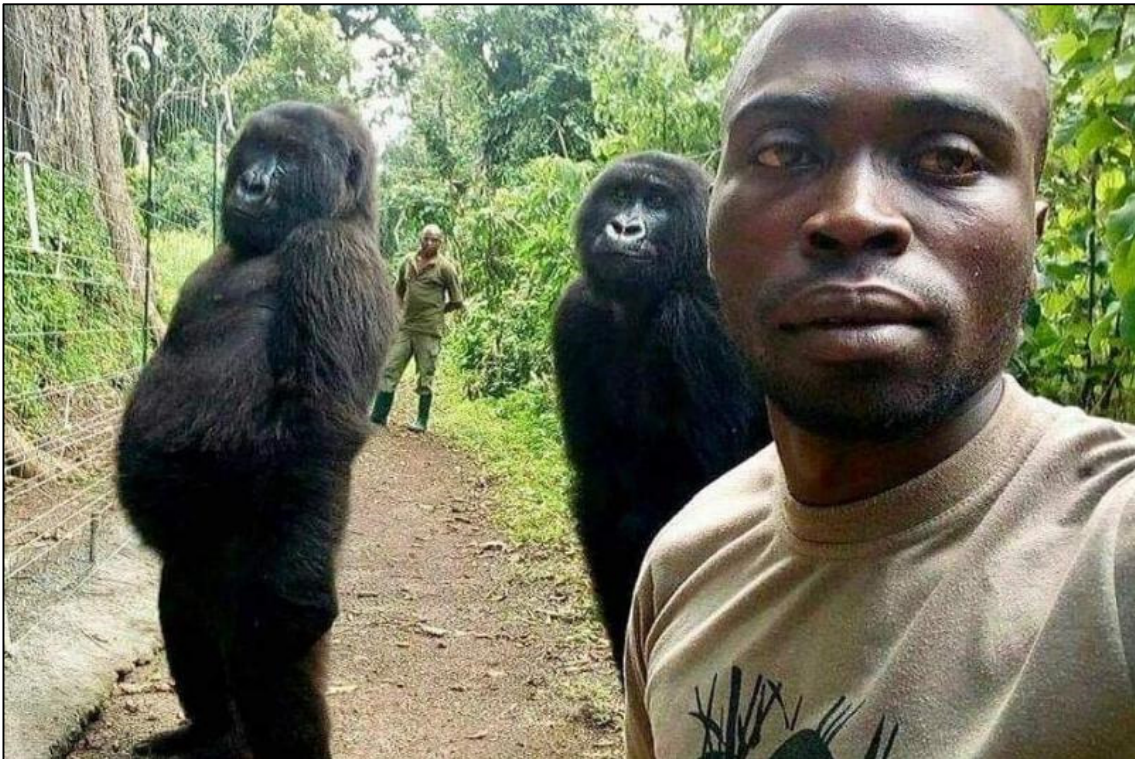
27. Study the synoptic chart and state what kind of conditions the Eastern Cape <u>coastline</u> experienced on 9 June 2012?

      a. Gale force winds, very rough seas and possibly snow.

      b. Cold, windy and rainy weather.

      c. Overcast, big seas, cool with possible rain showers.

      d. Strong winds, big seas, cold temperatures and lots of rain.
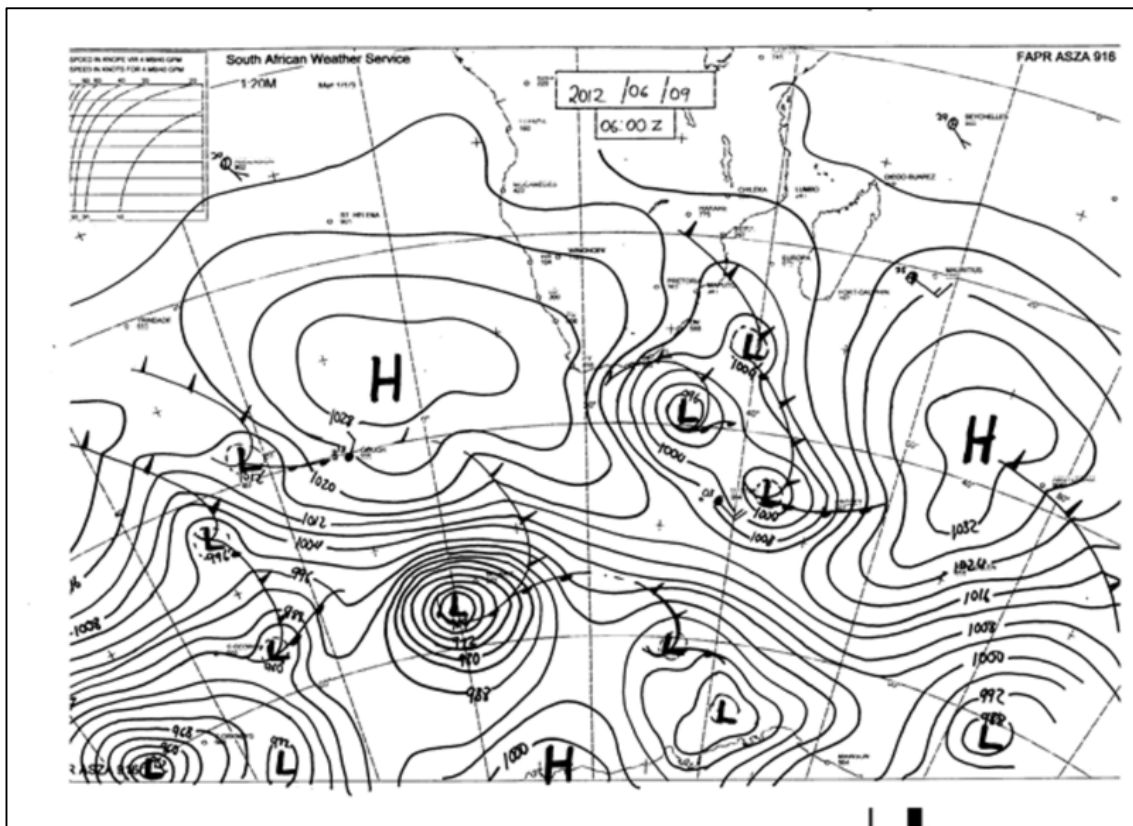
28. In 2017, Lesotho became the first African nation to legalise the growth of cannabis for medicinal and research purposes, followed by Zimbabwe in 2018. South Africa joined the bandwagon with a landmark Constitutional Court ruling giving the green light to private cannabis use among adults. Lesotho is currently economically heavily reliant on South Africa. Water and diamonds are the country's biggest exports. For Lesotho, legalizing cannabis for medicinal and research purposes will not:

    a. Help reduce crime associated with smuggling cannabis.

    b. Help Lesotho earn valuable foreign exchange.

    c. Help reduce the dependence of Lesotho on South Africa.

    d. Help people deal with chronic pain, especially the terminally ill.

29. How did the City of Cape Town avoid Day Zero?
   a. With severe water restrictions, water pressure management and bringing water desalination plants on line.
   b. With severe water restrictions, many water desalination plants and an aggressive water saving campaign.
   c. With severe water restrictions, diverting water from farm dams to the city and an aggressive water saving campaign.
   d. With severe water restrictions, water pressure management and heavy subsidization of water saving devices.

30. How did this lake in Tswaing, northwest of Pretoria, Gauteng form?
   a. Plate tectonics created a ring of fold mountains, in the centre of which a lake formed.
   b. A lake formed in a depression made by the impact of a meteorite.
   c. Millions of years ago, Gauteng was affected by volcanic action, so this lake formed in an ancient volcanic caldera.
   d. Millions of years ago Gauteng experienced glaciation, this lake is formed in one of the remaining glacial pavements.

31. The features in the picture are found in many ports around the world. Eric Merrifield invented them in South Africa in 1963. What are they known as?
    a. Dolosse.
    b. Concrete blocks.
    c. Groynes.
    d. Breakwaters.

32. Located in Kimberly, this water body, which is part of a South African Heritage Site, recently experienced very low water levels, causing adult Flamingos to abandon the site. The chicks left behind were rescued and taken to various bird rehabilitation centres around the country. The name of this dam is:

    a. Kamfers Dam.
    b. Vaal Dam.
    c. Vanderkloof Dam.
    d. Kammers Dam.

33. A fierce winter storm struck Colorado and other parts of the central United States of America on Wednesday the 13th of March 2019. This extreme weather is known as a "bomb cyclone." A bomb cyclone is best defined as:

    a. A strong winter storm, with gale-force winds, and heavy snow.

    b. A strong winter storm, with heavy snow, and a cut-off low-pressure system over the continent.

    c. A strong winter storm, with heavy snow, hurricane-force winds, and a rapidly falling atmospheric pressure.

    d. A strong winter storm, with gale-force winds; torrential rain and extensive flooding.

34. The waterfall in this picture is the result of which geomorphological process?
- a. Headward erosion.
- b. Isostatic uplift.
- c. Climate change.
- d. River rejuvenation.

35. The geology of the Western Cape is complex, including features exposed by tectonic forces, folding and faulting, such as the boulders here at Boulders Beach. The beach is famous for its resident penguins. What is the nearest urban settlement to the beach?
    a. Betty's Bay.
    b. Fish Hoek.
    c. Kalk Bay.
    d. Simon's Town.

36. Wupperthal is a village of 1600 people in the Western Cape, South Africa. The climate is known as 'local steppe', with little rainfall (average 289mm pa), and huge temperature ranges such as 48°C in summer and below zero in winter. The soils are poor and rocky. The main source of income for this settlement is:

    a. Harvesting Fynbos flowers.

    b. Harvesting Honey.

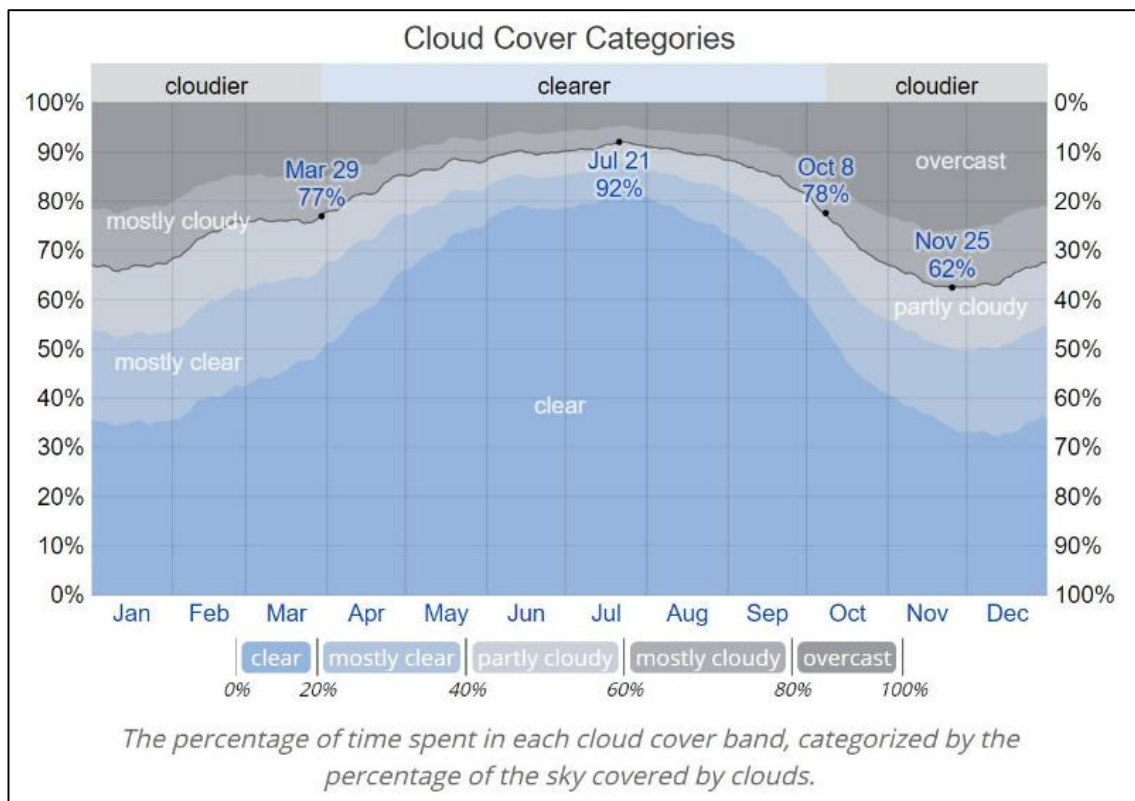   c. Harvesting Olives.

    d. Harvesting Rooibos.

37. These 'before' and 'after' photographs illustrate an
   event that is becoming more frequent because of
   climate change. Identify the event:
       a. Glacial lake development.
       b. Glacial retreat.
       c. Glacial avalanche.
   d. Glacial landslide.

38. Based on this graph, one would expect few clouds in Johannesburg during June and July. What <u>other most common</u> weather phenomena would Johannesburg experience in these months?

      a. Frost.

      b. Wind.

      c. Smog.

      d. All of the above.

Cloud Cover Categories

The percentage of time spent in each cloud cover band, categorized by the percentage of the sky covered by clouds.

39. Paper, gunpowder, porcelain and spices were traded along the ancient Silk Road between China and Europe. The modern day infrastructural revival of this route is <u>officially known as</u>:

a. The Belt and Road Initiative.
b. The New Silk Road.
c. One Belt, One Road.
d. A Road for Peace.
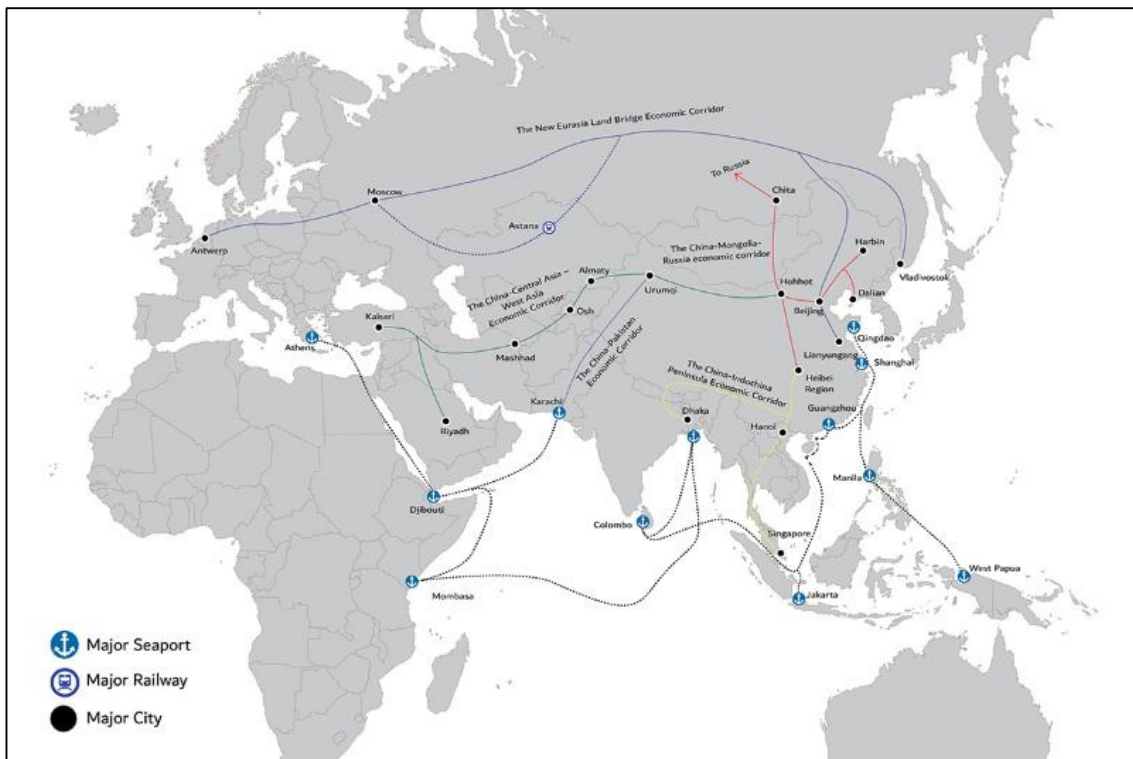
40. This large Iron Age settlement near Zeerust is called Kaditswene and is considered to be a capital of which nation?

      a. Sephedi.
      b. BaTswana.
      c. BaSotho.
      d. Xhosa.