RWBA Distance Learning Work:
FACULTY: Geography
DEPARTMENT: Geography

HOD: Mr Church
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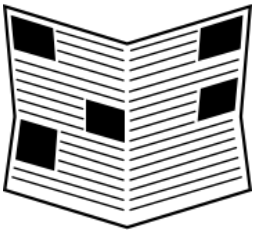
Course: **A Level Geography**
Objective: Complete tasks attached
Activity: Research and reflection

Time to be allotted to this task: *2 hours minimum*
NOTES: Report must be word processed and should not include text that is

Preparing for Year 12: Human Geography Topic: Changing Places

1. Research

2. Create



3.Newspaper

Task 1: Research and produce a 'report' on Royal Wootton Bassett. You should include the following sections inyour report.

- Background information – location, population etc
- Early History of the town
- Town Economy
- Transport links
- The "Royal" status

Task 2: Create a collage or pictorial timeline with image of Royal Wootton Bassett over Time.
(**Consider:** The High Street, Transport links, Historical maps, Land Use, Community from 1700 – present day)

Task 3: Select one main newspaper headline and article. Create a mind map around the headline describing how the place is being represented and perceived by you, then read the article and explain in your own words how the place is presented.

(**Consider:** How does the media present the place, negative or positive? Is it accurate? How does it inform yourperception of the place?

Preparing for Year 12: Human Geography Topic: Glaciation

Task 1: Research and produce an A4 'report' on Alaska's Retreating Glaciers' (minimum 500 words).

Use the article below and the figure provided. You should include the following sections in your report.

- **Background information** (What is a glacier, what are the inputs and outputs of a glacial system).
- **Location of Alaska's Glaciers** (Wolverine and Gulkana)
- **What variables on the glacier are being monitored.**
- **What evidence is there to suggest that glaciers are retreating** (refer explicitly to figures provided).

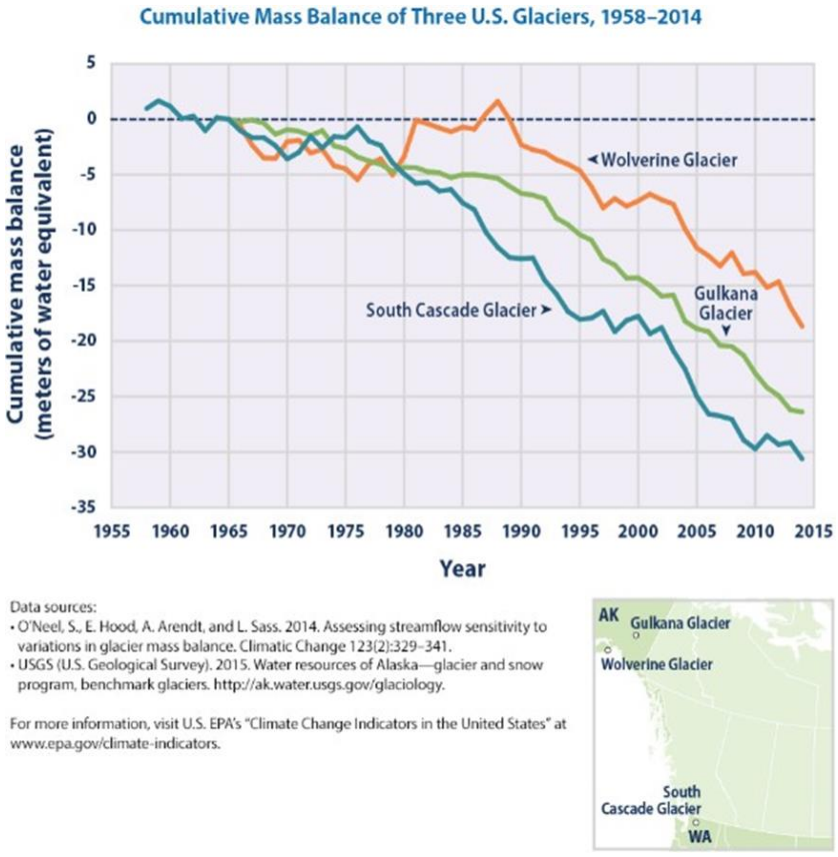


Figure 1 Glacial Retreat in Alaska

Task 2: Create a poster of the impacts of retreating glaciers across the world. Poster to include specific facts, figures and statistics and images of some of the impacts.

(**Consider:** The social, economic and environmental impacts, different impacts on different continents)

Wider Reading News Article: Alaska's Glaciers Are Retreating

Although the mechanisms vary, together the glaciers are losing 75 billion tons of iceannually.

In 1966, a team of U.S. Geological Survey scientists journeyed to two small glaciers in Alaska to dig snow pits needed for measuring snow depth and density at the remote mountainous locations.

Those early findings, repeated twice a year for the last 50 years, became the baseline for the government's Benchmark Glacier program, the longest continuous glacier research inNorth America. The program provides data on glacier health in a warming climate. The USGS research has focused on two glaciers that represent two very different Alaskaclimates — the Gulkana Glacier in the eastern Alaska Range south of Fairbanks and the Wolverine Glacier in the Kenai Mountains on the southern coast of Alaska. At both locations, the long-term records show that summer warming has resulted in sustained mass loss, noted Shad O'Neel, head of the glacier research program at theUSGS Alaska Science Center.

"How the climate has been changing over the past few decades of anthropogenic influence really has manifest itself quite well" in these studies, O'Neel said. "It providestangible evidence for how climate change is affecting the landscapes."

Since the 1990s, the retreat of glaciers in Alaska has made a disproportionally large contribution to global sea-level rise. The USGS reports that the state's glaciers are losing 75billion tons of ice annually, equal to the amount of water needed to fill Yankee Stadium 150,000 times each year. During that time, the Gulkana Glacier has steadily diminished due to significantly warmersummers in interior Alaska and a relatively unchanged level of snowfall. Gulkana drains west into the Yukon River. Meanwhile, the Wolverine Glacier, which is also shrinking, has experienced slightly coolersummers and more variability in winter temperatures. That glacier is a coastal system thatflows into the Gulf of Alaska.

USGS estimates that Alaska's glaciers and ice fields are responsible for nearly 50 percent of the water that flows into the Gulf of Alaska. The meltwater has a unique "glacial fingerprint" that is evident in the timing, volume and temperature of the water, as well asthe nutrients it carries. It also influences the rich diversity of species in the marine ecosystem that are important to tourism and fishing industries.

To study those impacts, the glaciologists are teaming up with ecologists, oceanographers,biologists and botanists to assess how socio-economically important species like salmon are likely to fare in the warmer Alaska of the future. "We're trying to quantify the water flow, the water chemistry and then the vegetation that's in the basin, the species that are there, all the way from the glacier terminus downto the ocean," O'Neel explained.

"We had a team of biological oceanographers that went into Kings Bay, which is whereWolverine drains into," he said. "They were able to see a pronounced gradient of both physical and biological composition of what's living in the bay. So we're getting some core baseline biological data to go with the physical drivers that go back 50 years." In the years since the USGS launched its landmark Alaska glacier research, the scientistshave also begun combining their field studies data with new information gathered with modern geophysical and remote sensing methods. And they're now modeling how glaciers will respond to future climate scenarios, particularly how coastal glaciers like Wolverine impact the ecosystem along the Gulf ofAlaska. According to the USGS, climate change could cause summer temperatures to warm by 3.6 to 7.2 degrees Fahrenheit, and snow accumulation to markedly decrease. Those changes could contribute to the loss of thousands of glaciers in Alaska and northwest Canada by the end of the century.

Today, the federal benchmark glacier program extends beyond Alaska and includesresearch at the South Cascade glacier in Washington state and the Sperry Glacier inMontana. Experts say those glaciers are influenced by different climates, allowing scientists to compare how glaciers respond in different regions. Daniel McGrath, a research geophysicist with the program, said much of the government's ongoing climate research draws from the USGS's 50 years of Alaska glacier studies. "Detailed and continuous records of this length are exceedingly rare in our field, and thus these are indispensable to our understanding of the changes we're observing across this region."