

Where are Shui Chao Feng 水潮峰 and Snow Mountain 雪山, cited on the first Chinese world map?

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June 12, 2024

Abstract

On the first Chinese world map known as Kunyu Wanguo Quantu 《坤輿万国全图》 (abbreviated as KWQ) or Complete Geographical Map of All the Kingdoms of the World published by Matteo Ricci in 1602 in China, we ask whether Shui Chao Feng 水潮峰 is located at today's Cape Peirce, Alaska, or near Anchorage? Is Snow Mountain today's Mount Hood in Oregon, or Mount Adams or Mount Rainier in Washington State?

My analysis shows that 1) Cape Peirce is in the western part of Alaska and its coordinates fit far better with the location of Shui Chao Feng 水潮峰 on the KWQ than does Anchorage; 2) Cape Peirce does have tides albeit not as high as Anchorage; and 3) on the KWQ, the entire coastline of today's Bristol Bay, Alaska Peninsula, Anchorage, Gulf of Alaska, Southeast Alaska, western coast of Canada, Washington State, Oregon and Northern California are merged into a short coast, resulting in a single fictional peninsula. This huge geographical error has not been investigated by earlier researchers and may have been caused by the effect of ocean currents: ocean currents may have propelled the Chinese ships offshore directly toward today's three western U. S. states, therefore entirely bypassing the Gulf of Alaska, Southeast Alaska, the western coast of Canada and thus also today's Anchorage. The sailors may then have had the illusion that the Gulf of Alaska and its surrounding lands do not exist, and that the Alaska Peninsula and the three western U. S. states directly connected.

This paper also points out that to make high-precision latitude comparisons, it is required to convert the latitudinal reading of the Snow Mountain (46-47 *du*; *du* is the Chinese latitudinal degree on the KWQ; $1 \text{ du} = 0.9856^\circ$)² on the KWQ into its corresponding reading on a modern map. After this adjustment, the new latitude becomes 45.3-46.3°N. Taking the middle value gives 45.8°N. Since this latitudinal position is closer to where Mount Hood (45.5°N) is than Mount Adams (46.2°N) or Mount Rainier (46.9°N), the present author concludes that Mount Hood in Oregon is most likely Snow Mountain rather than the other two mountains in Washington State as suggested earlier by researcher Siu-Leung Lee.

Key words: Alaska Peninsula, Anchorage, Bristol Bay, Cape Peirce, Gulf of Alaska, Mount Hood, Shui Chao Feng 水潮峰, Snow Mountain 雪山.

1. Introduction

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² Sheng-Wei Wang. *Chinese Global Exploration in the Pre-Columbian Era: Evidence from an Ancient World Map*, Singapore: World Scientific, 2023, pp. 5-6, 240.

Recently there has been a debate³ regarding the actual location of Shui Chao Feng 水潮峰 and Snow Mountain (雪山), both of which appear on the first Chinese world map known as Kunyu Wanguo Quantu 《坤輿万国全图》⁴ (abbreviated as KWQ) or Complete Geographical Map of All the Kingdoms of the World. This map was published by Italian Jesuit priest Matteo Ricci in 1602 in China and was believed to be based on the European maps which Ricci brought with him to China in 1582.⁵ However, scholars have recently shown that the map is likely of Chinese origin.⁶

The issue in this paper centres on whether Shui Chao Feng 水潮峰 (which translates to Tidal Cape) is present-day Alaska's Cape Peirce while Snow Mountain is today's Mount Hood as suggested by Sheng-Wei Wang, or instead today's Anchorage, Mount Rainier or Mount Adams as suggested by S. L. Lee.

The issue of Snow Mountain is less involved and will be discussed at the end of this article. I first focus on the location of the tidal wave invoked by S. L. Lee in connection with Shui Chao Feng 水潮峰.

Since all the geographical items on the KWQ map are written in Chinese, to resolve the above issue, we must first define the Chinese meaning of 水潮峰: 水 means "water", 潮 means "tide" and 峰 means "cape" or "peak" or "mountain"; hence, Shui Chao Feng 水潮峰 can have different meanings, including a cape (a high point of land that extends into a river, lake, or ocean), where you can see tides, such as at Cape Peirce, or a place near a peak or mountain, where you can also watch tides, such as at Anchorage. However, the name does not by any means imply that the tides being observed must be of spectacular scale or shape, as implied by S. L. Lee's translation to "tidal bore". S. L. Lee has not provided any historical records to prove that in the Ming Dynasty the name Shui Chao Feng 水潮峰 implies "tidal bore".

I shall analyse both Cape Peirce and Anchorage in the following to clarify the issue. But the first step is to understand how tides are formed.

2. Tides

³ Sheng-Wei Wang. *Op. cit.*, pp. 249, 302-303, 311; Siu-Leung Lee. "Chinese Mapped America Before 1430." *Proceedings of the ICA*, Vol. 1, 16 May 2018.

https://www.researchgate.net/publication/325189032_Chinese_Mapped_America_Before_1430; 李兆良. "《坤輿万国全图》: 水潮峰与雪山定位, 兼谈学术规范." <https://blog.sciencenet.cn/>, 李兆良, 20 May, 2024, blog.sciencenet.cn/u/SLLee19

⁴ "File:Kunyu Wanguo Quantu by Matteo Ricci Plate 1-3.jpg." *Wikipedia Commons: The Free Media Repository*, Wikimedia Foundation, 23 Oct. 2020, upload.wikimedia.org/wikipedia/commons/b/b8/Kunyu_Wanguo_Quantu_by_Matteo_Ricci_Plate_1-3.jpg; "File:Kunyu Wanguo Quantu by Matteo Ricci Plate 4-6.jpg." *Wikipedia Commons*, 23 Oct. 2020, upload.wikimedia.org/wikipedia/commons/b/b3/Kunyu_Wanguo_Quantu_by_Matteo_Ricci_Plate_4-6.jpg

⁵ Ronnie Po-Chia Hsia. *Matteo Ricci and the Catholic Mission to China, 1583-1610: A Short History with Documents (Passages: Key Moments in History)*. Indianapolis, USA: Hackett Publishing Company, Inc., 2016.

⁶ Sheng-Wei Wang. *Chinese Global Exploration in the Pre-Columbian Era: Evidence from an Ancient World map*. Singapore: World Scientific, 2023; Siu-Leung Lee (李兆良). *Kun Yu Wan Guo Quan Tu Jie Mi: Ming Dai Ce Hui Shi Je 《坤輿萬國全圖解密: 明代測繪世界》 or Deciphering the Kunyu Wanguo Quantu, A Chinese World Map: Ming Chinese Mapped the World Before Columbus*. Taipei Taiwan: Linking Publishing Company (聯經出版社), 2012.

Tides are formed mainly as the result of Moon's circling motion around the Earth and pulling its water surface by gravitational force and centrifugal action (and similarly but to a lesser extent, by the Sun), see Fig. 1.

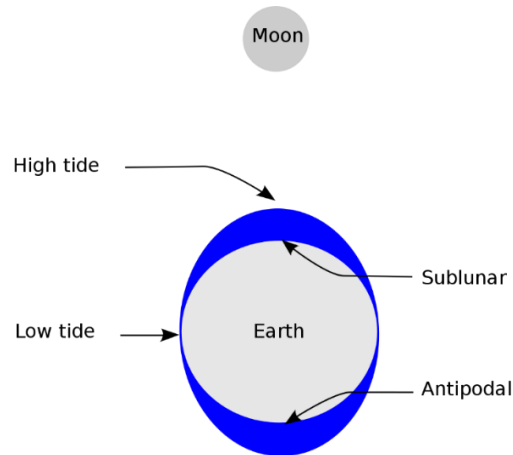


Fig. 1 Simplified schematic of only the lunar portion of Earth's tides, showing high tides at the sublunar point (closest to the Moon) and its antipode. This is the hypothetical case of an ocean of constant depth without land, and it assumes that Earth is not rotating, otherwise, there is a lag angle; similar, but weaker, solar tides are not shown in this figure (public domain).⁷

Tides appear on the coastlines of our Earth as the regular rise and fall of the sea surface, about twice a day. High tide occurs when the highest part (crest) of the tidal wave reaches a particular location, as shown in Fig. 1; low tide corresponds to the lowest part of the wave (its trough).⁸ The heights of the resulting tides vary depending on local geography.⁹

At the west side of Cape Peirce, a tidal forecast station was established in 1991 and reestablished in 2019.¹⁰ A boating website also posts forecasts of tides at the west side of Cape Peirce.¹¹ At Cape Peirce, tides are usually 1 to 3 metres/3 to 10 feet high, but there are no tidal bores as mentioned below.

3. Bore Tide/Tidal Bore

The tidal bore, also called bore tide,¹² is a special case of tides. It is a rush of seawater that returns to a shallow and narrowing inlet from a broad bay.¹³ Bore tides exist all

⁷ "File:Tide overview.svg." *Wikimedia Commons, The Free Media Repository*, Wikimedia Foundation, 10 Dec. 2022, upload.wikimedia.org/wikipedia/commons/thumb/e/eb/Tide_overview.svg/1253px-Tide_overview.svg.png

⁸ Multimedia Galery. "tidal amplitude animation / global on Feb. 10 & 11, 2013." www.aviso.altimetry.fr, Aviso Satellite Altimetry Data, 2024, aviso.altimetry.fr/gallery

⁹ *Ibid.*

¹⁰ National Ocean Service. "Cape Peirce, West Side, AK - Station ID: 9465137." <https://tidesandcurrents.noaa.gov/>, Center for Operational Oceanographic Products and Services, 2024, tidesandcurrents.noaa.gov/stationhome.html?id=9465137

¹¹ BoatingWorld, LLC. "Cape Peirce, AK - West Side Tides Today and Tomorrow." www.boatingworld.com, BoatingWorld, LLC, 2024, boatingworld.com/forecast/cape-peirce-ak-west-side/tides

¹² H. Chanson. *Tidal Bores, Aegir, Eagre, Mascaret, Pororoca. Theory and Observations*. Singapore: World Scientific, 2011.

¹³ Bob. "Alaska Bore Tide." www.alaska.org, Bob's Alaska Insider Newsletter, 2024, alaska.org/advice/alaska-bore-tide

over the world, but only a few are large enough to make a name for themselves, such as Anchorage.

Anchorage is northeast of the Alaska Peninsula, on a strip of coastal lowland, and extends up the lower alpine slopes of the Chugach Mountains. It is in Southcentral Alaska, at the terminus of the Cook Inlet,¹⁴ on a peninsula formed by the Knik Arm (another tidal inlet) to the west and north, and the Turnagain Arm (a fjord that has some of the world's highest tides) to the south.¹⁵ For example, when extreme tides hit the narrow, shallow and gently sloping floor of Turnagain Arm, the rapidly rising tidewaters are forced up to form a raised front called tidal bore or bore tide.¹⁶ Depending on conditions, the tidal bore can be up to 2 m/6 feet tall, while the tide itself grows to a height of 5 to 10 m/15 to 30 ft.

At Cape Peirce, tides are typically 1 to 3 m/3 to 10 ft high. No tidal bores occur there.

4. Geographies of Shui Chao Feng 水潮峰 and Cape Peirce, etc.

Shui Chao Feng 水潮峰 (59°N, 164.5°W; KWQ coordinates) is depicted on the KWQ as the westernmost tip of present-day Alaska and the westernmost tip of the American continent (in fact, it is the westernmost tip of neither; but it is in the western part of both); it faces the Strait of Anian (today's Bering Strait). Cape Peirce (58.6°N, 161.8°W; modern coordinates) is almost where Shui Chao Feng 水潮峰 is located. Cape Peirce also fits well with the description of Shui Chao Feng 水潮峰 as a peak or headland with its height of 81.99 m/269 ft¹⁷ sticking into the sea and washed by tides.¹⁸ Slug Mountain of 1526 ft/465 m tall is only 6.5 mi NE of Cape Peirce.¹⁹ On the KWQ in Fig. 2, there is also a mountain to the NE of Shui Chao Feng 水潮峰, which may correspond to Slug Mountain.

In Fig. 2, Shui Chao Feng 水潮峰 (59°N, 164.5°W; KWQ coordinates) is depicted to the west of Mei Wan 美灣 (meaning “Beautiful Bay”; 55°N, 147°W; KWQ coordinates). Since Shui Chao Feng 水潮峰 is most likely Cape Peirce as discussed above, then Mei Wan 美灣 would plausibly be the eastern tip of Bristol Bay. Bristol Bay is the shallowest part of the Bering Sea and one of the most dangerous areas for large ships. However, Bristol Bay is *indeed* beautiful²⁰ and is also famous for its wildlife and fish production. On modern maps, Bristol Bay is the easternmost bay of

¹⁴ David K. Snyder. *Geography of Southcentral Alaska: Explanations and Explorations of its Landscape*. Pica Geographics (Digital publisher), 2016.

¹⁵ *Ibid.*

¹⁶ Visit Anchorage. “Alaska Bore Tide Viewing.” www.anchorage.net, Anchorage Convention & Visitors Bureau DBA Visit Anchorage, 2024, anchorage.net/blog/post/alaska-bore-tide-viewing

¹⁷ Cape Peirce can be found on Google Maps at

<https://www.google.com/maps/place/Cape+Peirce/@58.5527882,-161.7773658,15z/data=!3m1!4b1!4m5!3m4!1s0x56e1f7dafd550c7f:0x8da9e9ae9473c4fa!8m2!3d58.5527778!4d-161.768611>

¹⁸ BoatingWorld LLC. “Cape Peirce, AK - West Side Tides Today and Tomorrow.” www.boatingworld.com, BoatingWorld LLC., 2024, <https://www.boatingworld.com/forecast/cape-peirce-ak-west-side/tides>

¹⁹ Alaska Guide Co. “Slug Mountain.” <https://alaska.guide/>, Alaska Guide Co., 2024, <https://alaska.guide/mountain/slug-mountain>

²⁰ Alaska Conservation Foundation. “Bristol Bay.” <https://alaskaconservation.org/>, Alaska Conservation Foundation, 2024, <https://alaskaconservation.org/protecting-alaska/priorities/protecting-lands-waters/bristol-bay/>

the Bering Sea, with a triangular opening. On the KWQ, the bay near Mei Wan 美灣 is also the eastern branch of the Bering Strait (Strait of Anian) and has a triangular opening. Hence, Bristol Bay and the bay near Mei Wan 美灣 may be identified as the same bay.

On a modern map, Cape Peirce (58.6°N, 161.8°W; modern coordinates) is also near the western end of Bristol Bay (which stretches from 57° to 59°N, and from 157° to 162°W in Southwest Alaska; modern coordinates). The upper reaches of Bristol Bay experience some of the highest tides in the world: one such area near Dillingham (59°N, 158.5°W; modern coordinates) and another near Naknek (58.7°N, 157°W; modern coordinates) have tidal extremes of more than 10 m/30 ft. The tides at Cape Peirce are reduced to less than 3 m/10 ft.

On a modern map, to the north of Cape Peirce is Seward Peninsula (just south of the Arctic Circle at c. 66.6°N), and further to its north are other parts of Northwest Alaska and North Alaska.

On the KWQ, the peninsula north of Shui Chao Feng 水潮峰 seems to be a fictional peninsula formed by the merger of the Seward Peninsula south of the Arctic Circle with other areas in northwestern Alaska north of the Arctic Circle. The depiction of these areas (and the Russian side of the Bering Strait) on the KWQ is rather crude and does not completely match the real geographical environment on a modern map.



Fig. 2 Shui Chao Feng 水潮峰 is depicted on the KWQ as Item “73”, facing the Strait of Anian (today’s Bering Strait), while Mei Wan 美灣 (the eastern tip of Bristol Bay) is depicted as Item 69; Anchorage cannot be identified on the KWQ (public domain).²¹ The numbering of the geographical items follows that used in my previous book.²² This map shows the Arctic Circle as a thicker horizontal line.

From Fig. 2, we can conclude that 1) the coordinates of Shui Chao Feng 水潮峰 (59°N, 164.5°W; KWQ coordinates) on the KWQ match well those of Cape Peirce (58.6°N, 161.8°W; modern coordinates); 2) Shui Chao Feng 水潮峰/Cape Peirce is

²¹ “File:Kunyu Wanguo Quantu by Matteo Ricci Plate 4-6.jpg.” *Wikipedia Commons*, 23 Oct. 2020, upload.wikimedia.org/wikipedia/commons/b/b3/Kunyu_Wanguo_Quantu_by_Matteo_Ricci_Plate_4-6.jpg

²² Sheng-Wei Wang. *Op. cit.*, p. 281.

depicted correctly in the western part of Mei Wan 美灣/Bristol Bay; and 3) the geographical surroundings of Shui Chao Feng 水潮峰 on the KWQ also match those of Cape Peirce on a modern map.

However, in Fig. 2, we notice that today's Alaska Peninsula, the Gulf of Alaska, Anchorage, Southeast Alaska, the western coastal region of Canada and the three western U. S. states are all merged into a single fictitious peninsula. That peninsula shows the following geographical names: 1) 松樹林 (Pine Forests; it can be in the state of Washington, in Oregon or along California's coastline; denoted as Item 64), 2) 雪山 (Snow Mountain; it may be Mount Hood in Oregon or Mount Rainier in the U. S. state of Washington; denoted as Item 65; it will be clarified near the end of this article), 3) 祁未蠟 (Quivira; a mystical nation in N. America; denoted as Item 66), 4) 都茶那 (Tuchano; in today's Alaska; denoted as Item 67), 5) 孟多齊峰 (Cape Mendocino; in California; denoted as Item 68), and 6) 美灣 (Mei Wan or Beautiful Bay; in today's Alaska; it is the eastern tip of Bristol Bay; denoted as Item 69). All these places are either in Alaska or in today's three western U. S. states.²³ Moreover, the Gulf of Alaska and the western coast of present-day Canada all disappear from the KWQ, and Anchorage is also nowhere in sight. Please compare Figs. 2 and 3.



Fig. 3 This is a modern map of Alaska.²⁴ The red dot on the left shows the location of Cape Peirce, looking toward the Bering Sea. The Alaskan Peninsula extends southwest from mainland Alaska and ends at the Aleutian Islands. The peninsula separates the Pacific Ocean from Bristol Bay, an offshoot of the Bering Sea. The peninsula separates the Pacific Ocean from Bristol Bay, an offshoot of the Bering Sea. The red circle on the left shows Bristol Bay (northeast-southwest) with a triangular opening, the red dot in the middle shows the location of

²³ Sheng-Wei Wang. *Op. cit.*, pp. 301-308.

²⁴ "File:National-atlas-alaska.png." *Wikimedia Commons*, 4 July 2020, upload.wikimedia.org/wikipedia/commons/b/b9/National-atlas-alaska.png

Anchorage, and the red circle on the right shows the fjords (northwest-southeast) from Ketchikan (55.3°N, 131.6°W; modern coordinates; lower red dot inside the red circle) to Skagway (59.5°N, 135.3°W; modern coordinates; upper red dot inside the red circle) without the triangular opening.

5. Coordinates of Shui Chao Feng 水潮峰 and Anchorage, etc.

S. L. Lee has proposed²⁵ that Shui Chao Feng 水潮峰 (59°N, 164.5°W; KWQ coordinates) on the KWQ is Anchorage (61.2°N, 149.9°W; modern coordinates) and Mei Wan 美灣 (55°N, 147.5°W; KWQ coordinates) may be a fjord from Ketchikan (55.4°N, 131.6°W; modern coordinates) to Skagway (59.5°N, 135.3°W; modern coordinates).

But neither is correct. Here are eight specific mistakes:

1) First, on the KWQ, Shui Chao Feng 水潮峰 faces the Strait of Anian (today's Bering Strait). Identifying Shui Chao Feng 水潮峰 as Anchorage will place Anchorage facing the Strait of Anian, not the Gulf of Alaska.

2) The geographical surroundings of Anchorage are complicated (deep in a long inlet, at the beginning of two fjords) and very different from the simple cape depicted on the KWQ for Shui Chao Feng 水潮峰.

3) On a modern map, Anchorage is in the southcentral part of Alaska, far from the Strait of Anian (separated by the Alaska Peninsula), whereas Shui Chao Feng 水潮峰 on the KWQ is depicted at the western end of Alaska and the entire American continent. Their geographical locations are incompatible.

4) The longitudinal coordinate 149.9°W of Anchorage on a modern map is too far east from the 164.5°W of Shui Chao Feng 水潮峰. This is beyond the general order of magnitude error (less than 10 degrees) between the longitudinal coordinates on the KWQ and modern maps and cannot be explained by the longitudinal error itself. This makes it clear that these are two completely different geographical locations and should not be mixed up.

5) Ketchikan is on an island, unlike Mei Wan 美灣 which is on a peninsula. The two should not be mixed up, either.

6) The fjord between Ketchikan (55.4°N, 131.6°W; modern coordinates) and Skagway (59.5°N, 135.3°W; modern coordinates) has many mountains, islands, and complex terrain (following a northwest-southeast trend). There is no triangular fjord opening, which is very different from the simple triangular bay shape (northeast-southwest trend) near Mei Wan (55°N, 147°W; KWQ coordinates).

7) The coordinates of Ketchikan (55.4°N, 131.6°W; modern coordinates) or Skagway (59.5°N, 135.3°W; modern coordinates) are too far east from Mei Wan 美灣 (55°N, 147°W; KWQ coordinates).

8) Identifying Shui Chao Feng 水潮峰 on KWQ as Anchorage and the fjord between Ketchikan and Skagway on modern maps as the bay near Mei Wan 美灣 on KWQ would force Anchorage and the fjord between Ketchikan and Skagway to face the Strait of Anian, which is unrealistic and totally misses the Gulf of Alaska. Without the Gulf of Alaska, there is no Anchorage. This would also fail to explain the fictitious peninsula starting from Mei Wan 美灣.

²⁵ Siu-Leung Lee. "Chinese Mapped America Before 1430." *Op. cit.*;

李兆良. "《坤輿万国全图》: 水潮峰与雪山定位, 兼谈学术规范." *Op. cit.*

6. Why Anchorage is not depicted on the KWQ

The reason why only Shui Chao Feng 水潮峰/Cape Peirce is depicted on the KWQ, while Anchorage is not (since no geographical name and location match its name and location on the KWQ), can be explained as follows:

First, we can see that the Alaska Peninsula is not correctly represented on the KWQ in Fig. 2, in comparison with that on the modern map in Fig. 3. On the KWQ, the southwestern, southern, southeastern parts of Alaska and the Gulf of Alaska are merged with the present-day Canadian western coast and three western U. S. states to become an unrealistic peninsula. This may be explained by the impact of ocean currents on the sailing paths of the ships as shown in Fig. 4.

Fig. 4 shows that a ship sailing from Asia to the Americas can follow the North Pacific Current, then take Path #1 to follow the Alaska Current (counterclockwise) to enter the Gulf of Alaska, or else follow the North Pacific Current and then take Path #2 to follow the California Current (clockwise) to reach the North American coast.

Taking Path #1 can bring the ship deep into the Gulf of Alaska to reach Anchorage and to better map the Alaska Peninsula.

Taking Path #2 will miss the Gulf of Alaska, and the sailors may then have the illusion that the Gulf of Alaska and its surrounding lands do not exist. Hence, the geographical items 64-68 in Fig. 2 are all geographical names in Alaska and North America, while the Alaska Peninsula becomes a very big peninsula that is unrealistically shared by Alaska and the three western U. S. states. This also offers a reasonable explanation for Anchorage not being depicted on the KWQ.

If Zheng He's mariners had really explored Anchorage, the KWQ should show a Cook Inlet to reach Anchorage, a Gulf of Alaska to separate Alaska from the U. S. west coast, and geographical sites on the western coast of Canada. But none of these is seen on the KWQ.

We should not assume that Zheng He's mariners only saw the highest tides along their sailing route. The Chinese name 水潮峰 does not by any means imply that the tides being observed must be of spectacular scale or shape, either.

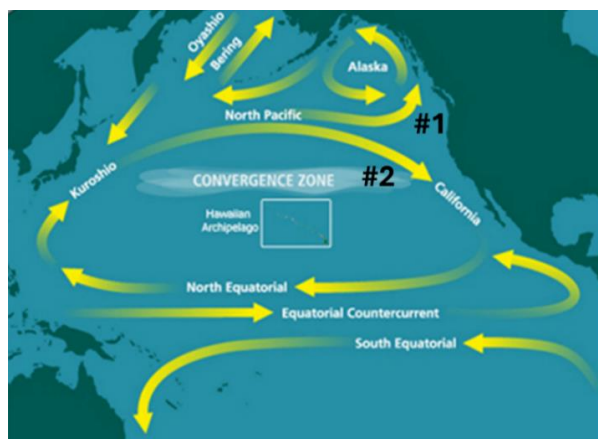


Fig. 4 This is a map of the North Pacific Ocean currents (public domain).²⁶ Sailing by wooden ships relies on favourable winds and currents. Path #1 and Path #2 are indicated by black notations.

²⁶ "File:North Pacific Subtropical Convergence Zone.jpg." *Wikimedia Commons*, 14 Mar. 2021, upload.wikimedia.org/wikipedia/commons/1/1f/North_Pacific_Subtropical_Convergence_Zone.jpg

7. Where is Snow Mountain on a modern map?

In my book entitled *Chinese Global Exploration in the Pre-Columbian Era: Evidence from an Ancient World Map*, I explain on pages 5-6 and 240, why one degree (*du*) of latitude on the KWQ is only about 0.9856 (90/91.3125 or 360/365.25) modern degree (°) of latitude. In short, this is because the Chinese believed that the angle between the poles of the earth is 182.625 Chinese degrees (*du*), and the angle from the equator to the poles is 91.3125 *du*. But on a modern map that is 90°. Hence, the latitude reading on the KWQ is c. 1.458 percent higher than that on a modern map. In most cases, for qualitative analysis no conversion of latitude reading on the KWQ is made into its corresponding modern latitude reading and the Chinese *du* is written as the modern degree (°), because visual identification of latitude value on an ancient map often cannot achieve an accuracy of better than 1.458 percent. But it is still worth trying to see how well the Snow Mountain on the KWQ can be identified on a modern map as follows:

In general, at lower latitudes, the differences between the KWQ latitudes and the modern latitudes are small and do not affect the various qualitative discussions in my book as mentioned above. At higher latitudes, the differences between the KWQ latitudes and the modern latitudes gradually increase and reach the maximum value of 1.3125 *du* at the pole, as shown in the table below:

KWQ latitude (<i>du</i>) in Northern Hemisphere	The latitude on KWQ is higher than the modern latitude. The higher amount is expressed in Chinese degrees (<i>du</i>)
0-10	≥ 0.000 and ≤ 0.144
10-20	≥ 0.144 and ≤ 0.288
20-30	≥ 0.288 and ≤ 0.432
30-40	≥ 0.432 and ≤ 0.576
40-50	≥ 0.576 and ≤ 0.720
50-60	≥ 0.702 and ≤ 0.864
60-70	≥ 0.864 and ≤ 1.008
70-80	≥ 1.008 and ≤ 1.152
80-90	≥ 1.152 and ≤ 1.296
90-91.3125	≥ 1.296 and ≤ 1.3125

S. L. Lee writes that the latitude of Snow Mountain (雪山) depicted on the KWQ is 46-47 degrees north.²⁷ This Chinese latitudinal reading on the KWQ should first be converted into modern latitude as 45.3-46.3°N, with median value 45.8°N. Comparing it with the latitudes of Mount Rainier (46.9°N; modern latitude), Mount Adams (46.2°N; modern latitude) and Mount Hood (45.5°N; modern latitude), the latitude of Snow Mountain (45.8°N; modern latitude) is closest to the latitude of Mount Hood, despite the peaks of these three peaks are covered with snow all year round. Hence, Snow Mountain (雪山) is most likely Mount Hood in Oregon, not Mount Adams or Mount Rainier in Washington as suggested by S. L. Lee.

8. Conclusions

²⁷ 李兆良. “《坤輿万国全图》：水潮峰与雪山定位，兼谈学术规范。” *Op. cit.*

In this paper, I have shown, based on coordinates and other evidence, that Shui Chao Feng 水潮峰 depicted on the Kunyu Wanguo Quantu 《坤輿万国全图》 (abbreviated as KWQ) or Complete Geographical Map of All the Kingdoms of the World published by Matteo Ricci in 1602 in China, is Cape Peirce in present-day Alaska; then, Mei Wan 美灣 would plausibly correspond to the tip of the present-day Bristol Bay. I have also discussed Cape Peirce as a headland with the height of 81.99 m/269 ft extending into the sea and washed by tides, having Slug Mountain of 1526 ft/465 m tall only 6.5 mi away from it. Hence, Cape Peirce fits well with the definition of the Chinese name “水潮峰”. On the KWQ in Fig. 2, there is also a mountain to the NE of Shui Chao Feng 水潮, which may correspond to Slug Mountain.

I have given eight reasons why Shui Chao Feng 水潮峰 cannot be Anchorage and the bay near Mei Wan 美灣 cannot be the fjord from Ketchikan (55.4°N, 131.6°W; modern coordinates) to Skagway (59.5°N, 135.3°W; modern coordinates).

This paper also explains why Anchorage is not depicted on the KWQ. The incorrect depiction on KWQ of Alaska Peninsula, Anchorage, Gulf of Alaska, Southeast Alaska, Western Canada, Washington State, Oregon and Northern California, and their merging into an unrealistic peninsula may derive from the illusion of Chinese mariners who took a sailing path that did not enter the Gulf of Alaska.

Finally, I present a fundamental difference in latitudes shown on the KWQ and on modern maps. Such small differences can often be ignored for general discussions of the KWQ. However, in identifying the Snow Mountain on a modern map, caution must be exercised: the KWQ latitudes must be first converted into modern latitudes to facilitate the comparison of Snow Mountain with three known mountains on a modern map to determine that the Snow Mountain cited by the KWQ is in fact Mount Hood, instead of Mount Adams or Mount Rainier as suggested earlier by another researcher.