FAST-FORWARD to just over 100 years later:

Over the weekend before D-Day, Tuesday 6th June 1944, General Eisenhower chose to re-schedule attempted landings in Normandie by one day, because of a storm system frothing up the English Channel. The weather forecasters at the U.K. Meteorological Office were able to promise the Allied Supreme Commander a half-day window in the form of a predicted lull in the stormy conditions, just when the ships, aircraft and gliders of Allied forces needed one. By contrast, the German High Command was not quite as well informed by weather networks. They had lost a number of armed squabbles over maintaining secret weather stations in eastern Greenland; in 1944, they lacked the extensive ship-borne meteorological networks of the Allies, and what exclusive weather observations they thought they had were compromised by the cracking of the Enigma Code by British Intelligence. Moreover, the Third Reich had not succeeded in decoding Allies’ weather observations.

As a result, General Erwin Rommel, and other officers were allowed to leave their commands over the weekend to go home to visit family in the Third Reich, believing that the weather would remain too adverse for the Allied forces to mobilize and invade Vichy (occupied) France for another 5-7 days beyond the 6th of June.
Probing back a little further in time: How, you ask, did the Allies have superior weather understanding by the time WW II was concluding? In addition to a better network of observers in the Atlantic approaches to the Arctic during the war, Allies had practiced and proven WW II connections to allies in the USSR through the Pacific end of the Arctic.

This view of Beringia in WW II shows the Lend Lease routes of air transportation of matériel through Canada, Fairbanks, Nome, on westward to Anadyr and to the European battlefront lines in 1942-45.

Military Allies in WW II using airplanes, had come to value the closeness of our almost-tangent continents through Alaska and Siberia. Nevertheless, this Lend Lease route was not chosen for its serene weather. Some extraordinary and cooperative weather understanding had to have been shared between the U.S. and the USSR. When was that, and how did this appreciation come about?
WW II cemented and extended cordial policies between peoples governing western and eastern parts of Beringia. Cold War adversaries of the 1950s-1980s had been pushed into a staunch, vigorous alliance by the Axis powers during WW II.
Russian Arctic expertise—including Arctic meteorology—had developed rapidly by the 1930s. Partly, Soviet Russia was much more an “Arctic nation” than were Britain, Canada, Denmark, the U.S., and (arguably) Norway at the time. To knit the Soviet Union, Russians longed to make use of the Northern Sea Route to connect Murmansk to Vladivostok by a much shorter trajectory than the southern sea route through the Suez Canal. Two adventures in the early 1930s showed off Soviet determination. The steamer *Sibiriakov* in 1932-33 came to double grief during IPY-2, but reached the Sea of Okhotsk under sail after mishaps in the Chukchi Sea. In 1933-34, the famous *Chelyuskin* was holed by sea ice in the Chukchi Sea and sank out from under her crew and passengers of over 100 people. Intrepid survivors camped out on the sea ice in relative comfort for weeks, until they were all rescued by airplanes that converged from across the USSR. This spectacular rescue gave Otto Schmidt, head of the Northern Sea Route Administration the idea of setting a crew of scientists adrift on a piece of multi-year pack ice at the North Pole, and to use the scientists dually as observers and as a radio contact station for aviators who would seek to cross the North Pole to land in North America.
What grounds did the USSR and the U.S. have for trusting one another as mutual allies?

In this part of the world (northern and western North America) pivotal events occurred in 1937 and 1938, the last two full years before Hitler’s attack on Poland. This was when an astonished western world learned of the Soviet Union’s two successful non-stop flights from Moscow over the North Pole to North America, during which uninterrupted radio contact was assured by four men encamped on NP-1, an ice floe equipped with radio transmitters and receivers deployed near the North Pole in May 1937.

A third transpolar flight in August of that year was meant to land in Fairbanks, Edmonton, Chicago and New York, to demonstrate Soviet capabilities of flying long-range bombers to distant targets. That flight disappeared some 500 km to the North American side of the North Pole. US, Soviet, Canadian and other air searches for Levanevsky’s airplane lasted from August 1937 until being called off in March 1938.

During those searches, the U.S. especially was amazed at the accuracy of Soviet weather forecasts for these high latitude searches. Vilhjalmur Stefansson chronicled the accuracy of those forecasts, and also made sure that influential people in New York and Washington DC grasped the value of trusting Soviet meteorology.
Peter Moore’s (2015) Book, *The Weather Experiment*, cleverly focuses on the career of an important man, Robert FitzRoy. The ups and downs of FitzRoy’s career are an ideal thread with which to weave a story of maturing capabilities in ocean exploration. Robert was born in the same year as the Battle of Trafalgar (1805) into a family of British nobility that included his uncle, Lord Castlereagh.

FitzRoy was a star graduate of the Royal Naval Academy, and illustrated rapid career advancement for the talented. Robert was constantly reminded of his impeccable pedigree, good breeding, and believed in the French saying, “noblesse oblige” (literally translated, ‘nobility obligates’ [one to perform civic duty]). Moore judges FitzRoy’s intellectual talents charitably, as “more disciplined than brilliant.”
FitzRoy was elevated to command of HMS *Beagle* after its captain, Stokes, had committed suicide during the sloop’s first voyage to southern South America.

FitzRoy was a consummate sailor, navigator, manager of instruments and surveyor, full of energy, open-minded, and compelled by *Noblesse Oblige*. He was generous, conscientious about crew safety and well-being, never having lost a man since his first days of command during a *pampero* storm, when 2 men were blown overboard in the eastern reaches of the Strait of Magellan.
Once again, let me point out how small the Beagle was. Originally conceived as the 19th century equivalent of NASA’s Apollo-era Lunar Lander, Beagle was a coastal specialist vessel of barely 90 feet LOA, dependent on a mother ship, analogous to the 20th century Lunar Orbiter. Shallow draft, small, with a manifest of ~70 officers and crew, Beagle could be beached and re-calked easily. By the time of her second voyage of 1832-36, Beagle had been entrusted with sailing solo—a testament to her versatility and the Admiralty’s faith in her officers and crew. [important point]
Upon FitzRoy’s return from HMS Beagle’s first trip to Patagonia 1829, he dropped by Beaufort’s office in the Hydrographic Office, and soon made fast friends with Sir Francis Beaufort. The two men hit it off for sharing similar views, similar aristocratic backgrounds, a similar commitment to the command, Noblesse Oblige.

But perhaps more than those things in common, these two men of different generations shared the combination of practical skills of seamanship, navigation, surveying, and direct observation, alongside a reverence for matters theoretical, the frontiers of knowledge, and accurate record-keeping.

Not surprisingly, Beaufort (himself tied by a war injury to his desk) was eager to send FitzRoy forth with a refurbished Beagle, this time on a global circumnavigation voyage.

Soon refitted, supplied, and seeking officers and crew, Beagle and its forthcoming 3-year globe-circling venture drew the attention of many people in Barrow’s and Beaufort’s circle of contacts. FitzRoy stipulated that he wanted a man-companion to share his mess, someone of breeding and intelligence who could enjoy and amplify FitzRoy’s interests in natural history on a long, challenging sea adventure of exploration. And incidentally, keep FitzRoy’s own tendency toward mental depression at bay. (explain)
As important to understanding the full splendour of the accomplishments of voyages by HMS *Beagle* as the onset of European hegemony after the Middle Ages, were any number of precursors to those accomplishments. Marvin Falk has discussed the largely overlooked contributions by Russian voyages and circumnavigations preceding the purchase of Alaska and the resources of the Russian America Company by the U.S. 150+ years ago (1867). We remember Captain James Cook’s three voyages the previous century. Neither should we overlook Alexander von Humboldt’s precedent-setting voyage to North and South America in the late 18th to early years of the 19th centuries. Darwin patterned his methods of discerning patterns on Humboldt’s techniques.

Wulf, Andrea (2015)

“…Wulf examines how Humboldt’s writings inspired other naturalists and poets such as Darwin, Wordsworth, and Goethe, and she makes the compelling case that it was Humboldt’s influence that led John Muir to his ideas of natural preservation and that shaped Thoreau’s *Walden.*”

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