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A No Man's Land in the Narrow Seas

Chasing the battlefleet from the ocean

In 1995 the US Navy could sail a carrier Task Force through the Taiwan Straits in the certain knowledge that there was little the Peoples Republic of China could do about it. Today, things have dramatically changed. Technological advances in Anti-Access/Area Denial (A2AD) capabilities and increased military investment of competitor states have been relentless in the last decade. Almost unexpectedly, coastal waters turn out to be a very deadly zone in which the strongest naval forces venture at their own risk[1] However, this shouldn't come as a surprise. In fact, surface ships operating close to hostile shores have been living on borrowed time for about a century now. For here airpower is king.[2]
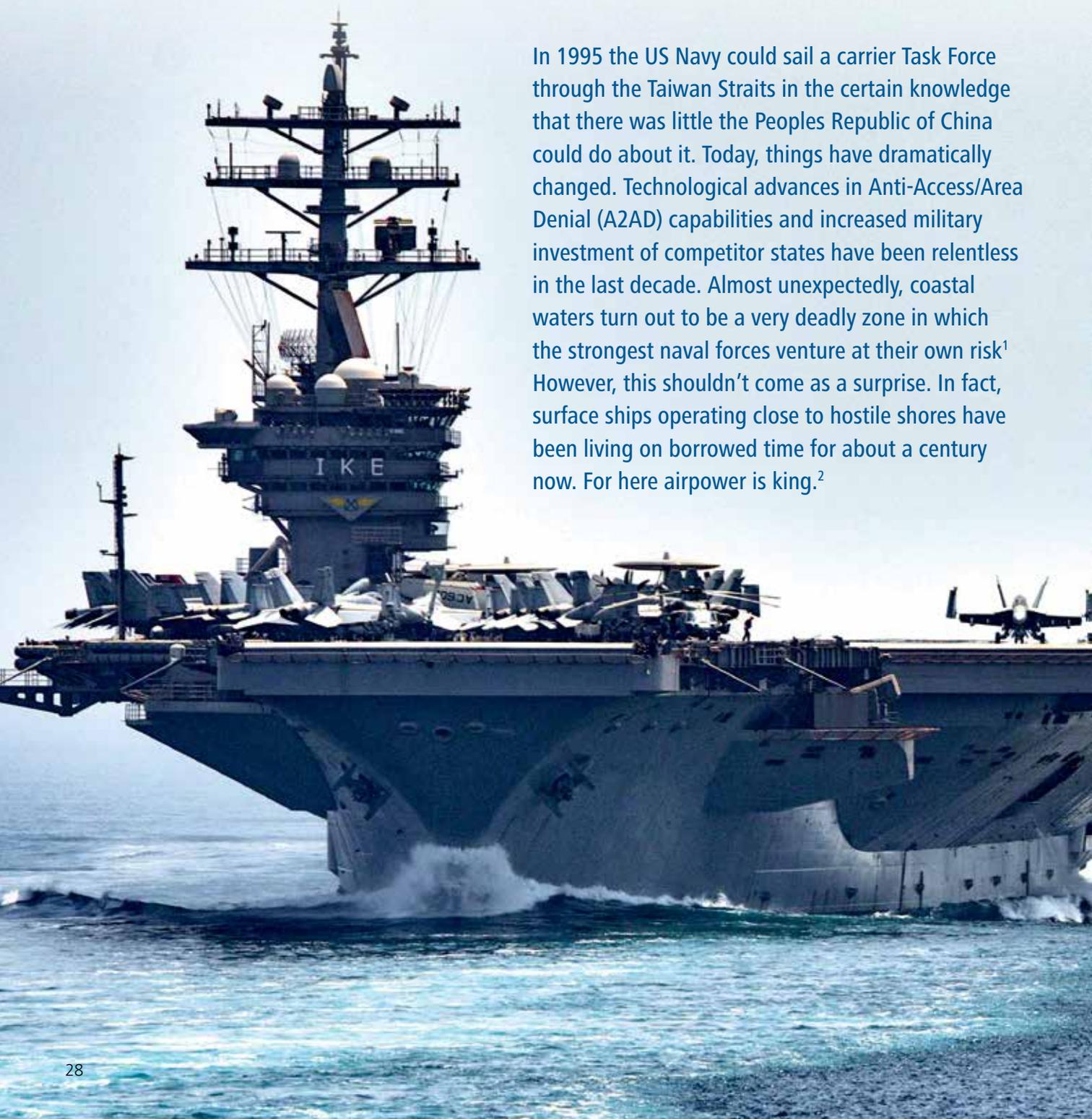
In the following analyses, I present the problem that we have forgotten this historical lesson. The first half of the Second World War should have made it abundantly clear, but in the second half Allied industrial superiority translated itself in a military supremacy that obscured the hard bought knowledge that a surface fleet in coastal waters presents a risky venture. This distorted view was further compounded by the unique and anomalous period of American naval hegemony during the Cold War and in the Age of False Security that followed. But as the world is currently returning to a more natural multi-polar international system in which the fruits of technological progress are evenly divided, this period is ending. We must adapt, starting in the waters close to a hostile shore. The inability of 'classic' airpower to defend a fleet against the 'new' airpower of long ranged land-based missiles again makes these waters dangerous for any surface fleet, especially if combined with the humble but deadly sea mine.[3]

The Deadly Mediterranean

The first signs of the new hegemon appeared during the First World War and were grasped by visionaries like Colonel Billy Mitchel who demonstrated in July 1921 that aircraft could sink ships. But the Second World War proved with terrifying clarity that surface ships could not operate within range of air power without air cover of their own. To learn what land-based airpower can do, we should not focus on the victorious battles of 1944-1945 but follow the advice of Marshal of the RAF Sir Arthur William Tedder and study the early campaigns of the war 'There are no big battalions and blank cheques then'.[4]

A telling example can be found in the scintillating waters around Crete in spring 1941. The Royal Navy and British and Allied merchant navies[5] had just evacuated the British Expeditionary Force from Greece, suffering grievous casualties from the *Luftwaffe* but determined not to let the army down. It found itself forced to support the defence of Crete with no airpower to cover it. In a mix-up of intel-

ligence, the British High Command considered the naval part of the German attack so dangerous that surface ships should stop it, but this left the British ships hideously exposed to German airpower. And although the British fleet was successful in stopping the German amphibious operations – to little avail as the main attack was airborne – the attrition rate was horrendous. Just the foray into the Aegean on 22 May cost the British two cruisers and a destroyer sunk and two battleships, two cruisers and several destroyers damaged.[67]

To defend itself properly, a fleet needs its own aircover, either land-based or on its own aircraft carriers. But even when supported by carriers, venturing within range of land-based airpower was very hazardous indeed. This is well illustrated by Operation Pedestal in August 1942. The goal was to resupply the strategically vital island of Malta which was balancing on the brink of starvation. To succeed, a convoy had to be pushed through in the face of submarines, small surface craft and the Italian battle fleet but above all, strong airpower operating from land bases. This required a major commitment from the Royal Navy, which came in a force of four carriers: three to support the fleet and one to fly off extra Spitfires to Malta. In an epic of valour, supported by some crucial mistakes of the Axis High Command, just enough ships managed to reach Malta to keep the island fighting. The cost however had been enormous. The convoy had been halved and the British had lost one of their carriers sunk, one of their carriers heavily damaged and out of action and a further bevvy of cruisers and destroyers sunk and damaged. In the Royal Navy's experience 'Air power had chased the battlefleet from the ocean, and now posed a threat to every surface warship'.[8] Air defence guns primarily reduced the effectiveness of air attacks while ammunition lasted and only imposed limited attrition. Aircraft carriers and the aircraft they carried were the true weapon against enemy airpower.

The aircraft carrier USS Dwight D. Eisenhouwer transits the narrow Hormuz Strait as part of the US Navy 5th fleet, July 2016 (Wikimedia Commons)

The Double Historical Anomaly

This dominance of the aircraft carrier has been the essence of the American experience of naval warfare since 1944-1945. With the defeat of the Japanese, German and Italian fleets the US Navy faced no maritime enemies of note and the only other great navy left was the British, who were now relegated to the role of a steadfast but ever declining ally.[9] While the USSR made definite attempts to threaten the Western hold of the high seas with an ever-increasing sea denial capability, it never managed to challenge the sea control imposed by the American strike carriers beyond its adjoining seas.

Historically, such naval supremacy has not been seen since the Roman Empire and their complete control over the *Mare Nostrum*. The direct predecessor of American dominance was the British *Pax Britannica* policed by the Royal Navy. But even at its apogee, the British operated at the 'Two-Power Standard' which required the Royal Navy to be as strong as the second and third naval powers combined – which effectively meant France and Russia. This implied that the combined strength of *all* other navies in capital ships would easily outnumber British strength. Fast forward to the end of the Cold War and compare this with the US Navy and we see that *no nation in the world* can compete with the fifteen American strike carriers and their highly capable and versatile airwings, while all other carriers in existence are outnumbered by US amphibious assault carriers.[10]

Still, the US Navy had to be cautious when operating close to land against a peer opponent. On the high seas, a carrier airwing reigns supreme as there are simply no other fighter aircraft to contest air superiority.[11] But when a carrier gets closer to a continental landmass the relative strength of a carrier airwing dwindles. The plus minus 240 fighter and strike aircraft that the combined might of a four carrier NATO strike fleet at the end of the Cold War could have put in the air would have dominated the Atlantic. They could certainly have made the difference on an extreme flank like Northern Norway. The strength and confidence of the US Navy manifested itself in a forward strategy into the teeth of Soviet air and naval power in the icy waters of the North Atlantic.[12] But on the central front they would have at best been a slight reinforcement of the bulk of the 5.000 NATO combat aircraft fighting their 7.000 Warsaw Pact counterparts, while at the same time placing those vital carriers in harm's way.[13]

With the end of the Cold War, American naval power was at a high as there were simply no peer opponents left. With Soviet sea denial capability dissolving and threats on the high seas disappearing, the US navy was looking for a new mission in a period of ever shrinking defence budgets and found it in power projection from the sea. Supercharging the ongoing process of seeing their strike carriers first and foremost as tools to deliver airpower against a hostile shore rather than as capital ships exerting sea control. Facing second and third rank militaries that might be pressed to withstand the might of a single carrier air wing and had no hope to pierce the layered defences of a task force, this was for a decade or two quite feasible. It allowed this anomalous era to enter a second stage,

in which the future force structure of the US Navy would be tailored to fighting close to shore. Rather than deep water escorts to fight submarines while beating of missile attacks, the future American surface combatants were to be the fast 'knife fighting' inshore craft that became the Littoral Combat Ship (LCS) and the highly advanced and expensive gun platform of the DD-21 Zumwalt Class, both designed to get in close and personal and take the fight to the enemy. Other Western navies followed suit, lifting along on the coattails of American sea power. The Dutch navy is a good example. A cynic might say the Royal Netherlands Navy managed to save its submarines by finding a role for them in anti-piracy missions under the Somalian coast, but all their P-3 Orion aircraft were mercilessly axed and its sizeable frigate fleet reduced to a shadow of its former strength.[14] However, it gained two larger amphibious ships, ready to join its allies in the coastal arena.

Land Based Anti-Ship Missiles and A2AD

But the march of history is inexorable and technical progress relentless. New and old contenders of American naval supremacy understandably did not sit idle and at least tried to contest this supremacy in their home waters. Harnessing submarines, fast attack craft (FAC), sea mines and airpower Russia and China are now denying the US Navy and its Western allies easy access to their own backyards. In our own *hybris* this has caused such a shock that we have dubbed controlling your home waters an A2AD strategy. In all truth, this was to be

Image of a Ukranian R-360 'Neptune' anti-ship missile testfired, April 2019 (Ukranian Government)

expected. Nothing in there that the *Jeune École* would not applaud.[15]Against a peer opponent, a fleet ventures close to shore at its own risk. And this risk has now immeasurably increased by an incremental technological advance: the growing range of (mobile) land based anti-ship missiles (AShM). At the first glance, these AShM only seem part of the A2AD threat, but they're hybrid by nature. In essence, they have both the advantages of airpower and coastal artillery and that confers them some very desirable qualities. Considering that a fleet operating under a hostile shore must at least contest air superiority, FAC are only a threat if they benefit from a coastline in which they can hide. Otherwise, they are hideously vulnerable.[16]Submarines are a far greater danger but have been around in coastal waters since the First World War.[17] Aircraft can be dealt with by land- or carrier-based aircraft, either by attacking their bases or shooting them from the sky. But while land-based mobile AShM are nothing new, extending their range becomes a game changer. The key to layered air defence is killing the missile carriers and only aircraft can do this. If the Cold War had turned hot, the Soviet Northern Fleet Aviation Units would not have worried much about the US Aegis cruisers but would have had nightmares of AEW vectored F-14 Tomcats pouncing them with AIM-54 Phoenix missiles.

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But air supremacy is to little avail against massed missiles. Even if the aircraft are advanced enough to shoot them down, it is impossible to keep enough aircraft aloft all the time to make a serious dent in a large salvo. Once we are talking about ballistic or hypervelocity AShM, aircraft don't even enter the picture. When facing land-based missiles, the choice becomes relying on the air defences of the surface ships or knocking out the land-based missiles before they can even be fired. The first is problematic. However capable an air defence system is, it relies on sensors that can be spoofed or jammed and – unless we are talking about directed energy – has limited reserves of ammunition. Against a peer opponent, the advantage squarely lies with the missiles. In a limited war, even a second-rate or third-rate foe with a few pockets of excellence can turn into a mortal threat. You only need one leaker. Knocking out mobile missile batteries is even harder. If the stellar handling of the Serbian air defences in 1999 wasn't enough proof, the present war in the Ukraine clearly shows that a capable opponent can keep his launchers alive even when faced by an overwhelmingly superior foe. Even with full air supremacy, it would take a long and dedicated air campaign to destroy fleeting mobile targets using cover, concealment and dispersion, if possible at all.[18]

An American F-14 Tomcat aircraft from Fighter Squadron 154 firing an AIM-54 Phoenix air-to-air missile, March 1985 (United States National Archives)

Sea Mines: Catch 22

But the hybrid nature of the land-based AShM truly comes in its own when they are used in conjunction with the sea mine. Often forgotten, the sea mine is one of the deadliest and cheapest weapons in existence and literally made for A2AD. Combine it with land-based missiles and you get a truly deadly combination which forces the naval commander trying to gain entry in a Catch 22 situation that fleets used to face when trying to break through narrows protected by sea mines and coastal artillery: the ships that can defend themselves are vulnerable to the mines, while the minesweepers cannot survive the firepower.

The classic example of this no-win situation is the British Dardanelles Campaign of 1915.[19] Originally, the plan was to force entry through the narrows by naval force alone, smashing aside Turkish defences. But sea mines caused such heavy losses on the 'expendable' pre-dreadnoughts that the naval assault was called to a halt until the mines could be swept. This in turn proved to be undoable in the face of mobile coastal artillery. Although attempts were made with modified destroyers and the civilian crews in the minesweeping trawlers were replaced with naval men, the problem remained so intractable that the fateful decision to launch an amphibious operation to clear out the offending guns was taken. Obviously, airpower might hold the key to this conundrum, but in practice failed to solve it. When the allies had captured Antwerp early September 1944 the Germans still held the shores of the Scheldt. Even with the allied air forces thrown against the German bunkers, airpower failed to reliably destroy these hardened point targets and the allies had to fight a nasty campaign to clear the river before they could start the minesweeping operations.[20] It was late November when the first allied ships could unload their cargos in the Antwerp docks. But even a minor power could play this game very effectively. The US Navy was stumped before Wonsan in October 1950 by sampan[21] laid sea mines

and improvised coastal artillery. Only when the coast was taken by South-Korean ground forces could the mines be swept successfully. Rather than storming ashore in another daring amphibious hook the 1st Marine Division had to content itself with an easy administrative landing.[22]

Concluding remarks

The advent of long ranged land based AShM has created an air threat close to shore that air supremacy cannot defeat, and air defences can only hope to defend against as long as ammunition stocks last. At the same time, these AShMs have extended the coast artillery and sea mine combination far beyond the inshore waters. Combined, these developments make any seas close to shore a deadly arena in which a surface force ventures only at their peril. And then we haven't even woven the ever-present submarine threat into this picture.[23]

Of course, this is a double-edged sword. It is not just disruptive powers like China and Russia that can wield this weapon, but any military that faces a hostile navy close to its shores.[24] If China can fill the Taiwan Straits with sea mines covered by mobile land-based missiles, Taiwan can do exactly the same. If a US Carrier Task Force will not dare to hazard itself in so deadly an environment, neither will a PRC amphibious group.

This will make projecting force across the sea a very difficult challenge for any power. The days in which a Carrier Task Force could roam the coastal waters of even a second-rate power at will are over. This does not mean carriers have become obsolete. No surface ships can deploy within range of land- or sea-based airpower unless they are within range of fighter protection. The 'Varyag' and 'Marshall Ustinov' groups which Russian navy has deployed in the Eastern Mediterranean mid-February 2022 certainly look impressive, but without aircover these old but powerful cruisers are quite vulnerable.[25] If the situation would further deteriorate into a shooting war, these ships can only hope to have a target close enough to

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launch their missiles on before they are sunk by airpower or submarine. In the Black Sea, the Russian position is obviously better as land-based airpower can give their fleet fighter cover. But the Russians have been lucky that the Ukrainian 'Neptune' Division has not achieved operational status yet. Its R-360 missiles with their 300 km range would have made it far more dangerous for the Russian Navy to operate near the Ukrainian coast and it is far from unthinkable the Ukraine might be able to improvise and activate a battery (please see note 3). Until it is certain that they cannot, any Russian amphibious move is a hazardous gamble.

But the most profound effect will be on those land locked inland bordered by opposing camps. Well-hidden mobile missile batteries covering sea mines will make surface operations deadly for each side creating a situation in which both sides impose mutual sea-denial. While conflict might start with the surface thick with ships, once the shooting begins the sea will swiftly become

empty with both sides glaring at each other from their coastal fastnesses. When one party decides to go 'over the top' and risks an attack, losses might swiftly become prohibitive. Quite likely, on the narrow seas war will swiftly result in a no man's land.

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Annotation

1 For the purposes of this analysis, coastal waters are those waters that are within (easy) range of landmass-based fighter aircraft. The High Seas are those waters which are (mostly) out of reach of landmass-based fighters.
2 Obviously, the other bane of surface ships is the submarine, but for the purposes of this analysis it suffices to say that the submarine threat is ever present and deadly, but it cannot control, only deny. It is not entirely at home in the coastal waters, but at the same time can use the complex environment with great results.
3 At the time of printing this edition of *Marineblad* the decision was made not to include the sinking of the RU warship *Moskva*, due to the fact that the article represents the author's view on A2AD challenges at the time of writing (late March 2022).
4 M. Hastings, *Operation Pedestal. The Fleet that battled to Malta 1942* (UK 2021) p.348-349
5 Amongst which the Dutch passenger/cargo vessel 'Slamat' was lost.
6 A. Beevor, *Crete. The Battle and the Resistance* (London 1991) p.168
7 Of note here must be the enormous expenditure of air defence ammunition and the inability of ships to remain within range of aircraft once this was gone.
8 P. Kennedy, *The Rise and Fall of British Naval Mastery* (London 1976)
9 J. Keegan, *The Price of Admiralty. War at Sea from Man of War to Submarine* (London 1988) p.266
10 I omitted the old Essex Class USS Lexington as this ship only served as a training carrier. Mind you, the only training carrier in the world and a larger ship than the next largest carriers, the French Clemenceau class.
11 M. van Creveld, *The Age of Airpower* (Philadelphia 2011) p.160
12 E. Grove & G. Thompson, *Battle for the Fiørds. NATO's Forward Maritime Strategy in Action* (Runnymede 1991)
13 *Soviet Military Power 1988* (Washington 1988) p.117
14 It must be noted that the Dutch army only barely managed to keep a few PzH2000's – which it had deployed in Afghanistan – but lost its Leopard II tanks – which it did not deploy in Afghanistan. Also, I haven't found a serious source considering the use of submarines in anti-piracy missions written during the Cold War.
15 The originally French conception of the end of the 19th century to defend their coasts against the British battlefleet with sea mines, submarines and light torpedo craft.
16 Even minimal airpower can wipe FAC out. Iran managed to destroy an earlier incarnation of the Iraqi Navy in 1980 during Operation Morvarid. Just two F-4 Phantoms with a combined loadout of twelve AGM-65 Mavericks delivered the killing blow and took care of about the whole of Iraq's FAC arsenal.
17 Submarines played no role in the Russo-Japanese War and were ineffective in the Balkan Wars. But in the First World War their potential became devastatingly clear.
18 S. Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton 2004)
19 N. Steel and P. Hart, *Defeat at Gallipoli* (London 1994) p,16-19
20 J.L Moulton, *Battle for Antwerp. The Liberation of the City and the Opening of the Scheldt 1944* (Inverness 1978)
21 Small wooden boats used in coastal waters and rivers.
22 That winter the 1st Marine Division would have plenty of time to show its mettle in the epic retreat to Wonsan.
23 See note 2.
24 P. van Hooft, N. Nijboer and T. Sweijs, *Raising the Cost of Access. Active Denial Strategies by Small and Middle Powers Against Revisionist Powers* (The Hague 2021)
25 H. Sutton, *Covert Shores* http://www.hisutton.com/images/Russian-Navy-Med-Black-Sea-Map-2022-02-17.jpg

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