



Red Sea Crisis: *The Houthi Problem*

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Admiralty Trilogy Seminar



Overview

◆ Facts and Figures

- The Region
- Yemeni civil war
- Who are the Houthis?
- Houthi weapons
- Targeting
- Effectiveness

◆ Roles and Missions

- Traditional roles of a Navy
- Sea Denial
- Iran's past antishipping campaign
- Houthi's goals

◆ Ways it can End

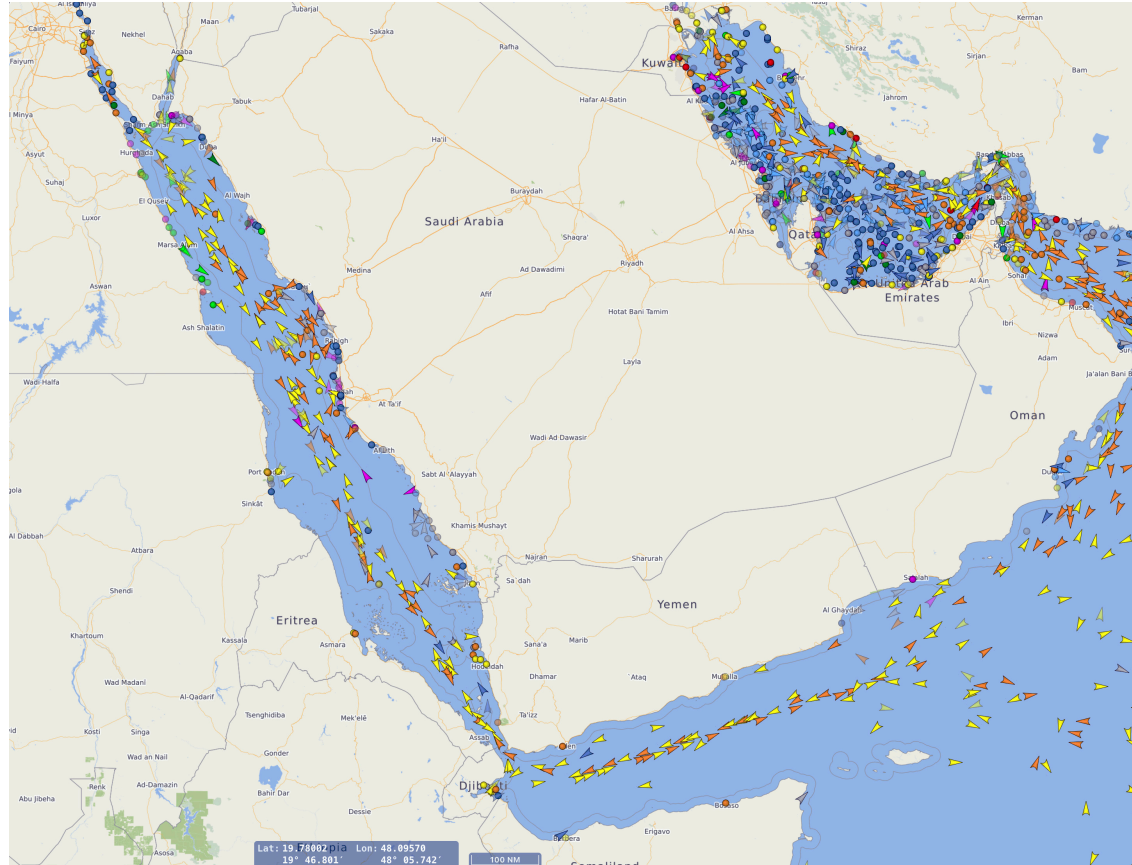
◆ Questions



B21 Anti-Ship Cruise Missile – Soviet era export P-21/22 Rubezh [SS-N-2c/d Styx]



The Region - Shipping



- ◆ 90% of finished goods and raw materials are shipped by sea.
- ◆ Approximately 12% of global trade goes through the Red Sea.
 - About 30% of global container ship traffic transits the Red Sea.
 - About 9% of global petroleum tanker traffic transits the Red Sea.



The Region - Yemen

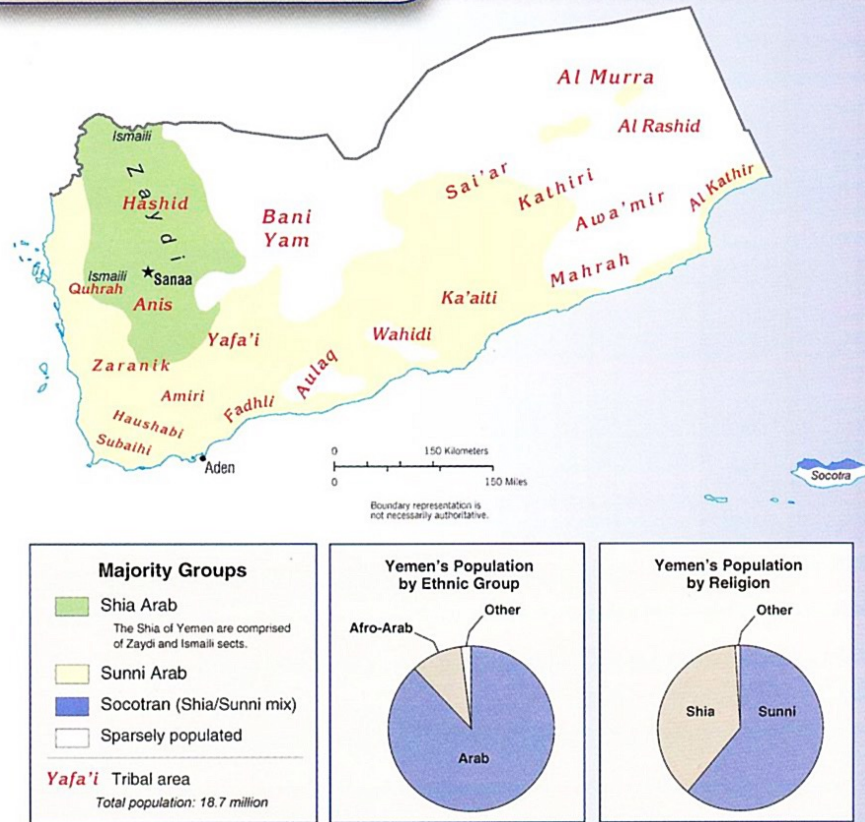


- ◆ The Republic of Yemen is a very young and fragile country.
 - Formed on 22 May 1990 with Ali Abdullah Saleh as president.
 - Religious discrimination was the main stressor that prevented a unified nation.



Yemen

Distribution of Ethnoreligious Groups and Key Tribal Areas



- ◆ Yemen is an Arab nation that is almost totally Muslim – $\approx 99.5\%$.
 - 60-65% are Shafi'i Sunni, while the Zaydi Shia make up 35-40%.
 - Jewish, Christian, Hindu, and Bahá'í population is a fraction of one percent.

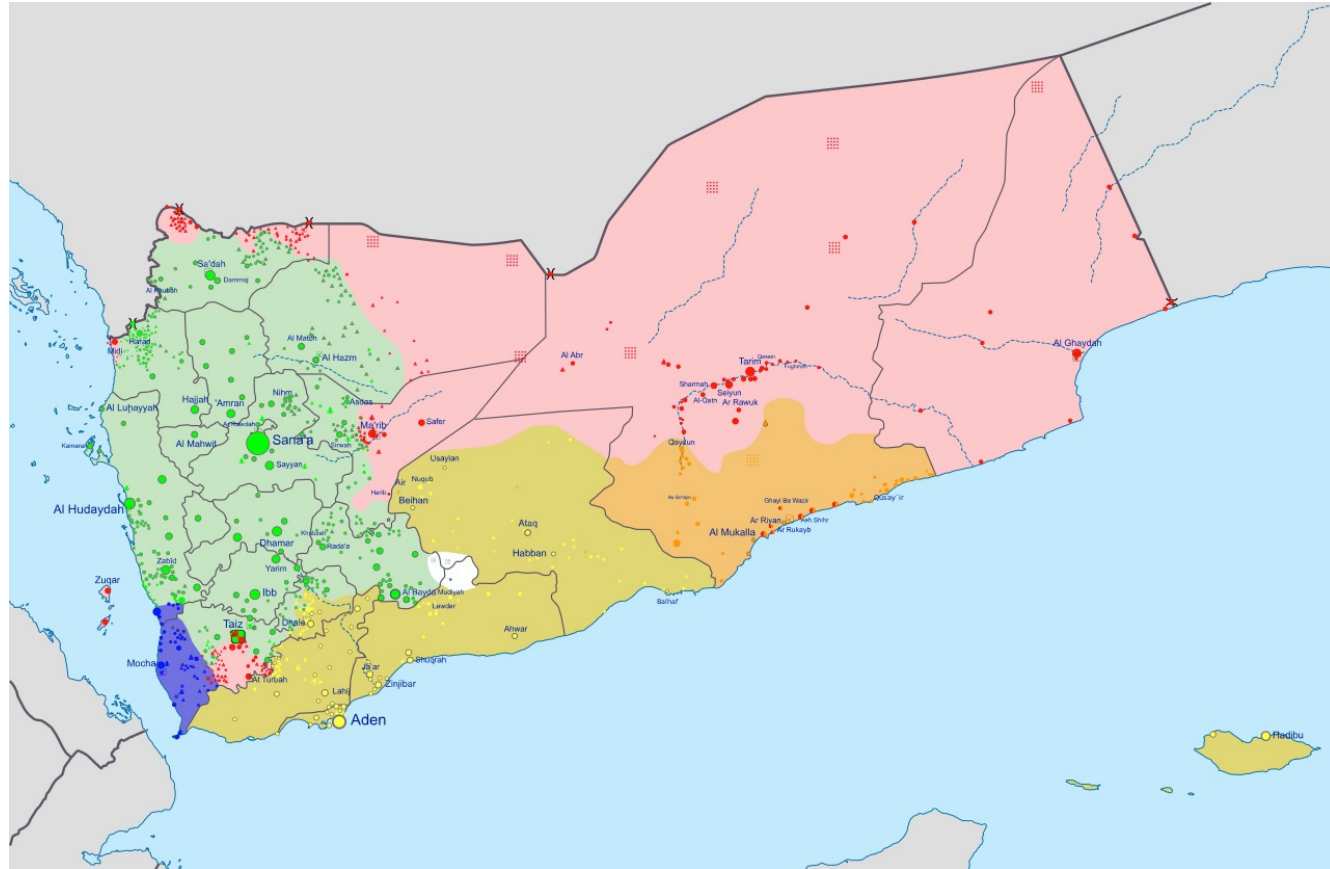


Yemeni Civil War

- ◆ Zaydi Shiites are mostly among the tribes that live in the northern mountainous regions.
 - Shiites are a minority in the Muslim world, and Zaydi's are a minority among Shiites.
- ◆ Zaydi resisted Saleh's policies as well as growing Sunni influence.
 - Bitter memory of Sept 1962 when Sunni Egyptian forces overthrew the Zaydi Imamate from the throne in North Yemen.
 - Saleh's policies worked to further reduce Zaydi political power, essentially marginalized.
 - Saleh's massive corruption stole billions from one of the world's poorest countries.
 - Sunni Islam was making significant encroachments in the northern tribal areas.
- ◆ 2004 – 2010: Saleh and Houthi forces clash on and off.
- ◆ 2011: Arab Spring in Yemen – Nov 2011 Saleh transfers power to Hadi.
 - Vice President Abdrabbuh Mansur Hadi.
- ◆ 2014: Civil war begins with Houthi taking the Yemen capital of Sanaa.



Yemeni Civil War



- Republic of Yemen (recognized by United Nations), pro-PLC Yemeni Armed Forces and General People's Congress
- Republic of Yemen, pro-PLC Southern Transitional Council
- Republic of Yemen, pro-PLC Yemeni National Resistance
- Republic of Yemen, pro-PLC Hadrami Elite Forces
- Supreme Political Council, pro-SPC Yemeni Armed Forces, Houthi movement
- Al-Qaeda in the Arabian Peninsula (AQAP)



Who are the Houthis?

- ◆ The Houthi is a large Hamdanid tribe originating from Yemen's northwestern Saada province.
 - The “Houthi Movement” is largely a media creation based on being led first by Hussein al-Houthi, then his brother Abdul Malik al-Houthi.
 - Officially known as “Ansar Allah” – “Supporters of God” or “Partisans of God”
- ◆ Originated as a religious movement in the 1990s – a revival of Zaydi Islam but transformed into civil resistance, clashing with the government over corruption, religious discrimination, and the influence of Saudi Arabia (Sunni) and the U.S. in Yemeni affairs.
- ◆ Sponsors are Iran and North Korea. Both supply arms, but Iran is also providing tactical intelligence and religious training for Houthi leaders, as well as, assigning IRGC advisors in Yemen.
 - Many of the Houthi weapons are of Iranian origin.



Who are the Houthis?

- ◆ Hussein al-Houthi was the son of Badreddin al-Houthi, a prominent Zaydi politician and respected religious scholar.
- ◆ Hussein al-Houthi was deeply frustrated by the degrading political situation at the turn of the century.
 - He resented President Saleh's cooperation with the U.S. after 9/11.
- ◆ Hussein al-Houthi practiced Jarudi Zaydism that is closer to Iranian Twelver ideology.
 - He was the ideological powerhouse behind the transformation of the movement.
 - Houthi movement became radicalized after the invasion of Iraq in 2003.
- ◆ Official slogan: "God is the Greatest, Death to America, Death to Israel, A Curse Upon the Jews, Victory to Islam."
- ◆ With the death of Hussein al-Houthi by Yemeni armed forces in Sept 2004, the civil resistance turned into an outright insurgency.



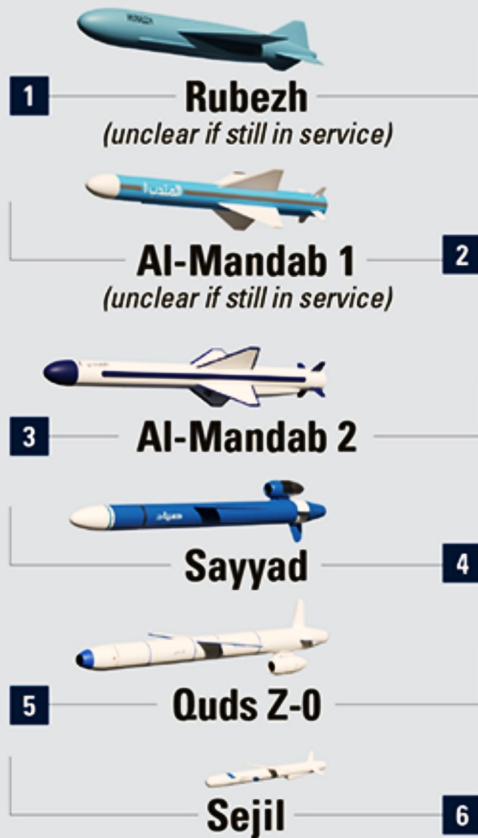
Current Crisis



- ◆ 7 October 2023: Palestinian militant groups, mainly Hamas and Palestinian Islamic Jihad launched an unprecedented assault on Israel.
- ◆ Israel launched Operation Swords of Iron on 13 October followed by a full-scale invasion on 27 October.
- ◆ Houthi respond by firing cruise missiles at Israel on 19 October.
- ◆ Announce on 14 November the intent to interdict Israeli ships in the Red Sea.
 - 19 November: Hijack the 48,710 GRT vehicle carrier *Galaxy Leader* – Israeli owned.



Houthis ASCMs



Houthi Anti-Ship Cruise Missiles

	Origin	Range	Guidance
1	Soviet-made P-21/P-22 (pre-war Yemeni army stocks)	80km	radar homing/IR
2	Chinese-made C-801 (pre-war Yemeni army stocks)	40km	radar homing
3	Iran, Ghadir	300km	radar homing
4	Iran, anti-ship version of Paveh/351	800km	radar homing
5	Iran, anti-ship version of Paveh/351	likely \geq 800km	EO/IR
6	Iran	180km	Unknown



Houthis ASBMs



1 Mohit



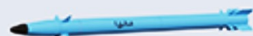
Asef

2



Tankil

3



Faleq

4



5 Al-Bahr Al-Ahmar



Mayun

6

Houthi Anti-Ship Ballistic Missiles

	Origin	Range	Guidance
1	Soviet-made SA-2 SAM converted using Iranian guidance	Unknown	EO/IR
2	Iran, anti-ship version of Fateh 313	450km	EO/IR
3	Iran, anti-ship version of Raad 500	500km	EO/IR
4	Either Iran or local production with Iranian guidance kit	140km	EO/IR
5	Either Iran or local production with Iranian guidance kit	Unknown	EO/IR
6	Either Iran or local production with Iranian guidance kit	Unknown	EO/IR



Houthis UAVs





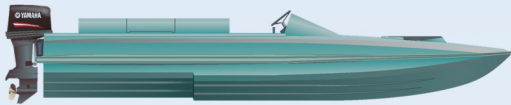
Houthi USVs



Only publicly known types. All illustrations provisional, approximate scale

Houthi Blowfish: Uncrewed Surface Vessel Threat In Red Sea

Toofan-2
Observed 2018, 2019



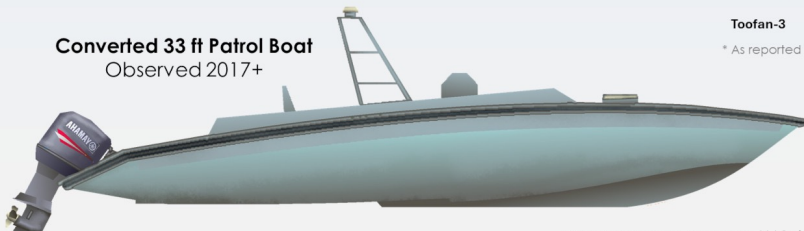
Toofan-2 Variant
Observed 2022, 2023



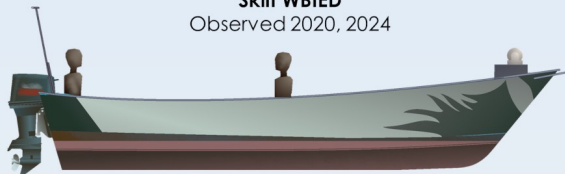
Toofan-2 Variant
Observed 2023



Converted 33 ft Patrol Boat
Observed 2017+



Skiff WBIED
Observed 2020, 2024



Type	Max Speed*	Warhead*
Toofan-1	35 kt	150 kg
Toofan-2	41 kt	400 kg
Toofan-3	52 kt	500 kg

* As reported by Houthis

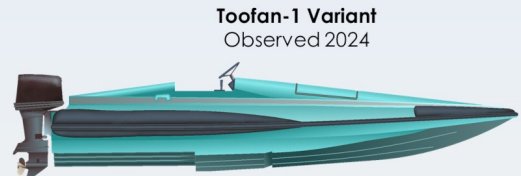
Toofan-1
Observed 2022, 2023



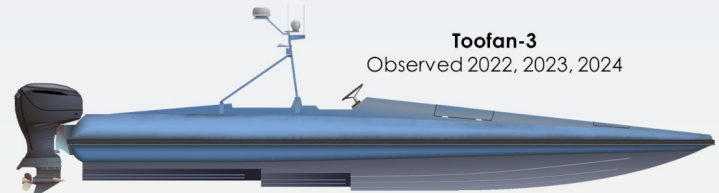
Toofan-1 Variant
Observed 2023



Toofan-1 Variant
Observed 2024



Toofan-3
Observed 2022, 2023, 2024





Houthi USV Attack On MV Tutor



MV Tutor struck astern by an USV – 12 June 2024

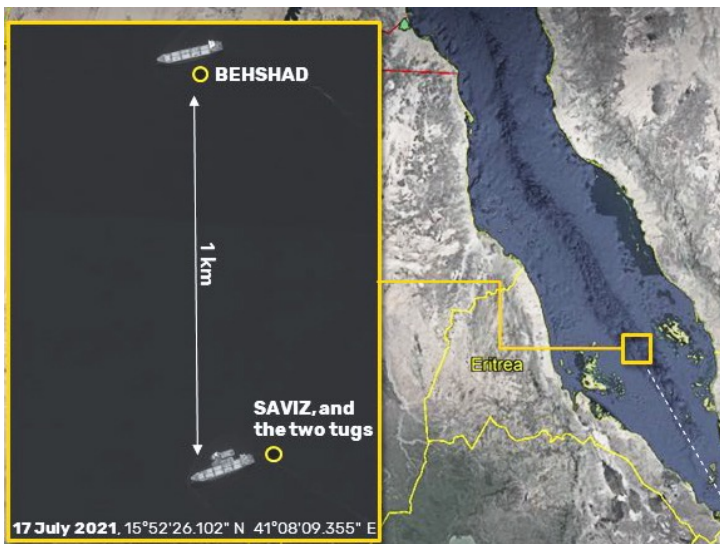
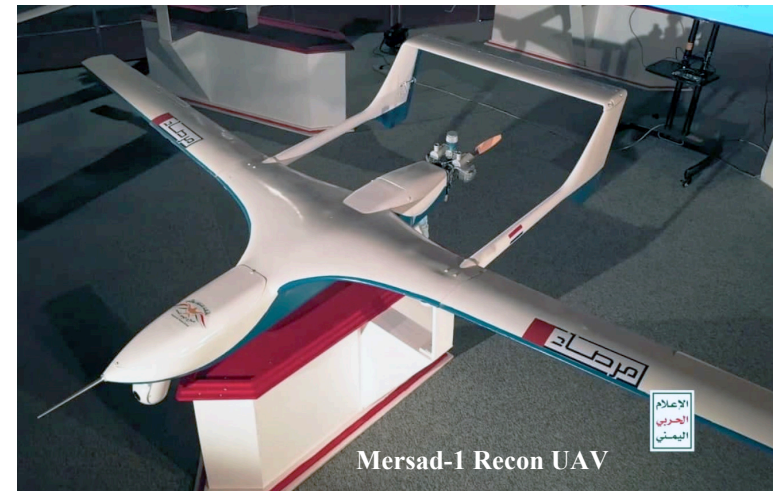


- ◆ MV Tutor was successfully attacked and sunk by two Houthi USVs.
 - One struck *Tutor* astern, the second amidships.
- ◆ The Skiff WBIED looks like a standard small fishing skiff and even had mannikins added to increase its authenticity.



Targeting

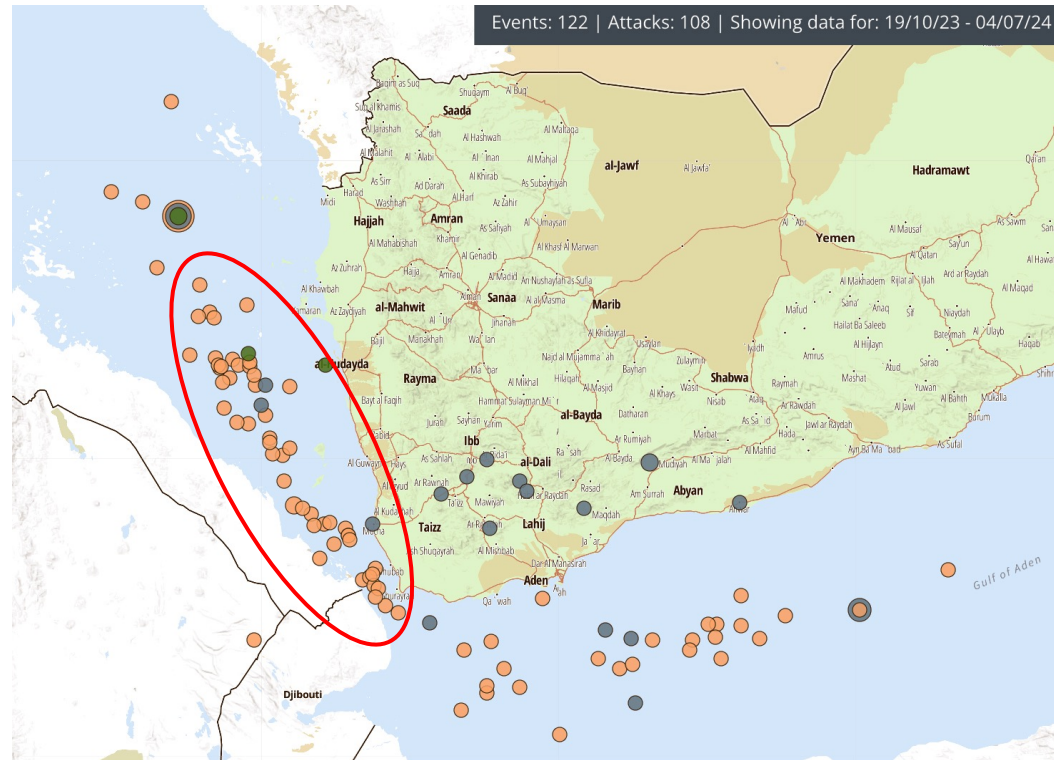
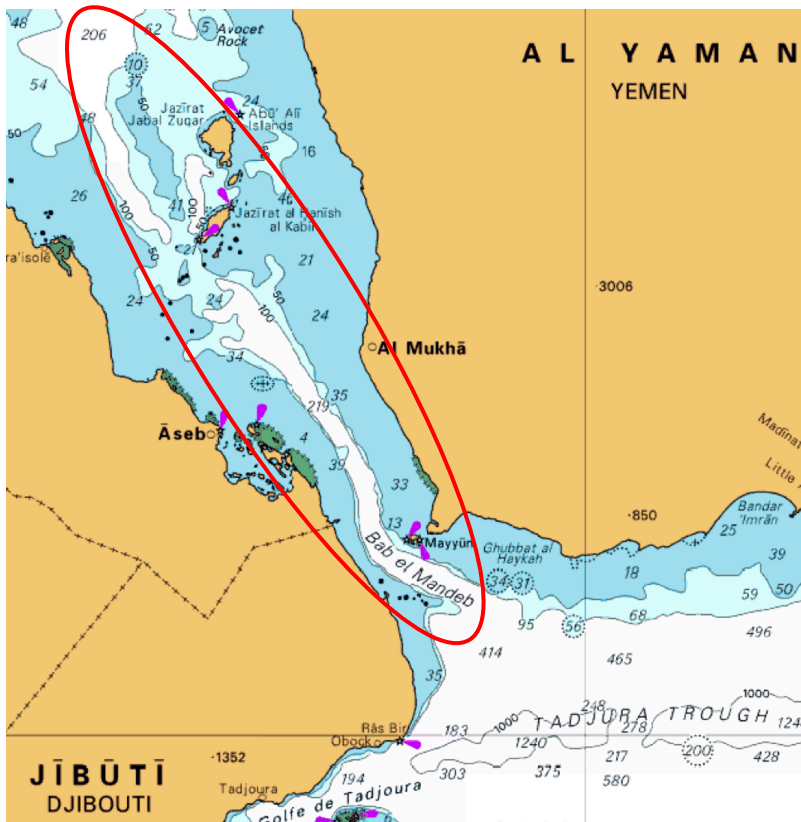
Behshad – Iranian Spy Ship



- ◆ Multiple means of locating targets.
 - Shore radar posts/mobile radars
 - Reconnaissance UAVs
 - Iranian intel ships (*Behshad*, *Saviz*)
 - Every dhow or fishing vessel with a cell phone or satellite phone
- ◆ In *Harpoon V* terms, they all provide a “Poor” fire control solution.



Targeting – Environmental Benefits



Of course, it's a bit easier if you already know where the target has to go.

- ◆ Navigable waters of the Bab el-Mandeb (Gates of Grief) is 7 nmi.
 - Inbound and outbound shipping channels are 2 nmi wide with a 1 nmi separation.



Effectiveness

MV Tutor being struck amidships by an USV – 12 June 2024



- ◆ Just how “effective” are the Houthis attacks. From a purely military perspective – not very.
 - 5 February 2024 Houthi statement:
 - 107 ships attacked since November with 606 ballistic missiles and drones
 - November – January: 25 reported events
 - November – January: 10 events resulted in hit(s)
 - Prob of Engagement = $25/107 = 0.234$ or 23.4%
 - Prob of Successful Attack = $10/25 = 0.40$ or 40%
 - A similar statement on 4 April 2024 claimed 90 ships targeted, 34 attacked with 125 ballistic missiles and drones. Reporting lists 8 engagements with 3 ships being hit.
 - Similar probability values: 24% of an engagement and 38% of successful attack.



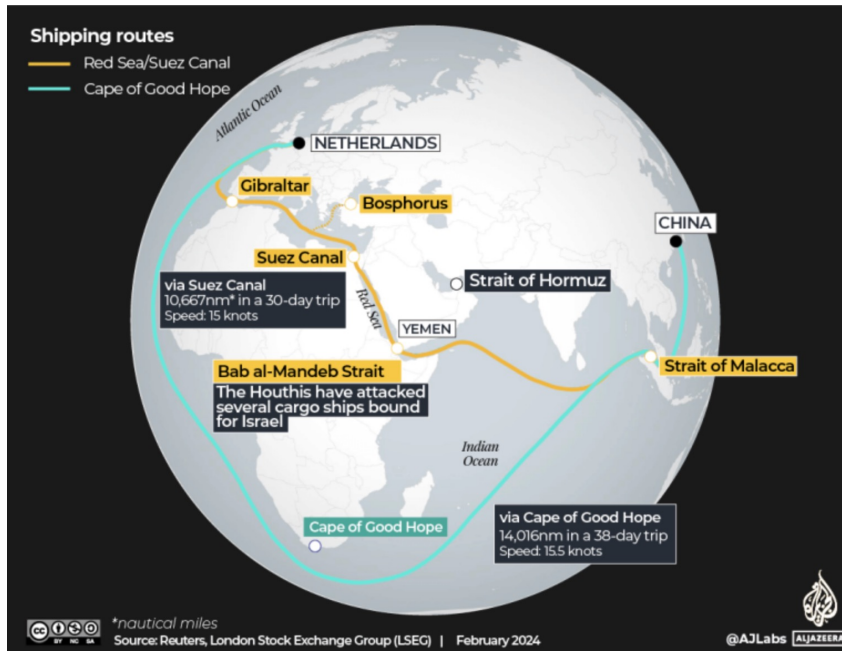
Effectiveness



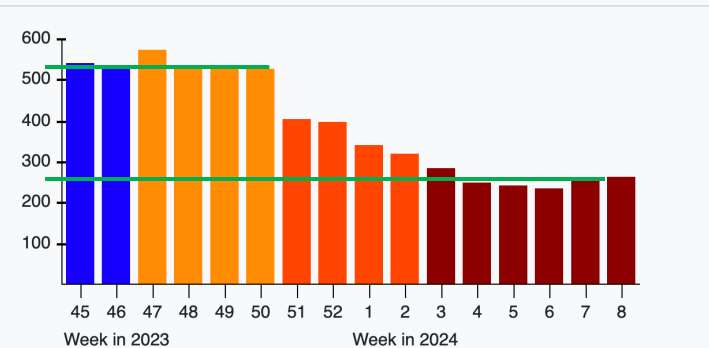
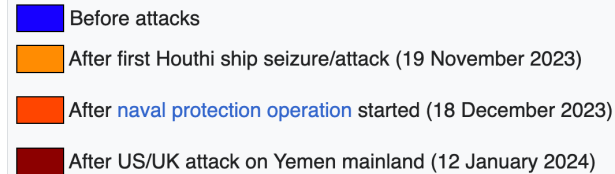
- ◆ Two merchant ships have been sunk.
- ◆ *Rubymar* was sunk on 18 February 2024.
 - Bulk carrier, 19,420 GRT
 - Sunk by multiple ASBM hits
- ◆ *Tutor* was sunk on 12 June 2024.
 - Bulk carrier, 44,479 GRT
 - Sunk by two USV hits.



Effectiveness



Bab-el-Mandeb transits by cargo vessels over 10,000 deadweight tonnage (approx.)^[139]



- ◆ Politically, the attacks have been very effective.
- ◆ Insurance rates up by a factor of 20 (from 0.05% to 1% of hull value).
- ◆ Traffic through the Red Sea as of Feb 2024 has decreased by about half.
 - Late Dec 2023, container ships avoided transiting the Red Sea.
- ◆ Going around Africa adds about 3,500 nmi, 8-10 days, and \$1 million (fuel).



Roles and Missions

◆ Sea Control

- Julian Corbett defined as the ability to control the maritime communications of all parties concerned.
- A nation's ability to operate in the maritime domain without enemy interference. (U.S. Navy)
- Offensive focus.

◆ Maritime Security

- Protecting sea lines of communication.

◆ Power Projection

- Forward presence.

◆ Deterrence

- Conventional and strategic.

◆ Sealift



Tracking Ships IVO Red Sea, Gulf of Aden, Gulf of Oman, Persian Gulf as of 19DEC2023

Ships in the Region

- USNS Alan Shepard (T-AKE 3)
- USNS Amelia Earhart (T-AKE 6)
- USS Gladiator MCM 11
- USS Devastator MCM 6
- USS Dextrous MCM 13
- USS Sentry MCM 3
- USS Florida (SSGN-728)
- USNS Kanawha T-AO 196
- USNS Supply T-AOE 6
- INS Trishul (F43)

Ships in the Region

- USCGC Charles Moulthrop WPC-114
- USCGC Robert Goldman WPC-1142
- USCGC Glen Harris WPC-1144
- USCGC Emlen Tunnell WPC-1145
- USCGC John Scheuerman WPC-1146
- USCGC Clarence Sutphin Jr WPC-1147
- USS Indianapolis (LCS-17)

Ships in the Region

- HMS Bangor (M-109)
- HMS Middleton (M-34)
- HMS Chiddingfold (M-37)
- RFA Cardigan Bay (L-3009)

Ships in the Region

- USS Laboon (DDG-58)
- USS Bataan (LHD-5)
- USS Carter Hall (LSD-50)

Ships in the Region

- JS Akebono (DD-108)
- HMS Lancaster (F-229)
- ESPS Victoria (F-82)
- INS Kochi (D64)
- INS Kolkata (D-63)
- ROKS Yang Man-Chun (DDH-973)

Ships in the Region

- USS Dwight D. Eisenhower (CVN-69)
- USS Philippine Sea (CG-58)
- USS Gravelly (DDG-107)
- USS Stethem (DDG-63)

Ships in the Region

- USS Mason (DDG-87)
- USS Carney (DDG-64)

Ships in the Region


- Urumqi (118)
- Linyi (547)
- Dongpinghu (960)

Ships in the Region

- FS Champlain (A-623)
- FS Floreal Class frigate

Ships in the Region

- MV Behshad Surveillance, command & liaison ship by Iranian forces



USNS Alan Shepard (T-AKE 3)

USNS Amelia Earhart (T-AKE 6)

USS Gladiator MCM 11

USS Devastator MCM 6

USS Dextrous MCM 13

USS Sentry MCM 3

USS Florida (SSGN-728)


USNS Kanawha T-AO 196

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USCGC Clarence Sutphin Jr WPC-1147


USS Indianapolis (LCS-17)




HMS Bangor (M-109)
HMS Middleton (M-34)
HMS Chiddingfold (M-37)
RFA Cardigan Bay (I-3009)



USS Laboon (DDG-58)
 USS Bataan (LHD-5)
 USS Carter Hall (LSD-50)



- JS Akebono (DD-108)
- HMS Lancaster (F-229)
- ESPS Victoria (F-82)
- INS Kochi (D64)
- INS Kolkata (D-63)
- ROKS Yang Man-Chun (DDH-973)







- USS Dwight D. Eisenhower (CVN-69)
- USS Philippine Sea (CG-58)
- USS Gravelly (DDG-107)
- USS Stethem (DDG-63)

**MV Behshad
Surveillance,
command & liaison
ship by Iranian
forces**

HMS Diamond (D34)
FS Languedoc (D-653)

USS Mason (DDG-87)
USS Carney (DDG-64)

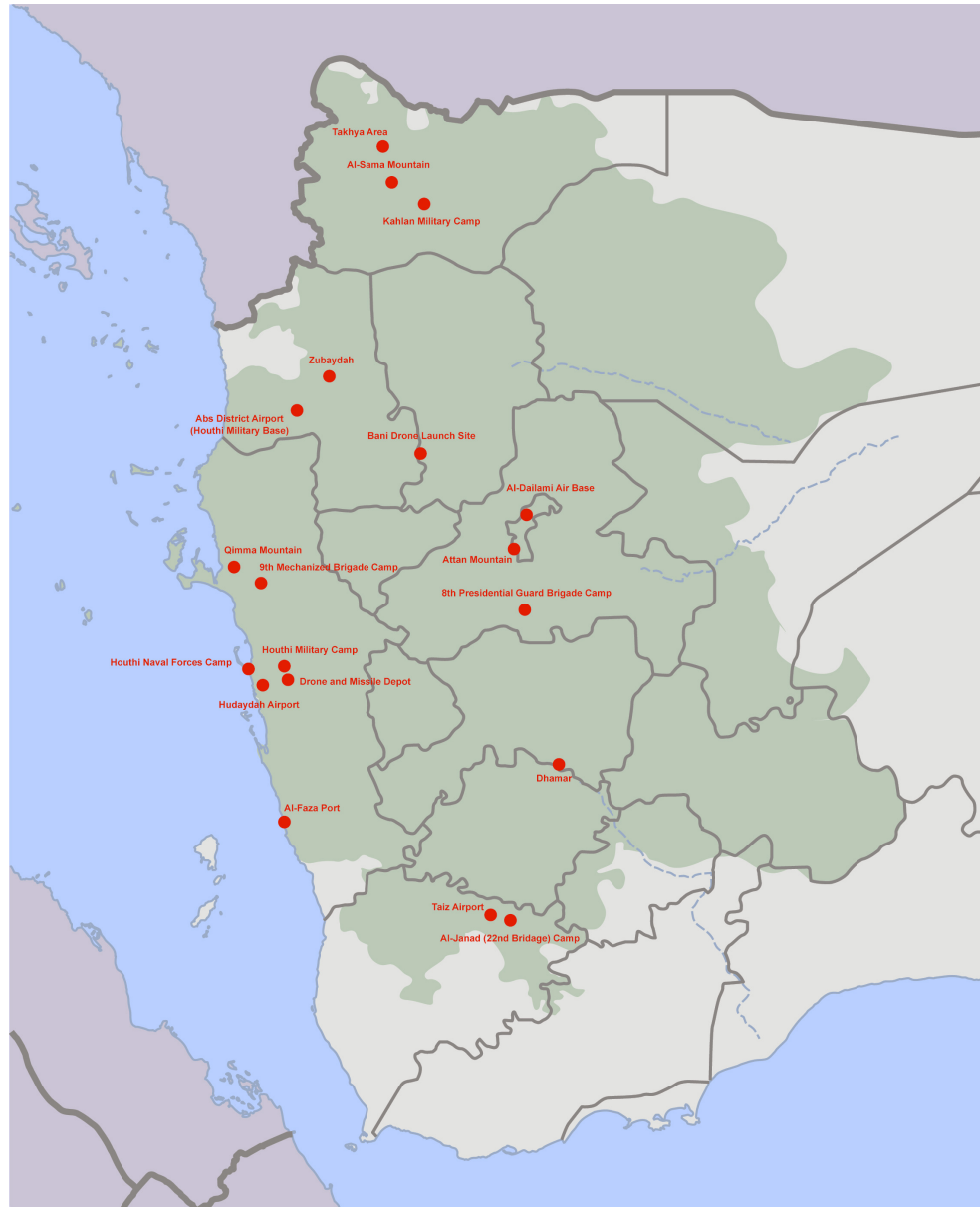
	Urumqi (118)
	Linyi (547)
	Dongpinghu (960)



FS Champlain (A-623)
FS Floreal Class frigate



Power Projection





Sea Denial

- ◆ Sea denial excludes adversaries from utilizing the maritime space in an expected period of time and place of choosing.
 - Goal is to prevent the use of the sea by an opponent.
 - Not the opposite of Sea Control – doesn't imply the denier itself can use the sea.
 - Defensive focus.

- ◆ Attacks tend to be limited in time and scope.
 - More likely to employ asymmetric operations.
 - Current crisis emphasis on civilian targets vice military ones.

- ◆ Much easier than sea control.
 - Doesn't even require a navy.

- ◆ A lot less expensive.



Iran's Past Antishipping Campaign

- ◆ Comparisons with the Persian Gulf Tanker War 1987-88.
- ◆ Iranian use of a proxy, vice direct operations.
 - Providing intelligence, logistic, and IRGC technical assistance.
- ◆ A wider variety of more effective weapons.
 - ASCMs, ASBMs, airborne and seaborne loitering munitions (drones).
 - Weapons still largely used asymmetrically.
- ◆ Same tactical goal: Threaten civilian merchant traffic using a key chokepoint. Threaten a vital sea line of communication.
- ◆ Same strategic goal: Embarrass the U.S., Israel, and the West. Enhance their ability to influence the political situation in the Middle East.



Houthi Goals



Sanaa Military Parade
21 September 2023



MV Rubymar– 18 February 2024

- ◆ Championing the Gaza cause in a such an aggressive manner has catapulted the Houthi to the forefront of world attention.
 - No longer marginalized.
- ◆ Enhances their standing in Yemen by challenging Israel and the West.
 - Necessary as there is significant economic and religious stress in Houthi held territory.
- ◆ Enhances their standing within the Iranian Axis of Resistance.
- ◆ Force the West to negotiate with them.
 - De facto legitimacy as a nation state.
- ◆ Re-establish the Zaydi ruled North Yemen.



Ways It Can End

◆ Who's winning?

- Militarily: The West
- Politically and Economically: The Houthis
 - The driving factor is all about the money.
- Houthi victory conditions is a rather low bar – being troublesome.

◆ Political resolution.

- Negotiated settlement – reinforces Houthi behavior as this is a goal.
- Will Israel even buy off on such a settlement?
 - Withdrawal from Gaza will certainly be a condition.

◆ Economic sanctions.

- Is this even a viable pressure tool for Yemen?
- Shut down Houthi supply line by a quarantine of Iranian shipping?

◆ Military actions.

- Sustained intense air campaign – destroys things but doesn't grant control.
- Boots on the ground necessary for control – unpalatable option for the West.



Conclusions

- ◆ Houthi Movement has gained significant international attention by very publicly supporting the Palestinian/Gaza cause.
 - Zaydi's are not longer marginalized, no longer ignored.
 - Improved their standing at home and in the Iranian Axis of Resistance.
- ◆ Houthi's win by not losing.
 - Low bar if your main objective is to be troublesome or a nuisance.
 - Willing to commit substantial amount of sparse resources to the Gaza cause.
- ◆ The U.S. and the West really not eager to commit the forces necessary to militarily defeat the Houthis.
 - Decisive outcome would be very expensive, likely would require ground troops.
- ◆ Negotiated settlement is problematic.
 - Even if Israel goes along with a diplomatic solution, Houthis win.
- ◆ Current crisis unlikely to be resolved any time soon.

Questions?

