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The Gulf and Iran's Capability for Asymmetric Warfare

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Photo: ARASH KHAMOUSHI/AFP/ Getty Images

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Introduction

Much of the reporting on the clashes between Iran and the United States that began in late December 2019, that led to the strikes that killed the commander the Iran's Quds force, Qasem Soleimani, and led to Iranian missile strikes on U.S. bases in Iran, have focused on the Quds force and treated it as the dominant element of Iraq's military forces and Iran's asymmetric capabilities. The Quds force is only part of a much broader and steadily growing mix of Iranian asymmetric warfare capabilities. Its role must be kept in careful perspective in evaluating the threat of any major escalation in the tensions and military exchanges between Iran and the United States and the risk of a major war in the Gulf.

Furthermore, much of the recent news reporting on Iran has misstated the nature of Iran's forces and capabilities. It is critical to assess Iran's actual military capabilities, and the developments in its approach to asymmetric warfare, as accurately as is possible at the unclassified level and put them in the broader context of the capabilities that the U.S. and its Arab strategic partners can bring to bear in deterring and defending against Iran.

This analysis focuses on both Iran's overall capabilities for asymmetric warfare and the overall military balance in the Gulf – including U.S. and Gulf Arab military forces. It provides a wide range of maps, charts, and tables to illustrate key aspects of Iran's capabilities and the regional balance. It looks at Iran's overall mix of forces, rather than focusing on the Quds Force, and draws on a wide range of outside sources to illustrate the range of different expert views – including work by the IISS and SIPRI, work by the CSIS Missile Defense Project, and material drawn from other think tanks and key news reports.

Its primary sources include the U.S. Defense Intelligence Agency's recent survey of Iran's overall military establishment in a document called *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications. This report is the focus of the analysis of Iran's capabilities because it represents an official U.S. government estimate presented in unclassified form and is the most authoritative source available. It is excerpted at length in each of the areas where Iran has major asymmetric warfare capabilities. In addition, it draws upon a major recent analysis of Iran's capabilities by Seth G. Jones – *Containing Tehran: Understanding Iran's Power and Exploiting Its Vulnerabilities* – which was issued on January 6, 2020 and is also available on the CSIS site at https://www.csis.org/analysis/containing-tehran-understanding-irans-power-and-exploiting-its-vulnerabilities.

Major areas of uncertainty of remain. All of the major sources used in this analysis are careful to note that Iran conceals many of the details of its military developments, exaggerates some of its capabilities, and simultaneously is quietly making major improvements to many of its asymmetric warfare capabilities – particularly in its ability to influence foreign non-state actors. Accordingly, the analysis does present comparatives data and metrics in some areas – although there is no practical way to address the full range of difference between sources and the many uncertainties involved in much of the data now available.

Accordingly, this report must be view as a working paper – a qualification which applies to virtually all analysis of this subject given the level of information warfare involved, the changes taking place in the forces involved, and the interaction between Iran and the overall instability in the MENA region and the role of outside powers. Any suggested corrections or additions would be most helpful and should be sent to Anthony H. Cordesman at acordesman@gmail.com.

Finally, the Burke Chair has issued matching studies of the U.S. role in the Gulf, the trends in U.S. forces, and the relative burden and cost-benefits the U.S. faces in continuing its present role in the region. This analysis is entitled *Staying in the Gulf: The Changing Cost and Strategic Advantages* and is available on the CSIS web site at https://www.csis.org/analysis/staying-gulf-changing-cost-and-strategic-advantages.

Asymmetric Challenges are Regional and Constantly Evolving, Not Just the Threats Posed by Today's Iran

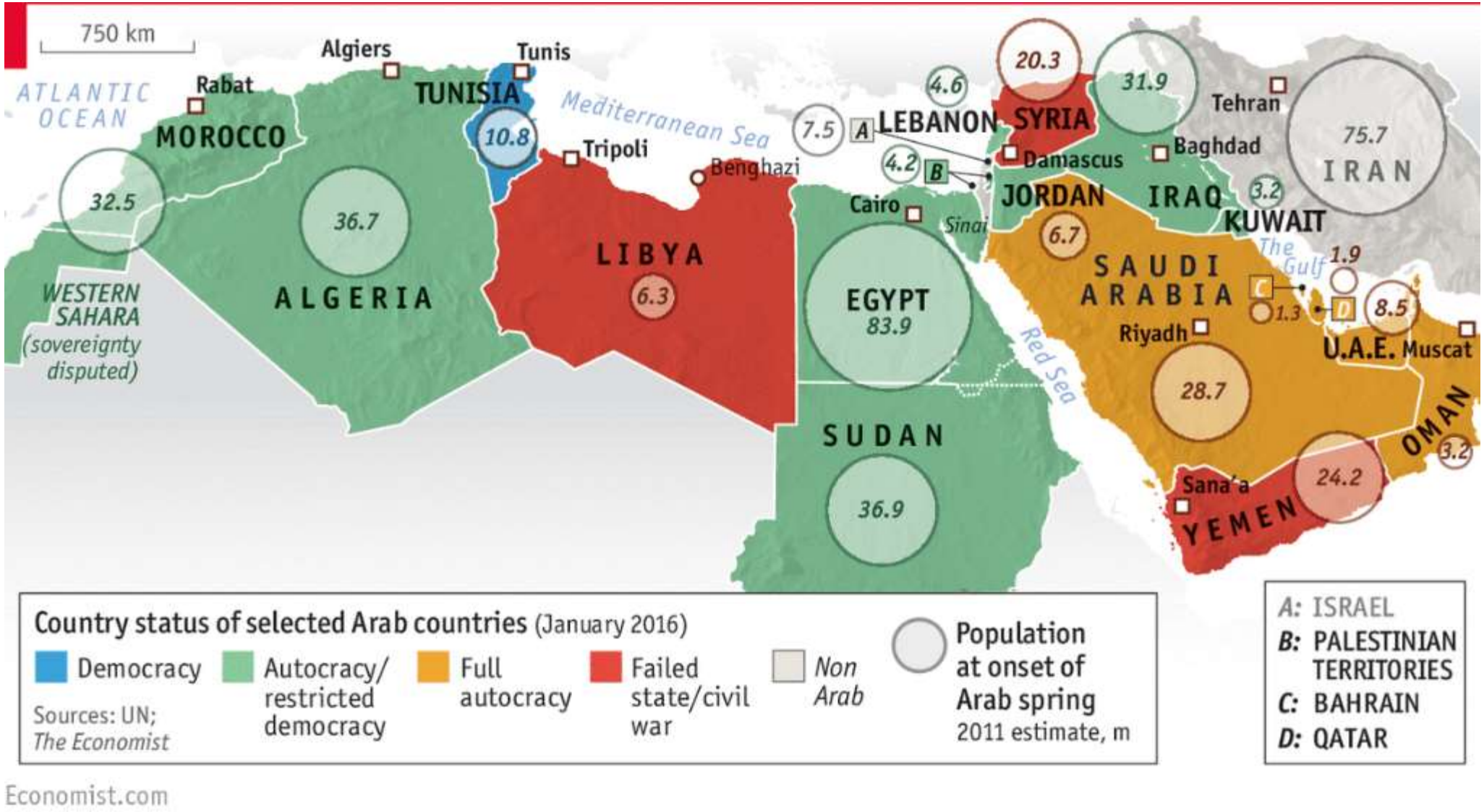
One Crisis among a Growing Range of Challenges

- **Major war, limited war, proxy, threats**
- **Gray Area and Proxy - sabotage**
- **Missiles: Ballistic, Cruise, RPVs, Air Launched, Sea Launched – precision strike**
- **Air: Strike/attack, fighter, IS&R, SAM, BMD**
- **Gulf/Indian Ocean/Red Sea -- Naval, Missile, Air, Mines.**
- **Control of Iraq: Sectarian, PMFs, Ethnic, Extremist, Iran, U.S.**
- **Counter extremism/ISIS, AQAP, other**
- **Nuclear, chemical, (BW?)**
- **Critical petroleum, economic, infrastructure, desalination targeting**
- **Cyber, electronic warfare, critical node/sensor**
- **US/Europe, Russia, Turkish, China presence/influence**
- **Arab disunity, boycott of Qatar, distancing of Oman, Kuwait neutral , UAE tensions with Saudi**
- **Turkey vs. Kurds, Idlib, Syria**
- **Yemen War**
- **Ethnic and sectarian, internal and local tensions and conflict: Syria, Iraq, Bahrain, Saudi**
- **Shi'ite "axis": Hezbollah, Syria, Iraq, Iran**
- **Sanctions vs. military action, intimidation**
- **Failed regimes, failed economies, gross corruption, failed states**
- **State terrorism and repression**

Key Asymmetric Threats

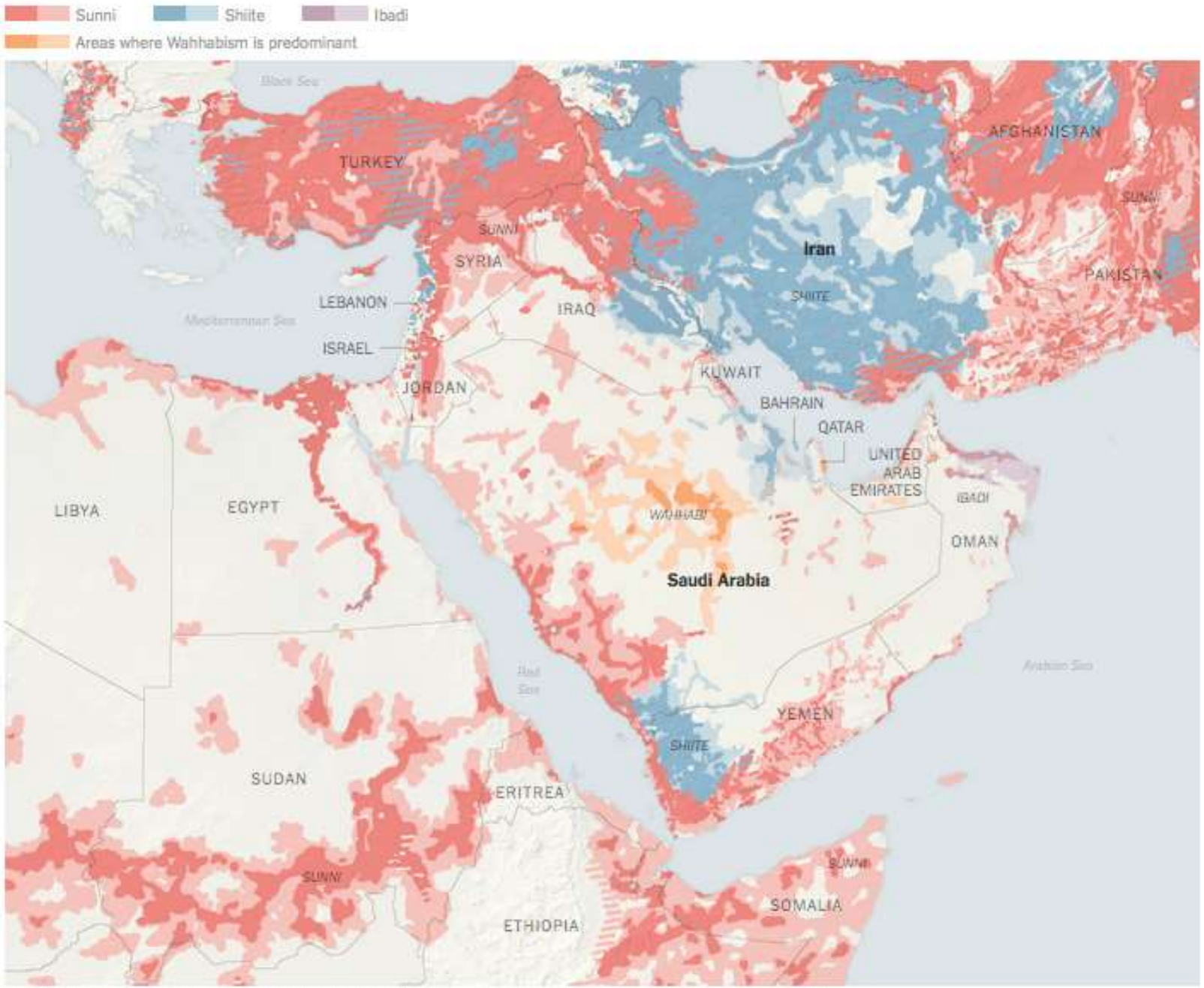
- **Ties to non-state actors, volunteers – unattributable and deniable threats.**
- **Declared chemical weapons state – probable VX capability, possible biological weapons capability.**
- **Precision strike UAVs and "cruise" missiles, developing precession strike ballistic missiles, may have inventory of GPS and imagery coordinates.**
- **Submarines, submersibles, guided torpedoes, anti-ship/anti-land target missiles, smart mines.**
- **Subversion or support of Shi'ite movements in Bahrain, other states.**
- **Sabotage, subversion.**
- **Cyberwarfare.**
- **Propaganda war, use of religion as sectarian weapon.**
- **Transfer of missiles – with precision strike capability – the Hezbollah and Houthi**
- **Naval attacks on commercial ships.**
- **Targeting of critical infrastructure and facilities – high value targets ("weapons of mass effectiveness").**
- **Cash subsides and other aid to trigger outside action and support.**
- **Limited attacks, attrition campaigns at low and persistent levels.**
- **Provocative weapons tests, military exercises, and other forms of passive aggression.**
- **Targeted raids, small attacks.**

The Broader Issue of Regional Stability



Source: Adapted from the *The Economist*, January 7, 2016

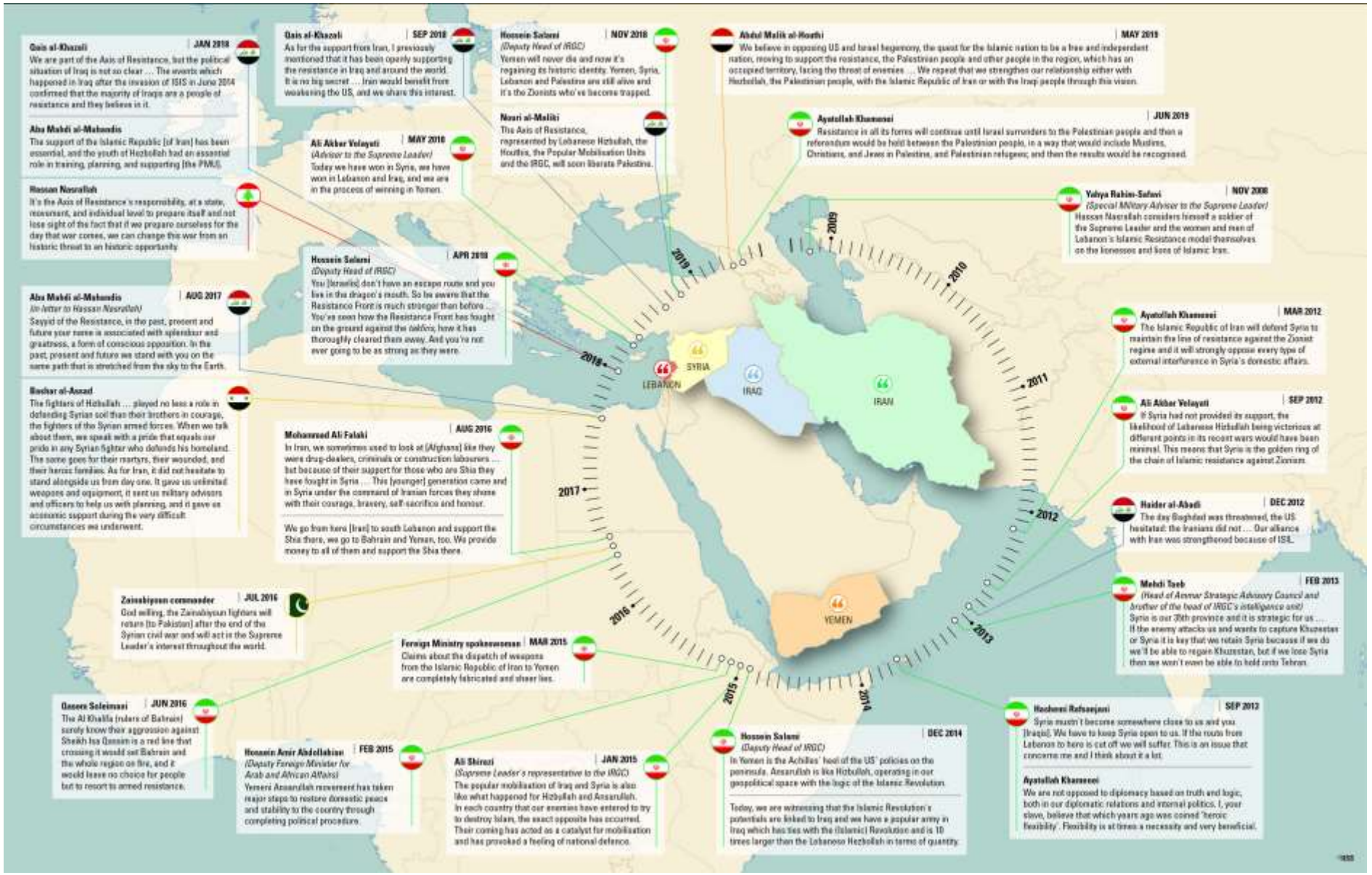
Sectarian Divisions in MENA



http://www.nytimes.com/interactive/2016/01/04/world/middleeast/sunni-shiite-map-middle-east-iran-saudi-arabia.html?_r=0

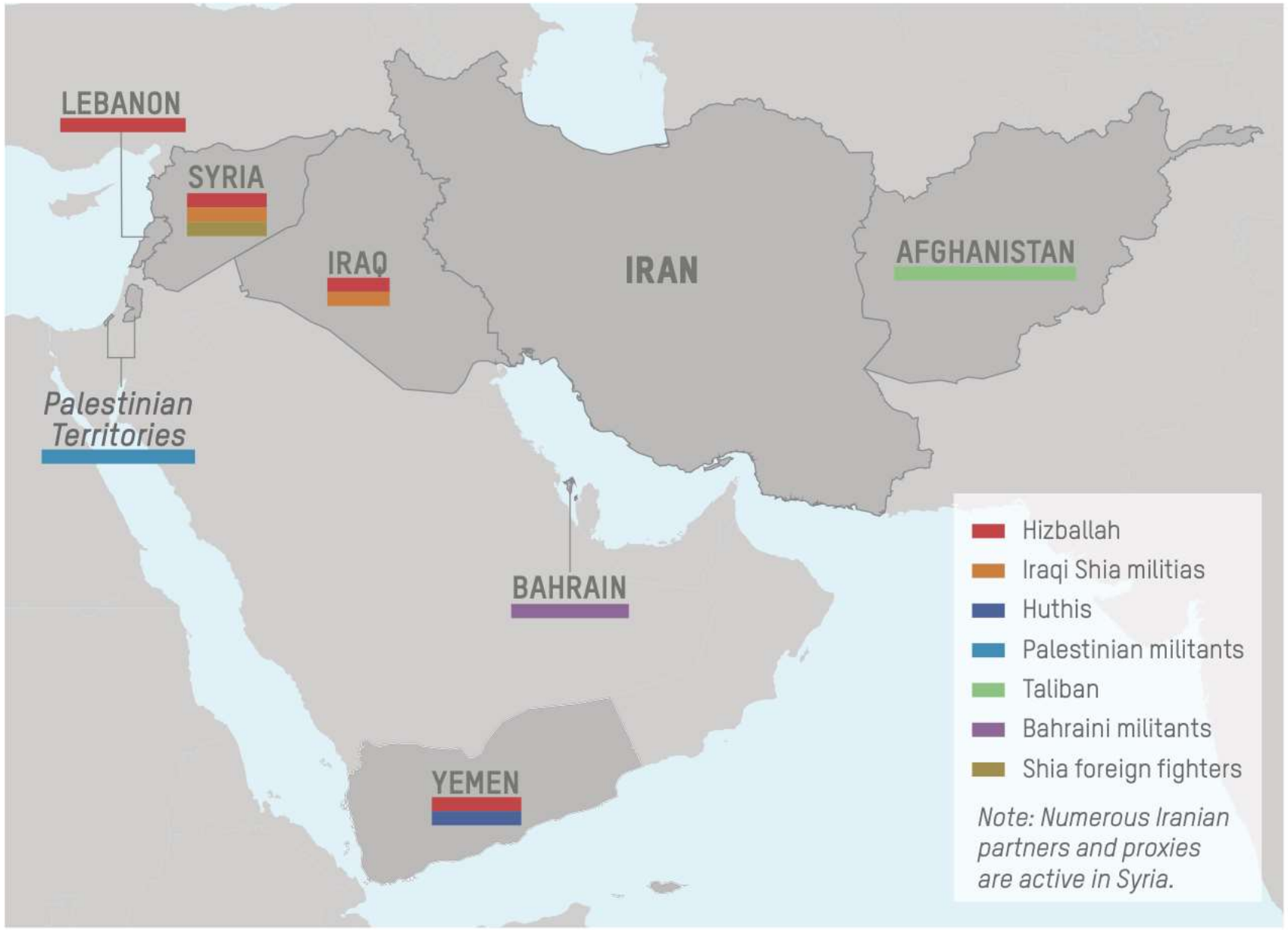
Steadily Growing Iranian Regional Influence and Areas of Asymmetric Confrontation

Iran on Regional Power and Influence: 2008-2019



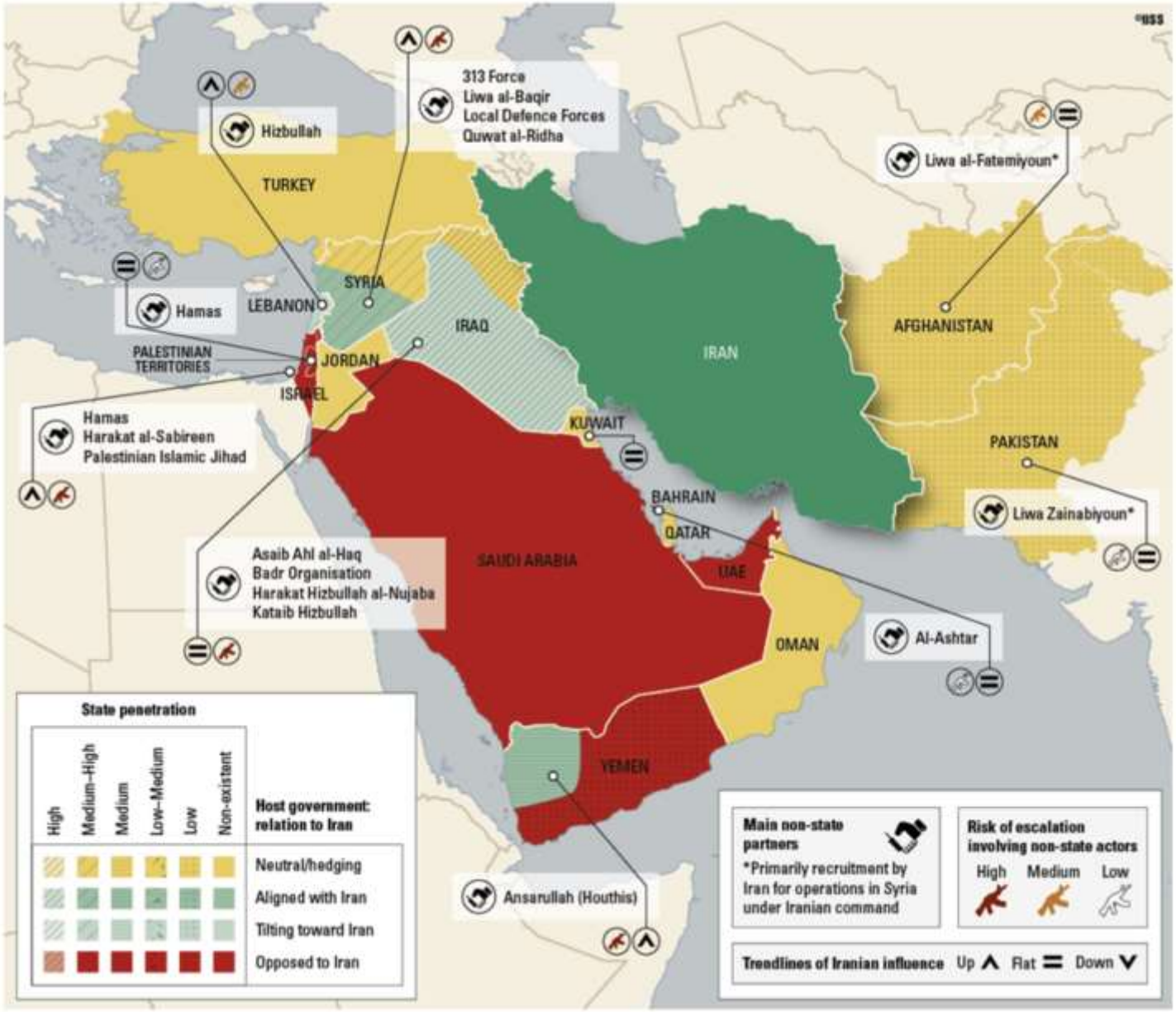
Source: Adapted from Iran's Networks of Influence in the Middle East, November 2019, https://www.iiss.org/publications/strategic-dossiers/iran-dossier/iran-19-03-ch-1-tehrans-strategic-intent

DIA Map of Iranian Partners, Proxies, and Affiliates



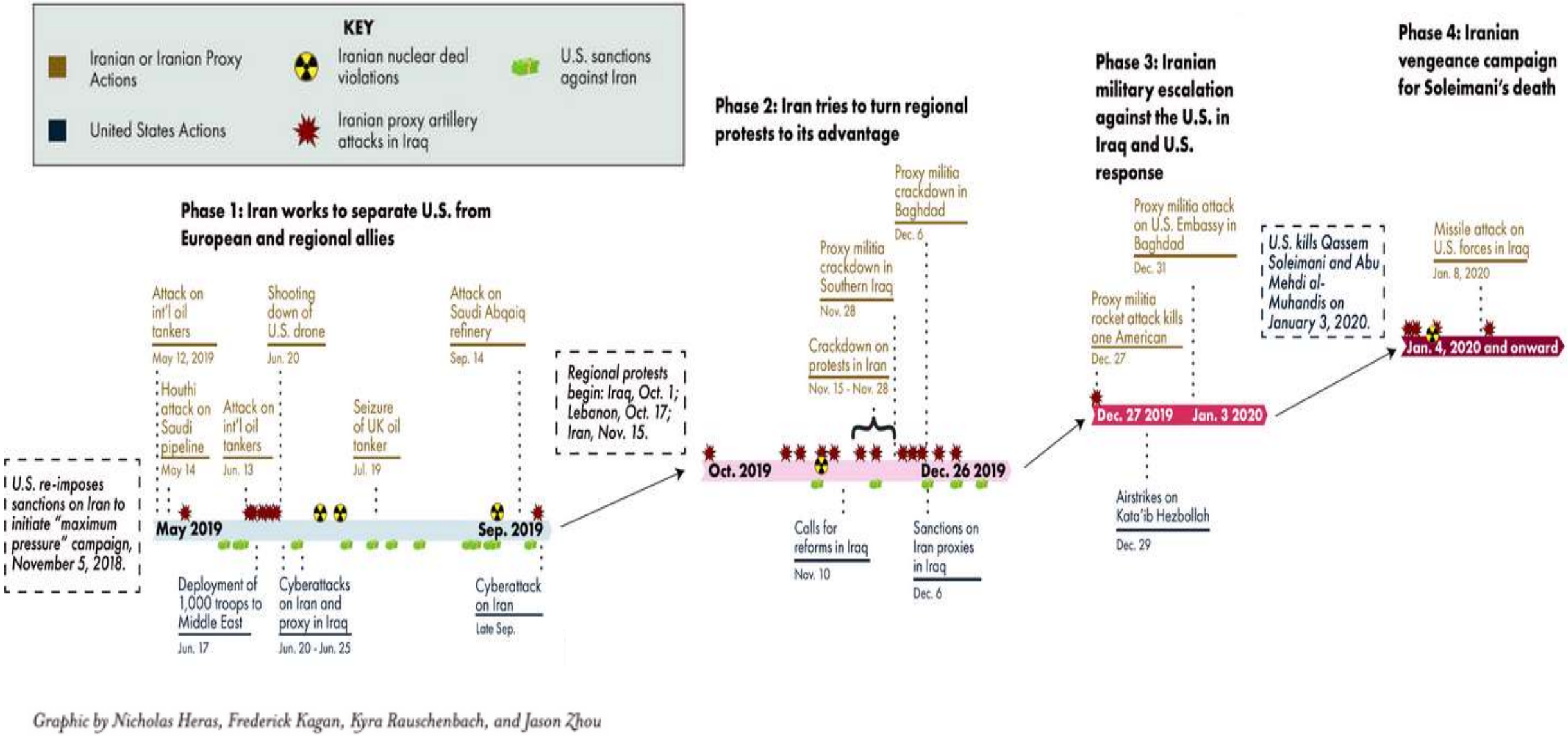
Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, pp. 58.

Iran's Network of Influence



Source: Adapted from Iran's Networks of Influence in the Middle East, November 2019, https://www.iiss.org/publications/strategic-dossiers/iran-dossier/iran-19-03-ch-1-tehrans-strategic-intent

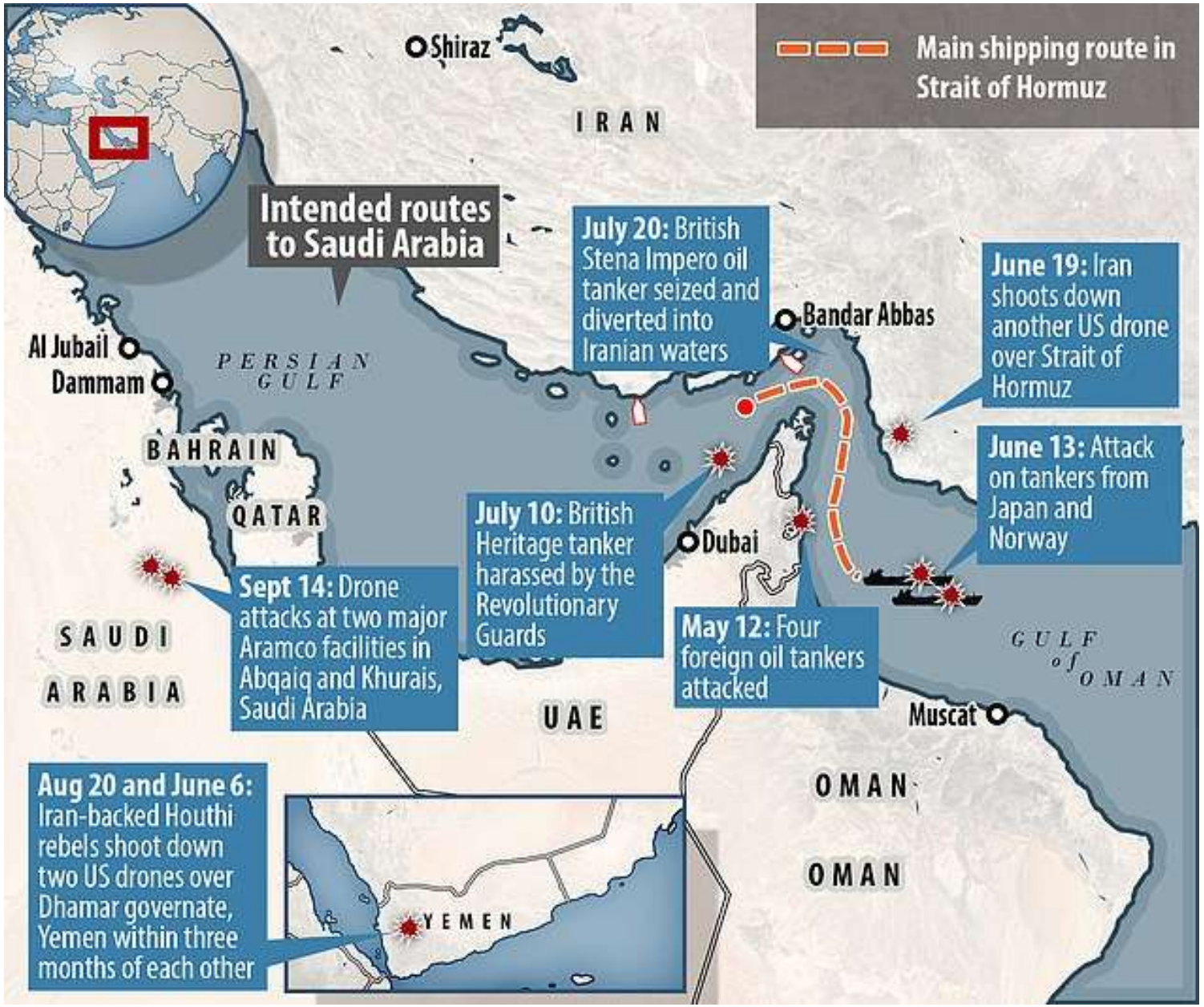
ISW: Escalation in the Gulf: May 14, 2019 – January 3, 2019



Graphic by Nicholas Heras, Frederick Kagan, Kyra Rauschenbach, and Jason Zhou

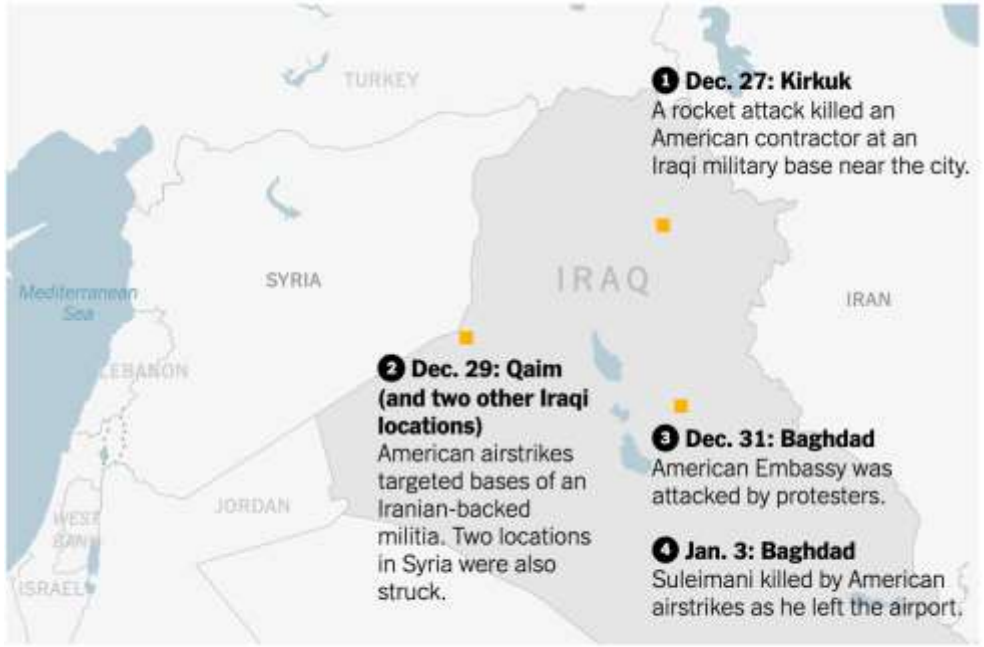
Source: ISW-Institute for War, Updated 8/1/20, http://www.understandingwar.org/sites/default/files/ISW%20CTP%20Graphic%20-%20Iran%20Escalation%20Timeline%20-%2020200108_1.jpg

Iranian Attacks in May-September 2019

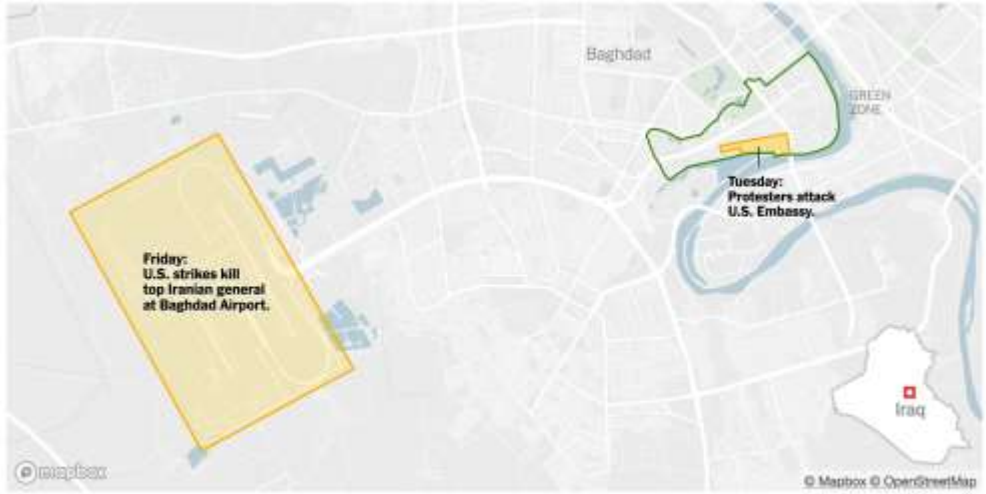


Source: https://www.google.com/search?q=Map+of+missile+attacks+on+Saudi+oil+facilities+in+2019&client=firefox-b-1-d&sxsrf=ACYBGNQvUdsECV9skeraDZXxqCtQoq_DyQ:1572350812405&tbm=isch&source=iu&ictx=1&fir=Pr3JgSZx5PQ0uM%253A%252CgV4RJo8DIDA-SM%252C_&vet=1&usg=AI4_-kT83q0CMEGboNKgkreFuXS6i30NRw&sa=X&ved=2ahUKEwiJ04qdt8HlAhUs01kKHQ5sAPoQ9QEwCXoECAcQCQ#imgrc=zsT41MQIIHvTYM

The PMF, Embassy, and Soleimani Crisis 27/12/19 to 3/1/20



The New York Times

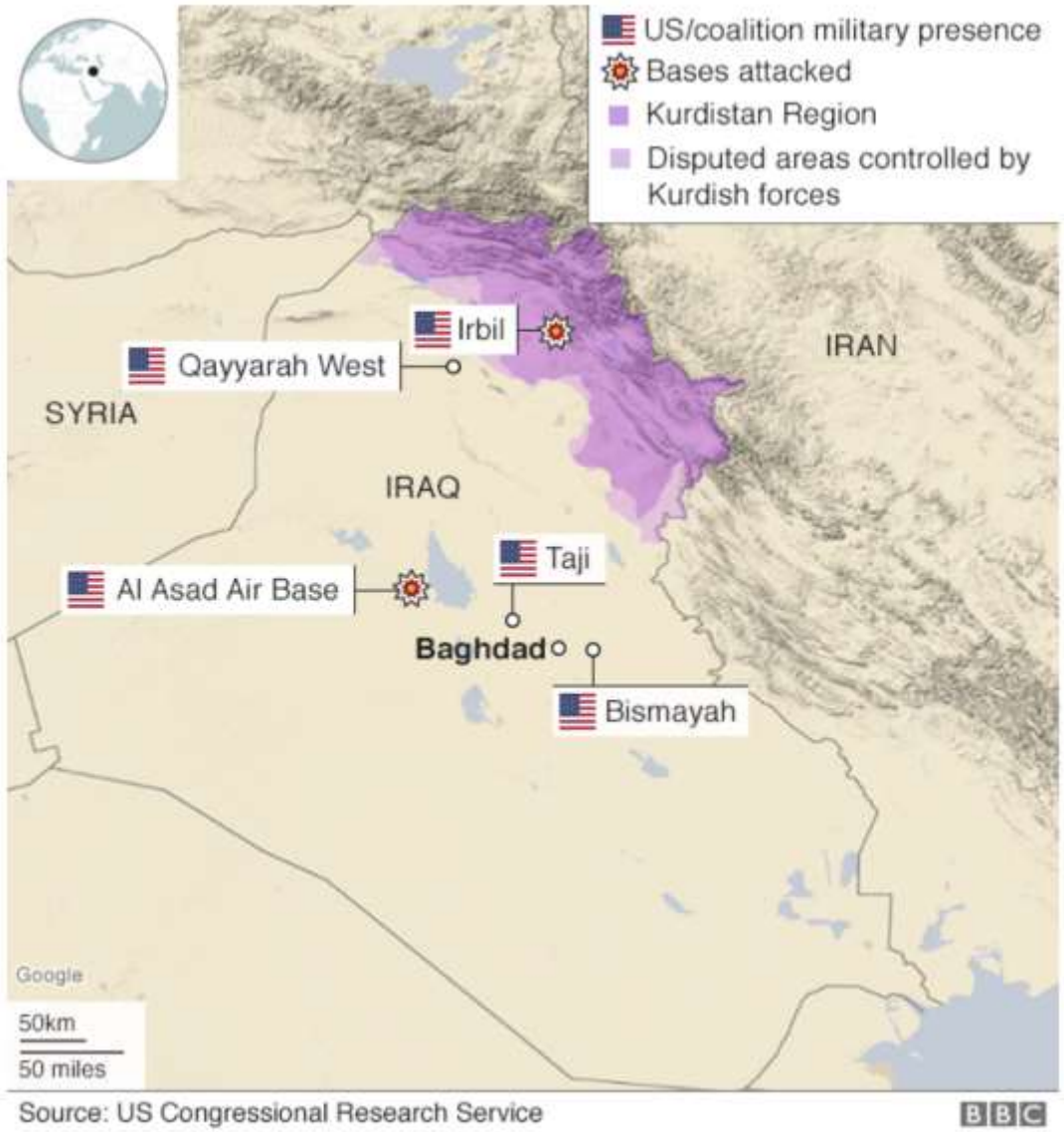


The New York Times

Source: Adapted from https://www.nytimes.com/interactive/2020/01/03/world/middleeast/iraq-embassy-baghdad-airport-attack.html?smid=nytcore-ios-share

Iraq: U.S. Bases and the Iranian Missile Attacks on 7 January 2020 - I

- Iran used missiles to strike at two U.S. bases after giving at least some warning signals. U.S. and European government sources told Reuters news agency that they believed the Iranians had deliberately sought to minimize casualties and avoid hitting U.S. facilities in order to prevent the crisis escalating out of control while still signaling their resolve.
- U.S. officials said they knew by Tuesday afternoon that Iran intended to attack American targets in Iraq, although it was unclear which ones. An early warning came from intelligence sources as well as communications from Iraq that conveyed Iran's intentions to launch the strike, the Washington Post said. David Martin, Pentagon correspondent for the BBC's U.S. partner CBS, said a defense official told him the U.S. was warned of the attack "multiple hours" before, giving plenty of time for troops to take shelter in bunkers. The source said this warning came from a combination of satellites and signals and communications intercepts - the same systems that watch for North Korean tests.
- CNN journalist Jake Tapper quoted a Pentagon official as saying that Iran "deliberately chose targets that would not result in loss of life".
- Iraq's prime minister said he was informed of the attack ahead of time.
- Iran claimed that at least 80 U.S. troops were killed. The U.S. military said it had no killed or wounded forces or contractors.
- Iraq's military, which reported no casualties, said the country was hit by 22 missiles between 01:45 and 02:15 on Wednesday (22:45-23:15 GMT on Tuesday). It said 17 missiles were fired towards Al Assad air base.
- Iran's supreme leader, Ayatollah Ali Khamenei, called the attack a "slap in the face" of the United States but said more needed to be done to end the U.S. presence in the region and avenge Soleimani's death.
- Airlines around the world rerouted flights away from Iranian and Iraqi airspace.



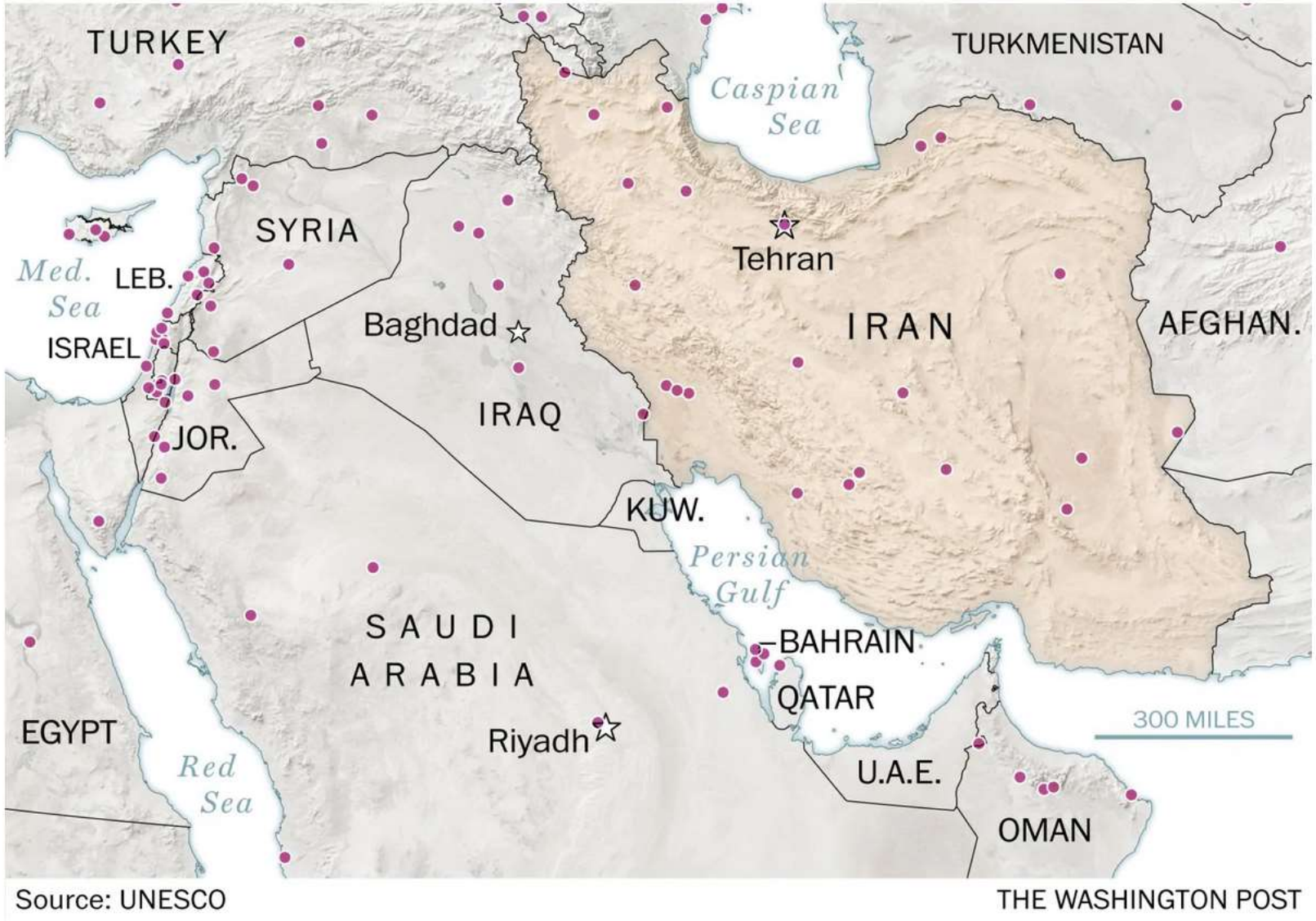
Source: Adapted from https://www.nytimes.com/interactive/2020/01/03/world/middleeast/iraq-embassy-baghdad-airport-attack.html?smid=nytcore-ios-share,andhttps://www.bbc.com/news/world-middle-east-51042156.

Iraq: U.S. Bases and the Iranian Missile Attacks on 7 January 2020 - II

- Iran may have deliberately limited the effectiveness of its attacks – mixing more accurate and less accurate missile and targeting.
- Iran's Tasnim news agency, which is close to the IRGC, reported that Fateh-313 and Qiam missiles were used in the attack and that U.S. forces failed to intercept them because they were equipped with cluster warheads. The warheads also caused "tens of explosions" at Al Asad, it said.
- However, the U.S.'s top military officer, Army General Mark Milley, said he believed the attack was meant to be deadly. He said his "personal assessment" was that Iran "intended to cause structural damage, destroy vehicles and equipment and aircraft, and to kill personnel".
- The editor in chief of Mashregh, the main news website for Iran's Revolutionary Guards, said more than 30 ballistic missiles had been fired at the American base at Asad.
- Satellite photographs taken by the commercial company Planet Labs for the Middlebury Institute of International Studies showed what appeared to be at least five destroyed structures at Al Asad. David Schmerler, an analyst at the Middlebury Institute, told NPR: "Some of the locations struck look like the missiles hit dead center."
- But it was clear that some of the weapons did not hit the bases. Two of the missiles aimed at Al Asad fell in the Hitan area, west of the town of Hit, and did not explode, according to the Iraqi military. Photos of the remnants of one of those missiles, including three large parts of its fuselage, subsequently emerged on social media.
- The Iraqi military said Iran fired five missiles towards Irbil air base, in the northern Kurdistan region. It did not say how many hit the base, but state TV reported that two missiles landed in the village of Sidan, 16km (10 miles) north-west of the city of Irbil, and that a third missile came down in the Bardah Rashsh area, about 47km north-west of Irbil

Source: Adapted from https://www.nytimes.com/interactive/2020/01/03/world/middleeast/iraq-embassy-baghdad-airport-attack.html?smid=nytcore-ios-share,andhttps://www.bbc.com/news/world-middle-east-51042156.

UNESCO Cultural Heritage Sites



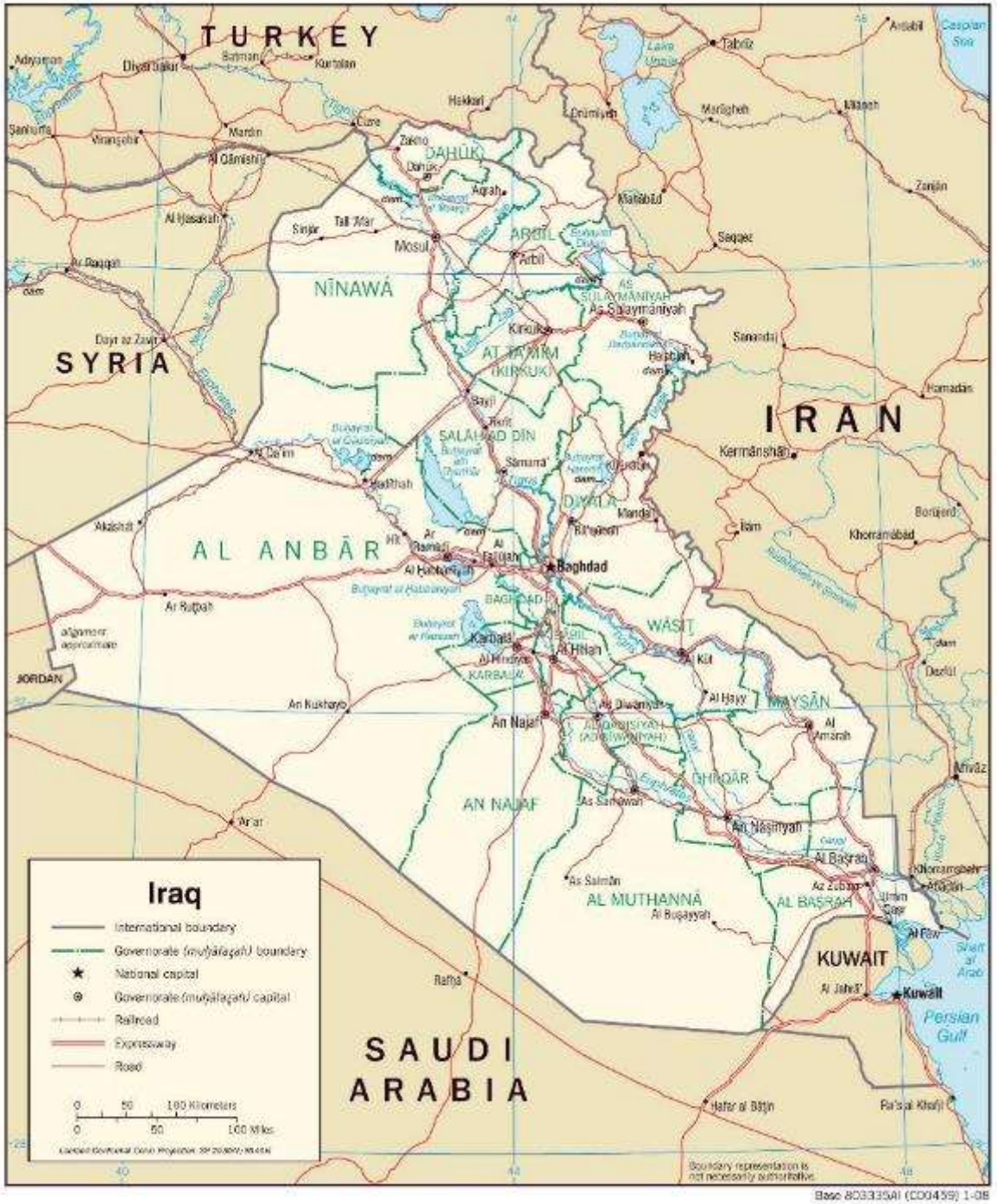
Source: Adapted from https://www.washingtonpost.com/world/2020/01/06/disturbing-history-behind-trumps-idea-target-iranian-cultural-sites/

Bahrain's Island Vulnerability

Ethnic groups:
Bahraini 46%, Asian 45.5%, other Arab 45.7%, African 1.6%, European 1%, other 1.2% (2010 census)
Languages:
Arabic (official), English, Farsi, Urdu
Religions:
Muslim (Shia and Sunni) 70.3%, Christian 14.5%, Hindu 9.8%, Buddhist 2.5%, other 2.8% (2010 census)
Shi'ite-Sunni sectarian tension has been a continuing challenge.
Population:
1,410,942 July 2017 est.
country comparison to the world: 155 *note:* population is 48% immigrant.
urban population: 89.3% of total population (2018); rate of urbanization: 4.38% annual rate of change (2015-20 est.)

The Struggle For Iraq is the Current Core of Iran's Asymmetric Efforts and Is Occurring at a Time When ISIS May be Resurgent

Iraq's Strategic Position



Source: Google, http://www.maps-of-the-world.net/maps/maps-of-asia/maps-of-iraq/large-detailed-political-and-administrative-map-of-iraq-with-roads-and-cities-2008.jpg

Iraq: Uncertain Stability and Control

The legacy of the war with the Islamic State strains security in Iraq in two other important ways. First, the Popular Mobilization Committee (PMC) and its militias—the mostly Shia Popular Mobilization Forces (PMF) recruited to fight the Islamic State—have been recognized as enduring components of Iraq's national security establishment. This is the case even as many PMF units continue to operate outside the bounds of their authorizing legislation and the control of the Prime Minister. The U.S. intelligence community considers Iran-linked Shia elements of the PMF to be the "the primary threat to U.S. personnel" in Iraq.

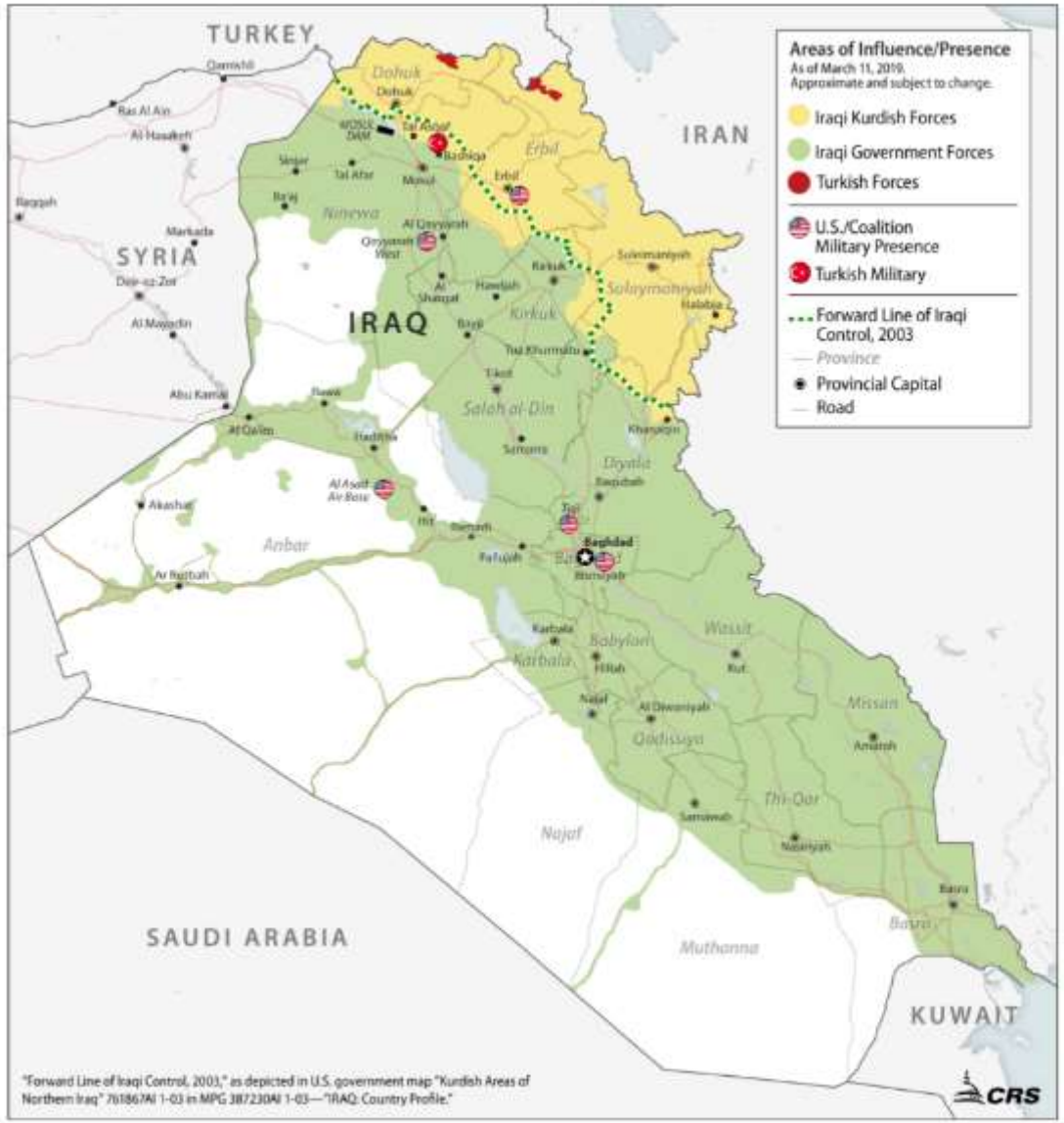
Second, national and KRG forces remain deployed across from each other along contested lines of control while their respective leaders are engaged in negotiations over a host of sensitive issues. Following a Kurdish referendum on independence in 2017, the Iraqi government expelled Kurdish *peshmerga* from some disputed territories they had secured from the Islamic State, and IS fighters now appear to be exploiting gaps in ISF and Kurdish security to survive. PMF units remain active throughout the territories in dispute between the Iraqi national government and the federally recognized Kurdistan Region of northern Iraq, with local populations in some areas opposed to the PMF presence.

Iraq's Popular Mobilization Forces contributed to Iraq's fight against the Islamic State, though ties between some PMF components and Iran have prompted Iraqi and international concerns. In 2016, the COR adopted a law to provide for a permanent role for the PMF as part of Iraq's national security sector. The law calls for the PMF to be placed under the authority of the Prime Minister as commander-in-chief and to be subject to military discipline and organization. Some PMF units have demobilized, but many remain outside the law's defined structure, including some units associated with groups identified by the State Department as receiving Iranian support.

U.S. officials have expressed concern about potential attacks by Iran-linked PMF forces and other militias amid U.S. tensions with Iran, and reduced the number of personnel deployed to the U.S. Embassy in Baghdad in May 2019. In July 2019, Prime Minister Abd al Mahdi issued a decree restating a requirement that PMF units either serve as "an indivisible part of the armed forces and be subject to the same regulations" or disarm. Recent changes in military command personnel are renewing questions about the integrity and political independence of the armed forces (Christopher M. Blanchard, Iraq and U.S. Policy Iraqis Struggle to Define a Way Forward, CRS 10.22.2019, cblanchard@crs.loc.gov, 7-0428.)

Figure 1. Iraq: Areas of Influence and Operation

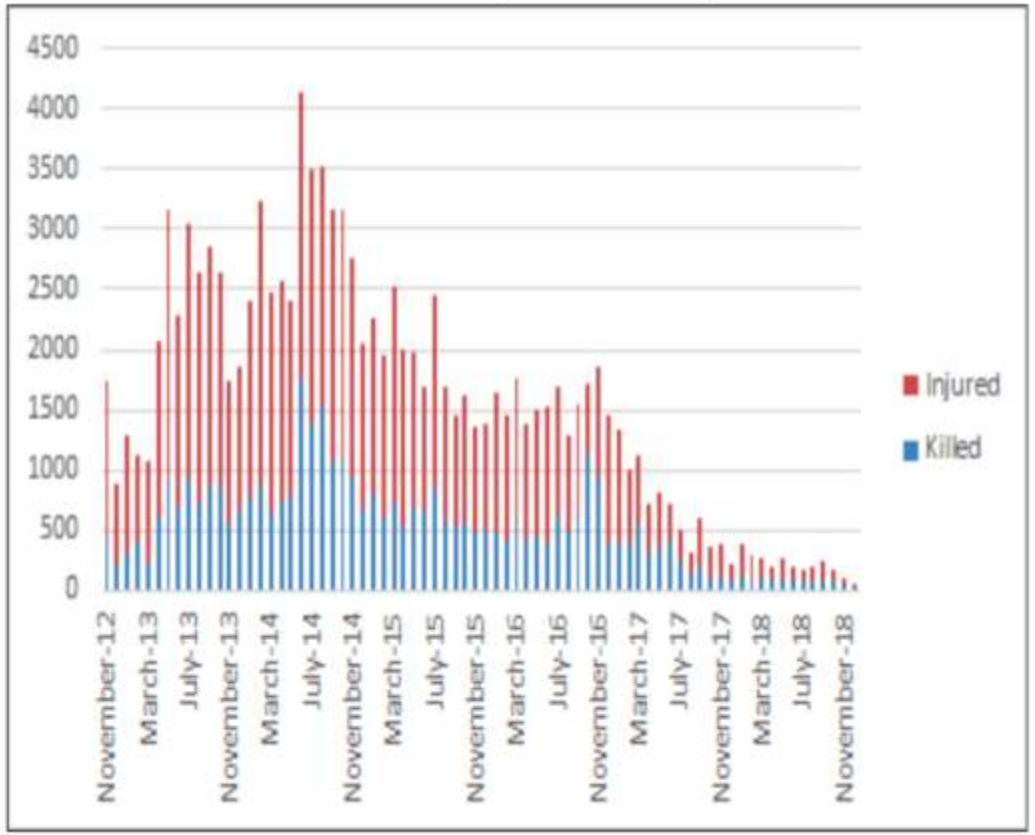
As of March 11, 2019



Source: Congressional Research Service using ArcGIS, IHS Markit Conflict Monitor, U.S. government, and United Nations data.

Notes: Areas of influence are approximate and subject to change.

Iraq: Continuing Violence

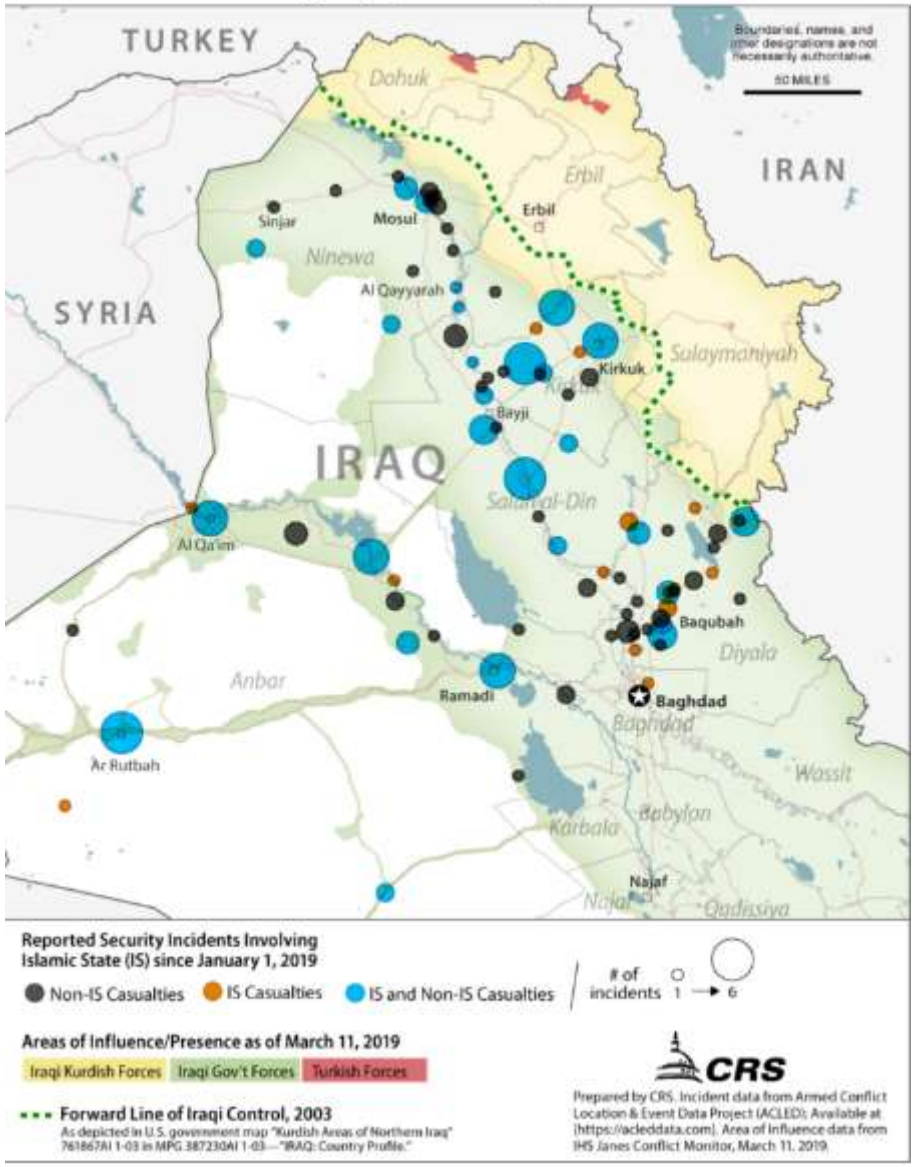


Source: United Nations Assistance Mission in Iraq. Some months lack data from some governorates.

Source: Christopher M. Blanchard, Iraq: Issues in the 116th Congress, CRS, R45633, March 26, 2019

Figure 4. Iraq: Reported Islamic State-Related Security Incidents

January 1, 2019 to March 8, 2019



Source: Prepared by CRS. Incident data from Armed Conflict Location and Event Data Project (ACLED). Available at https://acleddata.com. Area of Influence data from IHS Janes Conflict Monitor, March 11, 2019.

23

After the "Caliphate": ISIS Attacks in Iraq and Syria in 2019

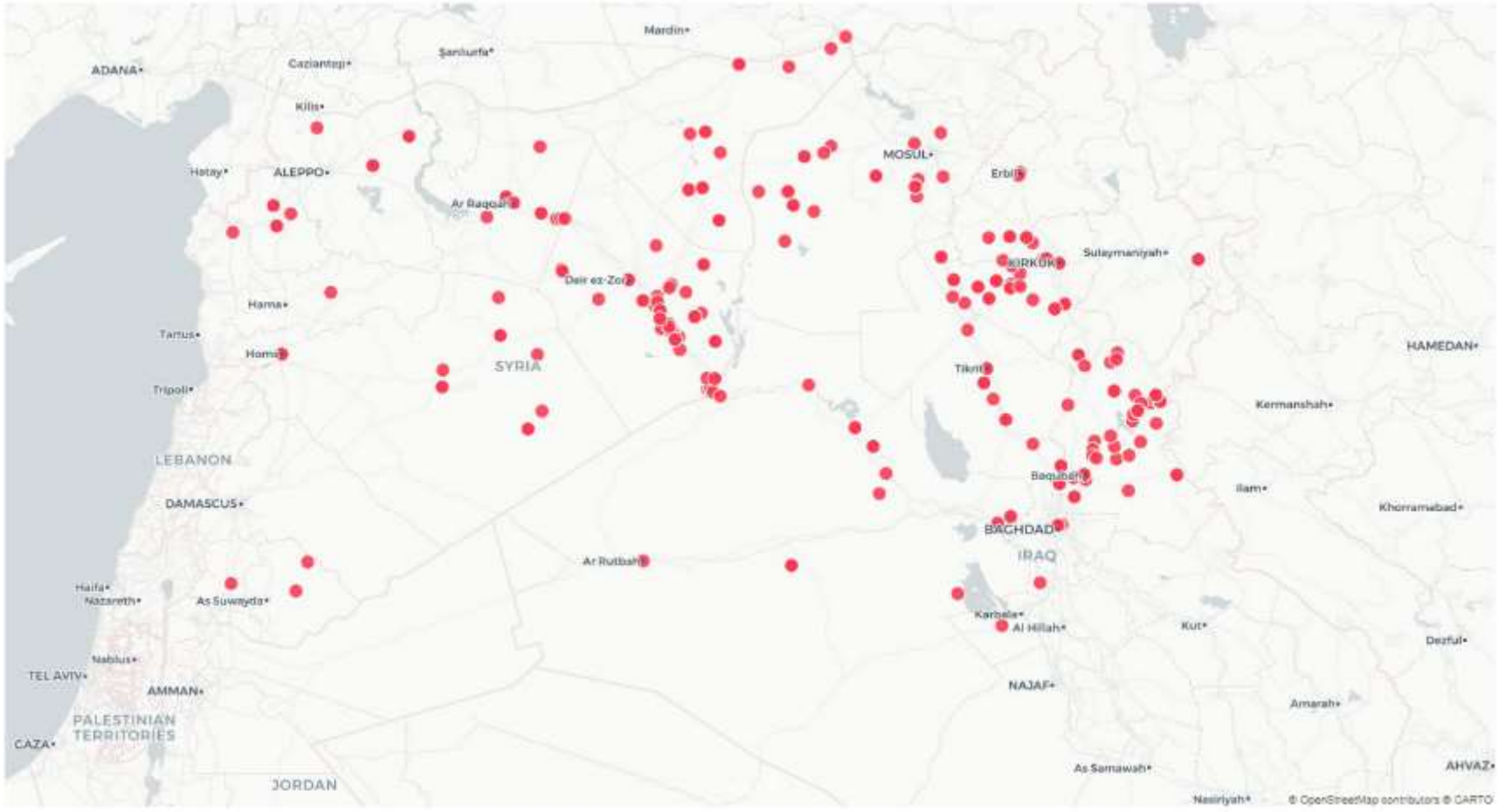
The Islamic State continues to conduct attacks…it orchestrated 572 attacks from January through September 2019 across 21 provinces in Iraq (276 attacks) and Syria (296 attacks).12 In Iraq, the attacks have occurred in provinces like Diyala, Anbar, Ninewa, Kirkuk, and Salahuddin. In Syria, Islamic State attacks have largely been centered in Raqqah, Dayr az Zawr, Homs, and Hasakah.

Perhaps most concerning, there are still at least 30,000 to 37,000 jihadist fighters in Syria and Iraq from the Islamic State and two al-Qaeda-linked groups: Hay'at Tahrir al-Sham and Tanzim Hurras al-Din.

Over the next several months, more jihadists may enter the battlefield after escaping—or being released—from prisons run by the Syrian Democratic Forces (SDF) in areas like al-Hol, located in eastern Syria near the border with Iraq.

After all, there are roughly 10,000 Islamic State fighters in prisons run by the SDF, as well as thousands more in prisons and camps that may support an extremist ideology.

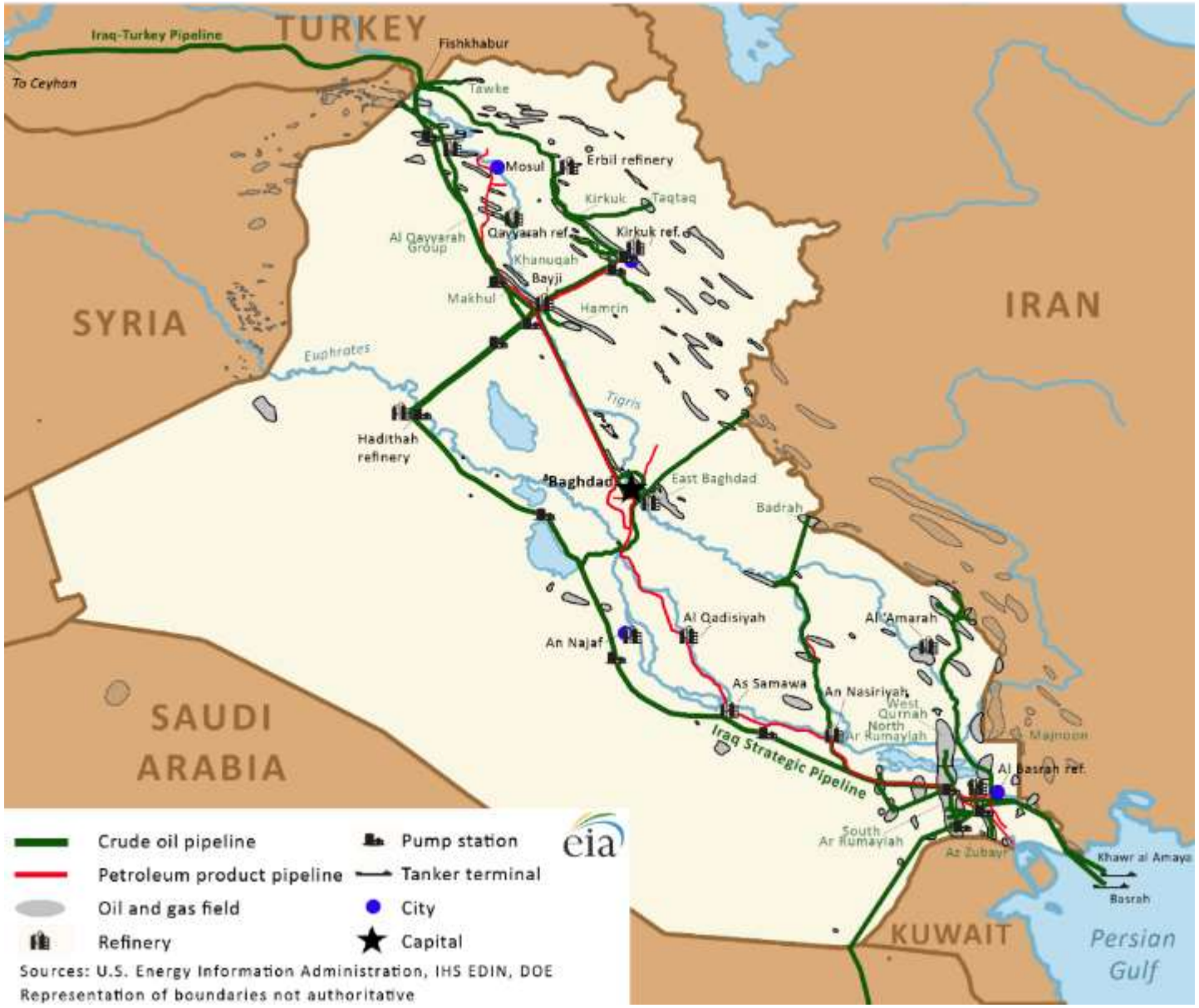
While Hay'at Tahrir al-Sham has experienced sometimes frosty relations with Ayman al-Zawahiri and other al-Qaeda leaders, the organization still has strong connections with Salafi-jihadist networks in the region.17 Tanzim Hurras al-Din has close links with al-Qaeda and is led by Faruq al-Suri, an al-Qaeda veteran.



Source: "Jane's Terrorism and Insurgency Centre," IHS Markit, 2019.

Excerpted from Seth G. Jones, "Beyond Baghdadi: The Next Wave of Jihadist Violence,"*CSIS Briefs*, November 2019, https://csis-prod.s3.amazonaws.com/s3fs-public/publication/191104_Jones_BeyondBaghdadi_layout_WEB_v2.pdf?utm_source=Members&utm_campaign=7b2c5df29a-EMAIL_CAMPAIGN_2019_11_05_09_49&utm_medium=email&utm_term=0_e842221dc2-7b2c5df29a-145924545

Iraq's Vulnerable Energy Facilities



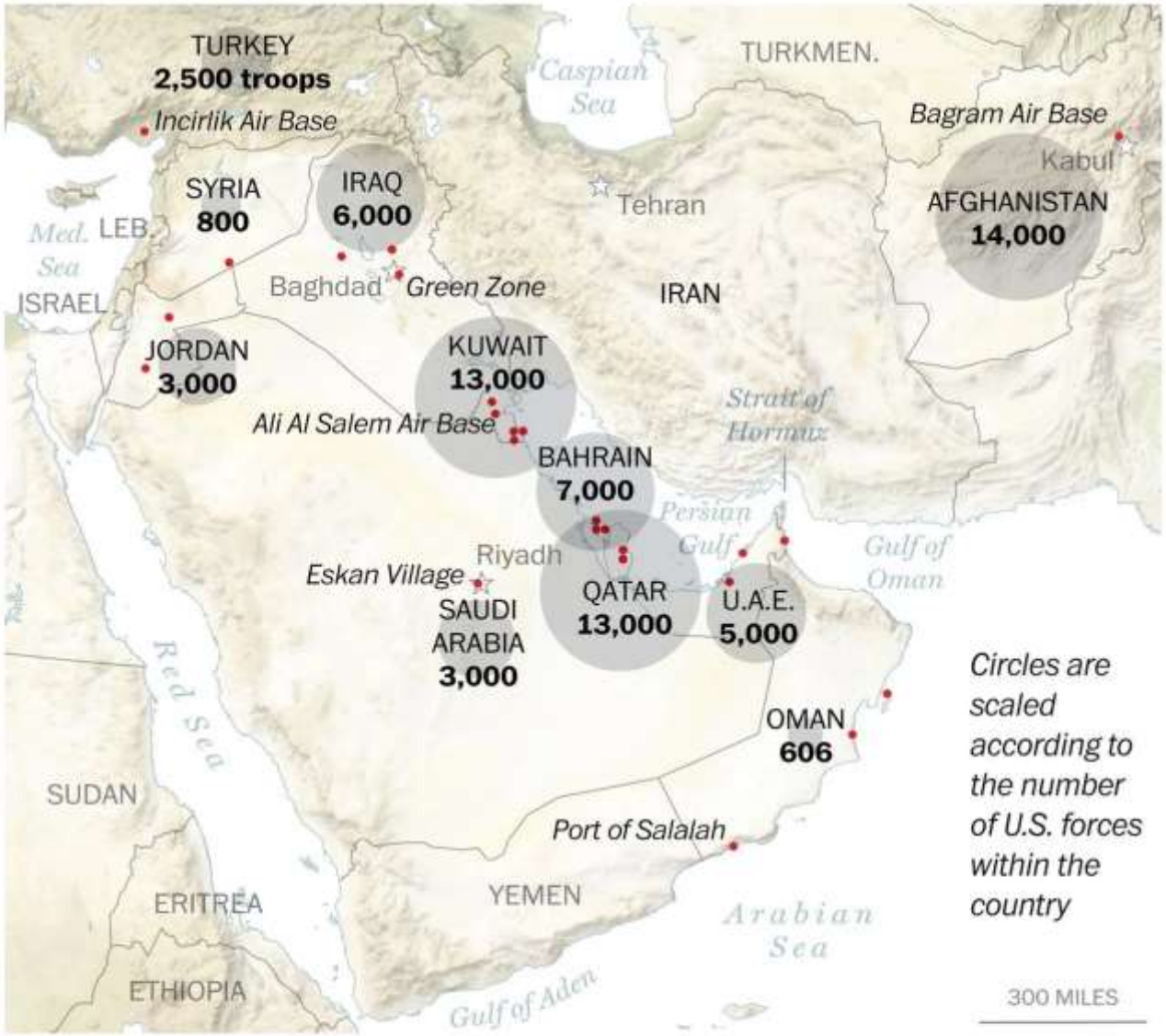
Source: EIA, Iraq Country Analysis, https://www.eia.gov/beta/international/analysis.php?iso=IRQ

Iran's Asymmetric Forces and Regular Military Forces Need to Be Assessed in the Context of U.S. Deployments and the Forces of U.S. Arab Strategic Partners


Key Iranian and U.S. Military Bases
TURKEY
TURKMENISTAN
Caspian Sea
SYRIA
Tehran
Mediterranean Sea
LEBANON
IRAQ
IRAN
AFGHANISTAN
1
2
JORDAN
ISRAEL
KUWAIT
EGYPT
PAKISTAN
Persian Gulf
BAHRAIN
QATAR
UNITED ARAB EMIRATES
SAUDI ARABIA
OMAN
Arabian Sea
YEMEN
U.S. Bases
Navy Army Air Force
Iranian Bases
Navy Army Air Force
Iranian Areas of Influence
Iranian Proxy Forces
Militant Forces Supported by Iran
Palestinian Territories
1 West Bank 2 Gaza
Sources: Congressional Research Service, Scramble.nl
Copyright Stratfor 2019 esri

U.S. Forward Deployed Forces Play a Critical Role in Shaping Iraqi Military Forces, Supporting Regional Strategic Forces, and Coordinating Any GCC and Allied Operations

U.S. Forces in the Middle East



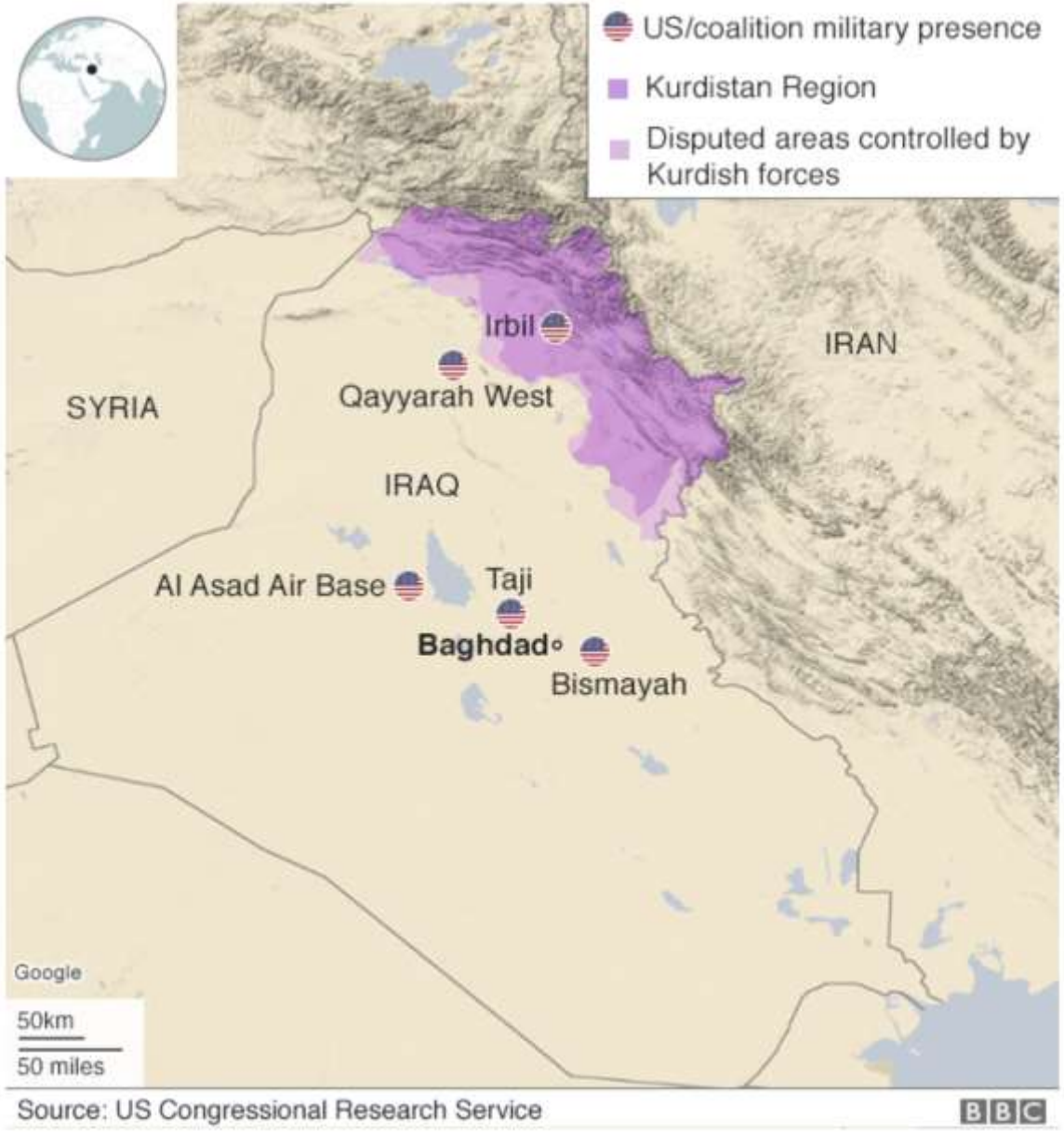
Note: Troop numbers are approximate. They do not reflect deployments in recent days and may fluctuate.

Sources: Federation of American Scientists, International Crisis Group

AARON STECKELBERG/THE WASHINGTON POST

Source: Adapted from https://www.washingtonpost.com/world/where-us-troops-are-in-the-middle-east-and-could-now-be-a-target-visualized/2020/01/04/1a6233ee-2f3c-11ea-9b60-817cc18cf173_story.html?arc404=true

U.S. Facilities in Iraq



Source: Adapted from https://www.bbc.com/news/world-middle-east-51003159

IISS Estimate of Nominal U.S. Deployments in the MENA/ Gulf Region in Early 2019

U.S. Central Command • *Operation Freedom's Sentinel* 8,000

ARABIAN SEA: U.S. Central Command • US Navy • 5th Fleet: 1 SSGN; 1 DDGHM; 1 LSD; **Combined Maritime Forces** • TF 53: 1 AE; 2 AKE; 1 AOH; 3 AO

BAHRAIN: U.S. Central Command • 5,000; 1 HQ (5th Fleet); 2 AD bty with MIM-104E/F *Patriot* PAC-2/3

BRITISH INDIAN OCEAN TERRITORY: U.S. Strategic Command • 300; 1 Spacetrack Optical Tracker at Diego Garcia; 1 ground-based electro-optical deep space surveillance system (*GEODSS)* at Diego Garcia

DJIBOUTI: U.S. Africa Command • 4,700; 1 tpt sqn with C-130H/J-30 *Hercules*; 1 spec ops sqn with MC-130H/J; PC- 12 (U-28A); 1 CSAR sqn with HH-60G *Pave Hawk*; 1 CISR UAV sqn with MQ-9A *Reaper*; 1 naval air base

EGYPT: MFO 454; elm 1 ARNG recce bn; 1 ARNG spt bn

IRAQ: U.S. Central Command • *Operation Inherent Resolve* 5,000; 1 div HQ; 1 cav bde(-); 1 EOD pl; 1 atk hel sqn with AH-64D *Apache*

ISRAEL: U.S. Strategic Command • 1 AN/TPY-2 X-band radar at Mount Keren

JORDAN: U.S. Central Command • *Operation Inherent Resolve* 2,300: 1 FGA sqn with 12 F-15E *Strike Eagle*; 1 CISR UAV sqn with 12 MQ-9A *Reaper*

QATAR: U.S. Central Command • 10,000: 1 bbr sqn with 6 B-1B *Lancer*; 1 ISR sqn with 4 RC-135 *Rivet Joint*; 1 ISR sqn with 4 E-8C JSTARS; 1 tkr sqn with 24 KC-135R/T *Stratotanker;* 1 tpt sqn with 4 C-17A *Globemaster*; 4 C-130H/J-30 *Hercules*; 2 AD bty with MIM-104E/F *Patriot* PAC-2/3
U.S. Strategic Command • 1 AN/TPY-2 X-band radar

SAUDI ARABIA: U.S. Central Command • 500

(3,000-THAAD)

SYRIA: U.S. Central Command • *Operation Inherent Resolve* 2,000+; 1 ranger unit; 1 mne bn; 1 arty bty with M777A2; 1 MRL bty with M142 HIMARS

TURKEY: U.S. European Command • 1,700; 1 tkr sqn with 14 KC-135; 1 ELINT flt with EP-3E *Aries* II; 1 air base at Incirlik; 1 support facility at Ankara; 1 support facility at Izmir

U.S. Strategic Command • 1 AN/TPY-2 X-band radar at Kürecik

UNITED ARAB EMIRATES: U.S. Central Command • 5,000: 1 ftr sqn with 6 F-22A *Raptor*; 1 ISR sqn with 4 U-2; 1 AEW&C sqn with 4 E-3 *Sentry*; 1 tkr sqn with 12 KC-10A; 1 ISR UAV sqn with RQ-4 *Global Hawk*; 2 AD bty with MIM-104E/F *Patriot* PAC-2/3

Source: *IISS Military Balance 2019*, p. 60-62

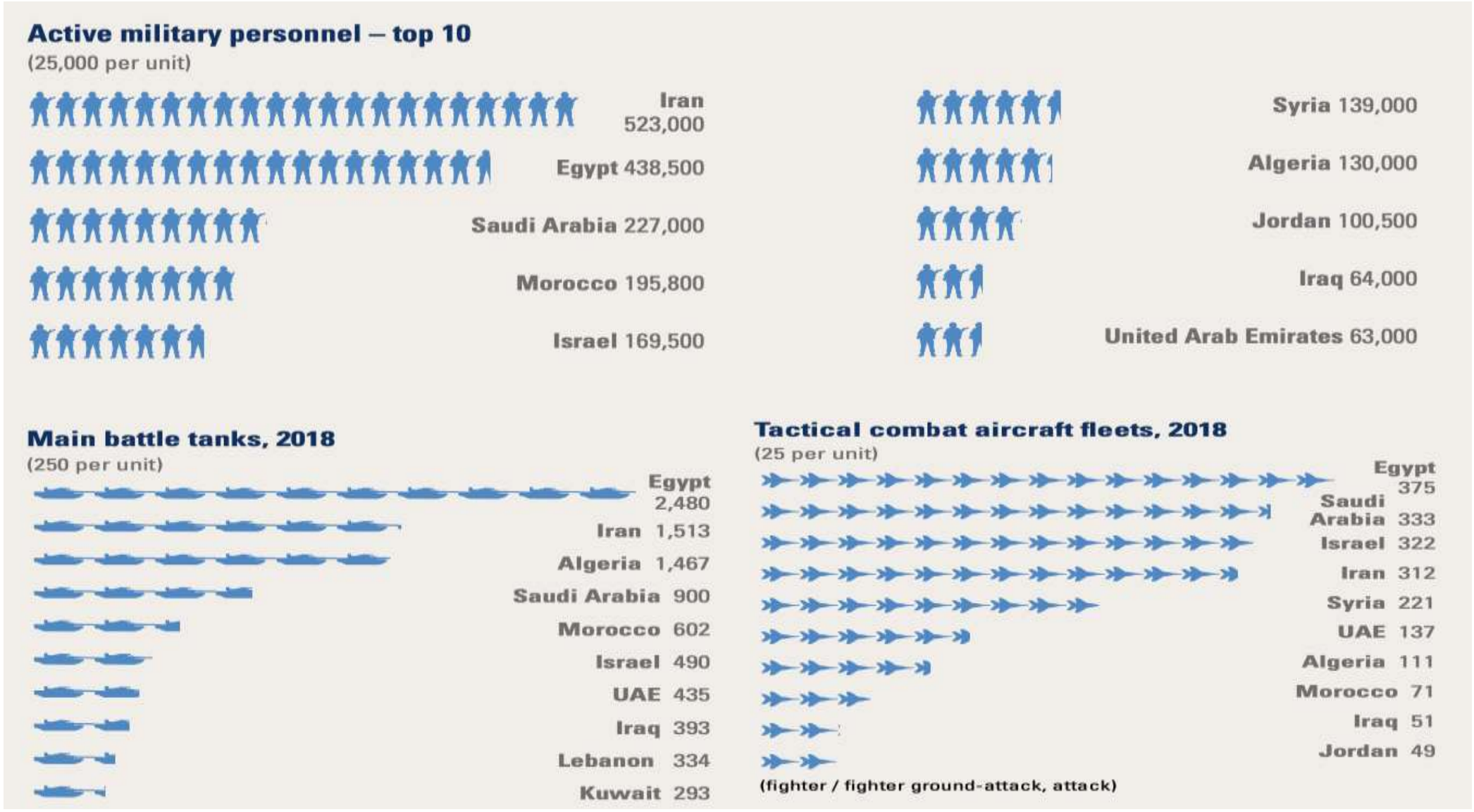
Arab Gulf Military Forces are Stronger and Far More Modern than Iran's Artesh and IRGC Forces, but Iran Has Superior Asymmetric Capability and Can Use or Influence a Wide Range of Foreign Non-State Actors

Iran and the Arab Gulf Balance in 2019

	Iraq	Iran	GCC	Saudi	UAE	Bahrain	Kuwait	Oman	Qatar
Active Personnel	64,000	523,000	374,800	227,000	63,000	8,200	17,500	42,600	16,500
Reserve Personnel	-	350,000	23,700	-	-	-	23,700	-	-
Main Battle Tanks	393	1,513	1,937	900	385	180	293	117	62
AIFVs	240	610	1,766	760	405	67	492	2	40
APCs	2,092	640	3,121	1,340	928	203	260	200	190
Towed Artillery	60	2,030	359	110	93	36	-	108	12
Self-Propelled Artillery	72	292	669	224	181	82	106	24	52
Multiple Rocket Launchers	3	1,476	194	60	88	13	27	-	6
Combat Aircraft	65	336	748	407	156	38	66	63	18
Attack Helicopters	28	-	79	35	-	28	16	-	-
Major SAM Launchers	0	205	296	236	14	6	40	-	-
Destroyers	-	-	3	3	-	-	-	-	-
Frigates	-	-	6	4	1	1	-	-	-
Corvettes	-	6	21	4	10	2	-	5	-
Patrol and Coastal	32	61	111	28	32	10	20	10	11
Submarines	-	21	0	-	-	-	-	-	-
Submersibles	-	3	0	-	-	-	-	-	-
Mine Warfare	-	-	5	3	2	-	-	-	-
Landing Ships	-	12	3	-	2	-	-	1	-
Landing Craft	-	11	42	5	17	9	6	5	-

Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 334-373.

IISS Summary Conventional Balance in 2019



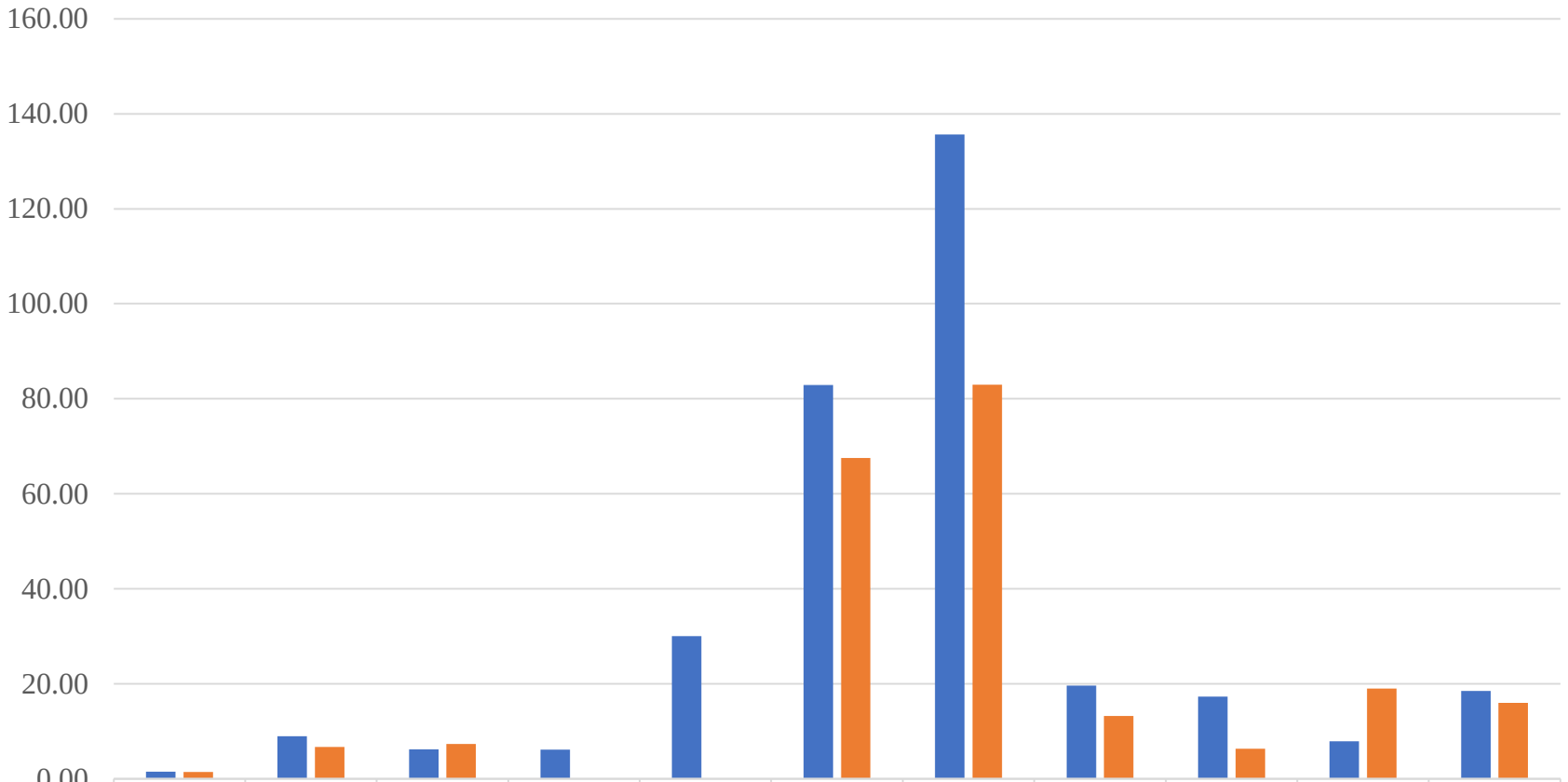
Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 320-323.

The Arab Gulf States already Share the Burden. Iran Does Not Approach Gulf Arab Military Budgets or Arms Imports in either Size or Quality

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

Comparative Estimates of Defense Spending 2018

(current $USD billions)



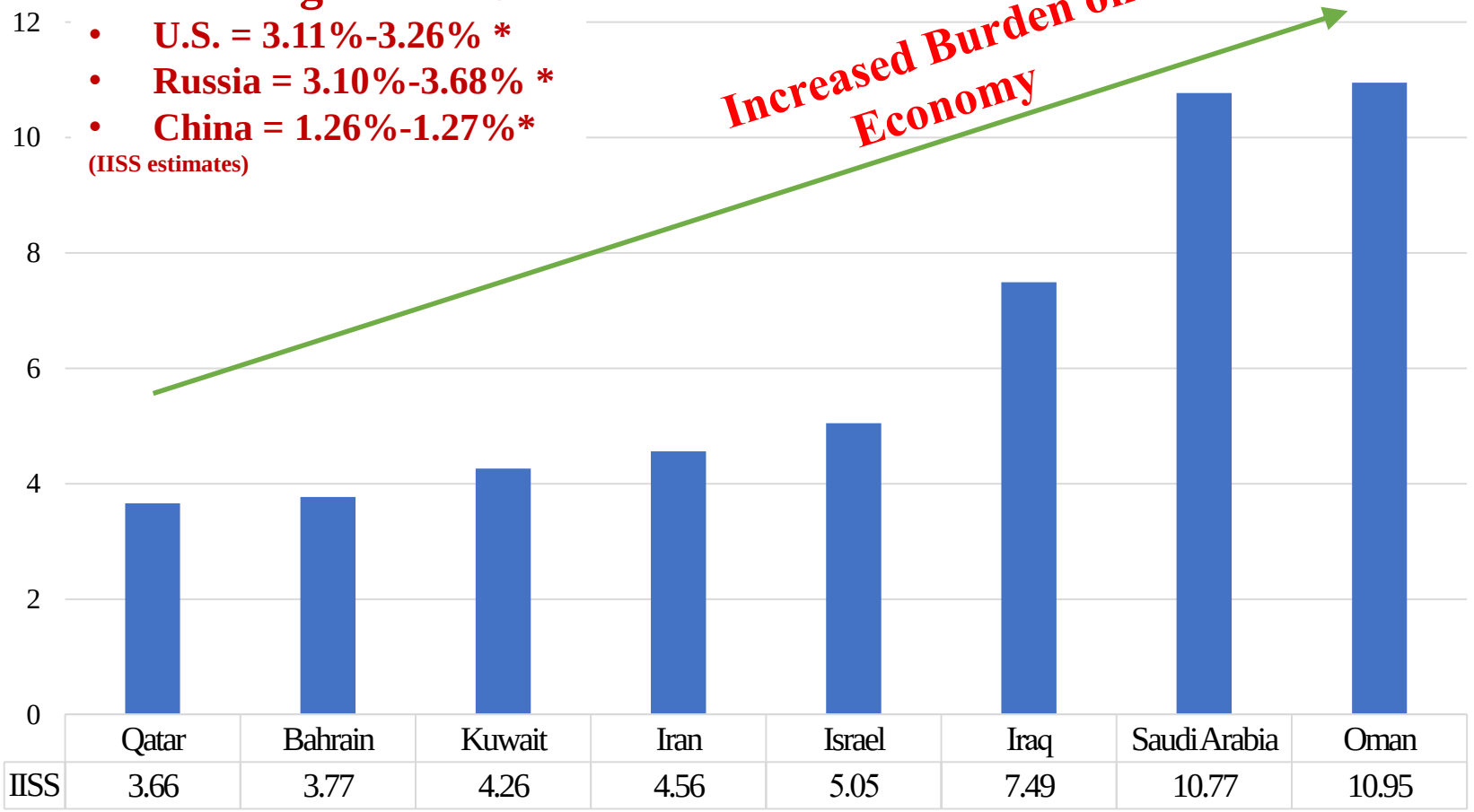
	Bahrain	Oman	Kuwait	Qatar	UAE	Saudi Arabia	GCC	Iran	Iraq	Turkey	Israel
IISS	1.48	8.95	6.18	6.12	30.00	82.90	135.63	19.60	17.30	7.90	18.50
SIPRI	1.40	6.71	7.30	0.00	0.00	67.56	82.97	13.19	6.32	18.97	15.95

Note: UAE estimate is authors' estimate.
Source: Adapted by the author from IISS, *Military Balance 2018, Chapter Seven, "The Middle East and North Africa."*. SIPRI Military Expenditure Database, 2017 https://www.sipri.org/databases/milex. Also, IHS Markit Jane's Sentinel Security Assessment – The Gulf States

Comparative Estimates of Military Spending as Percent of GDP, 2018

- **NATO goal is 2%**
- **U.S. = 3.11%-3.26% ***
- **Russia = 3.10%-3.68% ***
- **China = 1.26%-1.27%***

(IISS estimates)



	Qatar	Bahrain	Kuwait	Iran	Israel	Iraq	Saudi Arabia	Oman
IISS	3.66	3.77	4.26	4.56	5.05	7.49	10.77	10.95

Note: Qatar & UAE data unavailable for IISS and IIHS & IHS respectively. Syria, and Yemen are at war and no estimate is possible, but must exceed 8%. NATO goals is 2%. U.S. is 3.26%, Russia is 3.68%, Chia is 1.27%.

Source: Adapted by the author from IISS, *Military Balance 2019, Chapter Seven, "The Middle East and North Africa."*. Also adapted by author from IHS Markit, *Jane's Sentinel Security Assessment* – The Gulf States 2017

U.S. Estimates Massive Arab Lead in Arms Imports:

Arab states placed $199.7 billion in new orders 2008-2015. Iran placed $900 million

(Gulf Arms Orders and Deliveries: 2008-2015 in millions of current U.S. Dollars)

Country	Arms Orders			Arms Deliveries		
	2008-2011	2012-2015	Total	2008-2011	2012-2015	Total
Saudi Arabia	52,500	41,000	93,500	13,000	17,700	30,700
Other GCC Countries						
Bahrain	400	500	900	400	100	500
Kuwait	2,400	4,400	6,800	1,300	1,900	3,200
Oman	1,600	3,300	4,900	500	3,500	4,000
Qatar	1,000	6,200	7,200	300	1,700	2,000
UAE	13,500	22,900	36,500	3,700	5,500	9,200
Sub-Total	21,300	28,600	49,900	4,500	12,800	17,300
Total GCC	**92,700**	**106,900**	**199,700**	**23,700**	**43,200**	**120,700**
Iraq	**5,200**	**23,900**	**34,400**	**3,700**	**10,300**	**14,000**
Iran	300	600	900	300	100	400
Yemen	800	100	900	400	200	600
Total	99,000	131,500	235,500	28,100	53,800	135,700

Source: Source: Catherine A. Theohary, Conventional Arms Transfers to Developing Nations, 2008-2015, Congressional Research Service, December 19, 2016, https://www.google.com/search?q=Congressional+Research+Service%2C+data+on+arms+transfers&ie=utf-8&oe=utf-8, p. 30.

. "0" represents any value below $50 million or nil. All data are rounded to the nearest $100 million .

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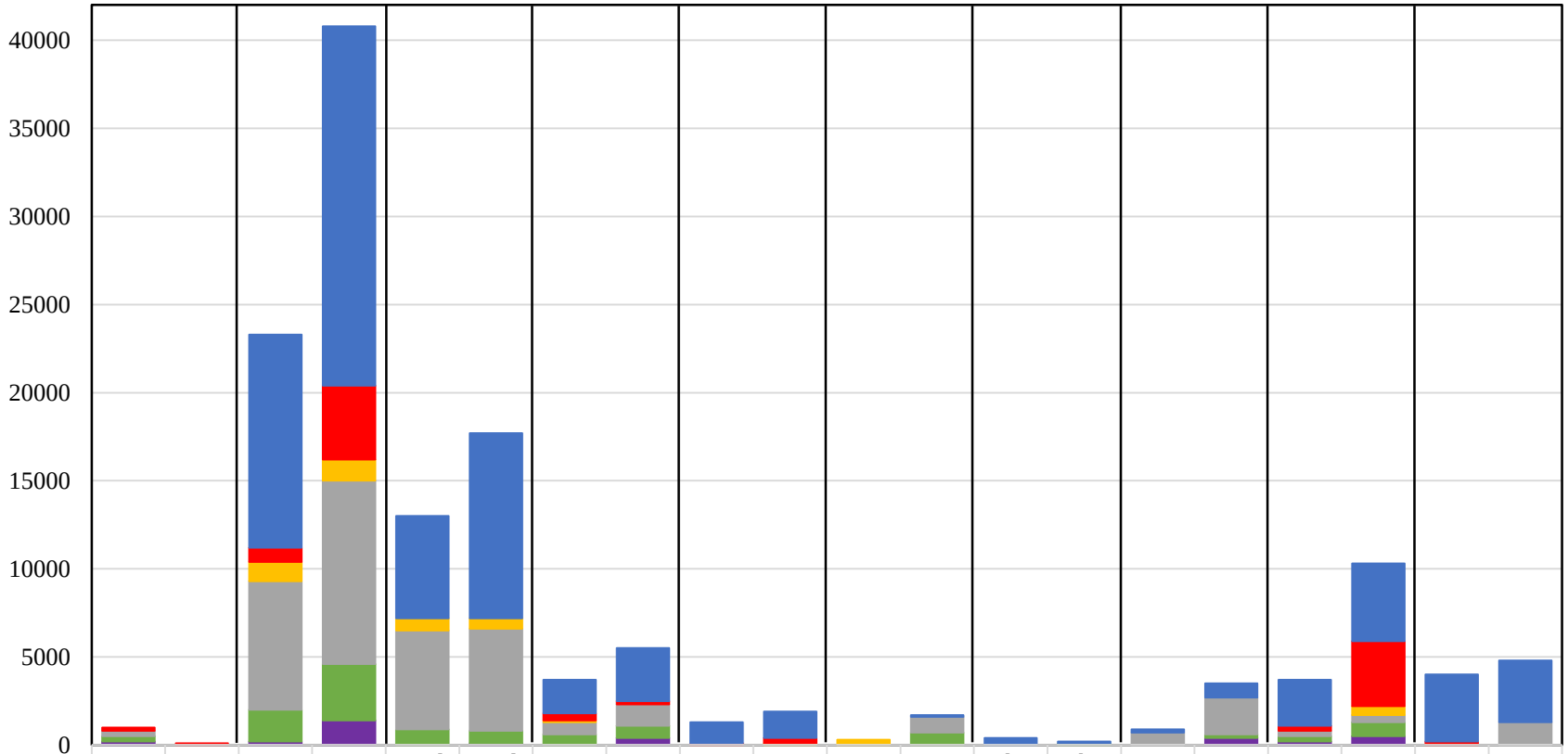
New Conventional Arms Transfer Agreements by Supplier, 2008-2015 (in current millions $USD)



	Iran '08-'11	Iran '12-'15	GCC '08'-11	GCC '12-'15	Saudi Arabia '08'-11	Saudi Arabia '12-'15	UAE '08'-11	UAE '12-'15	Kuwait '08'-11	Kuwait '12-'15	Qatar '08'-11	Qatar '12-'15	Bahrain '08'-11	Bahrain '12-'15	Oman '08'-11	Oman '12-'15	Iraq '08'-11	Iraq '12-'15	Israel '08-'11	Israel '12-'15
U.S.	0	0	12100	20400	5800	10500	1900	3000	1200	1500	0	100	400	100	200	800	2600	4400	3800	3500
Russia	200	100	800	4200	0	0	400	200	100	300	0	0	0	0	0	0	300	3700	200	0
China	0	0	1100	1200	700	600	100	0	0	100	300	0	0	0	0	0	0	500	0	0
Major Western Euro.	300	0	7300	10400	5600	5800	700	1200	0	0	0	900	0	0	700	2100	300	400	0	1300
All Other European	300	0	1800	3200	900	700	600	700	0	0	0	700	0	100	0	200	300	800	0	0
All Others	200	0	200	1400	0	100	0	400	0	0	0	0	0	0	0	400	200	500	0	0

Source: Catherine A. Theohary, *Conventional Arms Transfers to Developing Nations, 2008-2015*, Congressional Research Service, December 19, 2016, pp. 36. All data are rounded to the nearest $100 million.

Iran's Expeditionary Capability to Use Regular Military Forces Are Limited, but Iran Has a Wide Range of Effective Asymmetric Forces

DIA Assessment of Iran ‘s Expeditionary Capability– 2019

IRGC, ARTESH, and Quds Expeditionary Operations

Iran has limited expeditionary warfare and force projection capabilities. It has shown itself capable of sending small groups of conventional forces—including ground forces, military air- lift, and UAV operators—into permissive allied countries to support larger operations. Since the outbreak of the Syrian civil war in 2011, Iran has become increasingly involved in regional conflicts, with varying levels of military intervention in Iraq, Syria, and Yemen. The IRGC-QF remains the lead for these operations, but Iran has adapted its approach to external operations by incorporating conventional Iranian forces in addition to large numbers of Shia foreign fighters. Iran’s military has also revised professional military education to emphasize lessons learned from operations in Syria and Iraq, where it also has gained its first experience conducting combined operations with allied military forces.

In Syria, Iran has worked to defeat ISIS and defend the Assad regime against insurgent groups, with Iranian and Iranian-affiliated forces serving as critical force multipliers for the regime. In the spring of 2016, Tehran deployed a small number of ground forces from the Artesh to Syria—the first such deployment outside Iran since the Iran-Iraq War.

Tehran uses the IRGC-QF to provide financial, training, and materiel support—including facilitating terrorist attacks—mainly to regional Shia militant groups ideologically aligned with Iran. These partner and proxy groups provide Iran with a degree of plausible deniability, and their demonstrated capabilities and willingness to attack Iran’s enemies serve as an additional deterrent.

Iran does not participate meaningfully in international peacekeeping operations, contributing only a few personnel to the African Union-United Nations Hybrid Operation in Darfur (UNAMID). However, Tehran has expressed interest in expanding its military support to international peacekeeping missions, potentially as a way to increase legitimacy, participate in multilateral initiatives, and develop expeditionary-like capabilities through operations other than war.

Iran can also conduct limited out-of-area naval operations as far as China, South Africa, and the Mediterranean Sea. The Islamic Republic of Then-IRIN Commander Rear Admiral Habibollah Sayyari discussing Iranian naval operations during a press conference in 2010.

Iran Navy (IRIN) maintains regular rotations of deployed naval groups (DNGs) for counter- piracy, presence, and naval diplomacy missions in the Arabian Sea, Gulf of Aden, and sometimes the Indian Ocean. Often plagued with maintenance issues, the DNGs are largely symbolic, showcasing Iran’s projection of force beyond its territorial waters

Source: DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp.33-35

DIA Assessment of Iran's Use of Denial and Deception – 2019

Denial and Deception

Denial and deception (D&D) is a core component of Iranian military doctrine, and Iran uses D&D techniques extensively to reduce the vulnerability and increase the survivability of its military forces. To apply these techniques across the military, Tehran has established what it calls a "passive defense" doctrine.

The effort was based on lessons learned from past military conflicts, including U.S. operations in the Middle East and the 2006 Israel-Hizballah conflict. Iran's nationwide passive defense pro-gram comprises a wide range of D&D tactics to hinder foreign intelligence collection and ensure the survivability of critical infrastructure and core military capabilities.

Key Iranian passive defense measures include camouflage and concealment, force dispersals, underground facilities, and highly mobile units. For example, Iran configures some military vehicles to resemble civilian trucks. Iran's passive defense doctrine also includes aspects of cyberdefense, mainly to protect networks from cyberattack and intrusion from outside influences.

The National Passive Defense Organization (NPDO) sends guidance and regulations to passive defense offices embedded across Iranian industries and civilian organizations. The NPDO has pressed the importance of the passive defense doctrine beyond the military in public forums, including Friday prayers. In 2012, Iran established Passive Defense Week, a nationwide effort to promote awareness for key passive defense measures.

Source: DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, p.39

The Al Quds Force and Iran's Ability to Influence Outside Powers are Key Elements of Iran's Asymmetric Capabilities

Summary of CSIS Estimate of IRGC Quds Force (IRGC-QF)

- Reports directly to the supreme leader of Iran.
- While the IRGC as a whole has over 125,000 total personnel, there are between 5,000 and 20,000 IRGC-QF soldiers.
- Active in supporting state and sub-state partners outside of the country through units such as Department 400 (or the Misaq Unit), which is in charge of external special operations.
- Engages in a wide range of activity, such as gathering intelligence; training, equipping, and funding state and non-state partner forces; conducting assassinations and bombings; and providing humanitarian and economic aid to Islamic causes.
- Includes roughly 5,000 soldiers, much smaller than other components of the IRGC.
- Includes sections devoted to specific countries and regions, such as the Ramazan Corps (Iraq), Levant Corps (Syria, Lebanon, Jordan, and Israel), the Rasulallah Corps (Arabian Peninsula), and Ansar Corps (Afghanistan).
- Examples of forces supported by the IRGC-QF include Lebanese Hezbollah; the *hashd al-sha'abi* in Iraq (including groups such as the Badr Organization, Kata'ib Hezbollah, and Asaib Ahl al-Haq); militia forces in Syria, including Lebanese Hezbollah; the Houthis in Yemen; Liwa Fatemiyoun in Afghanistan; Liwa Zainebiyoun in Pakistan; and several groups in Palestinian territory, such as Hamas and Palestinian Islamic Jihad
- Forces help Iran counter its state adversaries in a broad "Axis of Resistance" that extends from the Persian Gulf through Lebanon, Syria, and Iraq to the eastern parts of the Mediterranean Sea. Other Iranian organizations, such as the MOIS, provide support to the IRGC.

Source: Adapted from Seth G. Jones, *Containing Tehran*, CSIS. 1-2020, p. 11,13.

DIA Assessment of Quds Force – 2019 - I

Iran depends on a variety of unconventional and proxy forces to bolster its conventional military. The IRGC-QF (*Qods* meaning "Jerusalem") is Iran's primary means for conducting unconventional operations abroad, with connections of varying degrees to state and nonstate actors globally. It was founded in 1990 in the aftermath of the Iran-Iraq War as the IRGC unit responsible for covert operations and unconventional warfare operations abroad. Before the IRGC-QF's creation, a variety of government organizations, including the IRGC's Office of Liberation Movements, handled Iran's support to Islamic militant, terrorist, and resistance groups. Since its establishment, the IRGC-QF has become an increasingly professional unit trusted by the supreme leader to conduct operations outside Iran, provide support to Islamic militants, and collect intelligence against Iran's enemies. IRGC-QF personnel number roughly 5,000, though some estimates are higher.

Major General Qasem Soleimani commands the IRGC-QF and has a close relationship with Supreme Leader Ali Khamenei, often communicating with and taking orders from him directly. Soleimani oversees all IRGC-QF external operations, including support for active combat missions and clandestine activities. In recent years, he has traveled frequently to Iraq and Syria to support Iran's involvement in battlefield operations against ISIS and Syrian opposition groups, and has become one of Iran's most visible—and popular—military leaders.

The IRGC-QF receives official funding from Iran's defense budget, but it augments its operating budget through a network of IRGC-QF-affiliated companies worldwide. The IRGC-QF and some affiliated companies have come under international sanctions because of their involvement in terrorist activities and weapons proliferation.

The IRGC-QF maintains a wide and varied network of nonstate partners, proxies, and affiliates primarily in the Middle East. Iran provides a range of financial, political, training, and materiel support to these groups. Iran's provision of military hardware has included small arms, ammunition, explosives, improvised explosive devices (IEDs), explosively formed penetrators (EFPs), vehicles, antitank guided missiles (ATGMs), man-portable air defense systems (MANPADS), artillery, rockets, UAVs, and some more-advanced systems, such as ASCMs and ballistic missiles, despite UN resolutions prohibiting Iranian arms exports.

Iran has consistently demonstrated a preference for using partners, proxies, and covert campaigns to intervene in regional affairs because of limitations in its conventional military capabilities and a desire to maintain plausible deniability, thereby attempting to minimize the risk of escalation with its adversaries.

Iran's reliance on unconventional operations—which is enabled by its relationships with a wide range of primarily Middle Eastern militias, militant groups, and terrorist organizations—is central to its foreign policy and defense strategy. The IRGC-QF is Tehran's primary tool for conducting unconventional operations and providing support to partners and proxies. The commander of the IRGC-QF, Major General Soleimani, has a close relationship with Khamenei, often communicating with and taking orders from him directly.

Through the IRGC-QF, Iran provides its partners, proxies, and affiliates with varying levels of financial assistance, training, and materiel support. Iran uses these groups to further its national security objectives while obfuscating Iranian involvement in foreign conflicts. Tehran also relies on them as a means to carry out retaliatory attacks on its adversaries. Most of these groups share similar religious and ideo- logical values with Iran, particularly devotion to Shia Islam and, in some cases, adherence to *velayat-e faqih*. However, Iran has also established relationships with more diverse groups based on shared enemies, common threats, and mutually beneficial goals.

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp 33-35, Appendix C

DIA Assessment of Al Quds Force – 2019 - II

As early as 2014, Iran deployed military advisers and some conventional ground forces to Iraq to combat ISIS and prevent the state's frag-mentation, although Iran maintains a larger conventional military presence in Syria. The IRGC-QF has strong ties to many Iraqi Shia groups that have participated in operations to retake Iraqi territory from ISIS.

In Yemen, Iran provides military support to the Huthis against the Saudi-led coalition, enabling Tehran to indirectly pressure Riyadh without entering into a direct military conflict. Huthi missile launches against targets in Saudi Arabia and attacks on Saudi-led coalition ships demonstrate Iran's provision of increasingly lethal capabilities to the Huthis. Tehran's provision of explosive boat technology and Iranian-made missiles, including the extended-range Qiam SRBM, provides the Huthis with systems exceeding the capabilities of the pre-conflict Yemeni inventory.

The strength of Iran's relationship with these groups varies widely. Iran's strongest and most successful regional partnership is with Hizballah, dating back to 1982. The relationship today involves Iranian sponsorship, cooperation, and shared sectarian and political interests, especially against Israel and the United States. However, Hizballah retains its decision making in internal Lebanese affairs.

In recent years, the conflicts in Syria, Iraq, and Yemen have placed new demands on the IRGC-QF to manage Iranian involvement in multiple combat zones, including some support from Iranian conventional forces. In Syria, Iran maintains a strong relationship with the Assad regime, which it views as a critical ally and conduit to Hizballah. In Iraq, the IRGC-QF has strong influence with Iranian-aligned Shia groups operating within the Popular Mobilization Forces (PMF), many of whom have cooperated with Baghdad to defeat ISIS. In Yemen, Iran has supported the Huthi rebels with financial assistance, weapons, military training, and operational advice.

Iran also uses the IRGC-QF to provide varying levels of support to Shia groups in Bah- rain, some Palestinian militant groups, and the Taliban in Afghanistan. As active combat operations have drawn down in Syria and Iraq, Tehran could choose to increase support to historical unconventional lines of effort in the region or pursue new opportunities.

Source: DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp 33-35, Appendix C

Iraq: Pro-Iranian PMFs

- The Popular Mobilization Forces or PMF were founded in 2014, after the prominent Shiite cleric Ayatollah Sistani issued a call for groups to help the Iraqi government fight against the Islamic State. There are now around 50 paramilitary groups in the force that have competing political interests and alliances.
- However, the term Popular Mobilization Forces is often used used as a the title for the umbrella group for a number of Iran-backed militias that include the Imam Ali Brigades and Sayed al-Shuhada.
- The IRGC-QF has provided some Iraqi militias with short-range ballistic missiles, anti-tank guided missiles (ATGMs), tanks, armored personnel carriers, artillery, UAVs, and MANPADS. In addition, several Iraqi militias worked with the IRGC-QF and Iraqi forces to help liberate Tikrit, Fallujah, Ramadi, Tal Afar, Mosul, and other Iraqi cities from Islamic State control. As one assessment of the 2017 Mosul campaign concluded, "The Quds Force-led Shia militia forces had some 10,000 troops in the battlespace," with some of the fighters working closely with the Iraqi Security Forces and police.
- In 2019, the Iraqi government officially integrated the PMFs into Iraq's armed forces. But they report to the Iraqi president rather than the Ministry of Defense.
- The pro-Iranian bloc of PMFs was run by Abu Mahdi al-Muhandis, a military commander designated a terrorist by Washington, until he was killed with the Iranian Quds Force commander -- Qasem Soleimani -- on January 6, 2020. Jamal Jaafar Ibrahim is the real name of Abu Mahdi al-Muhandis. He founded the Shiite militia named Kataib Hezbollah. He then became deputy head of the Popular Mobilization Forces (PMF), in Arabic called Hashd al-Shaabi, which is an umbrella organization uniting primarily Iran-backed Shiite paramilitary groups.
- **Kataib Hezbollah** means the Hezbollah, or party of God, brigade. It's one of the smallest of the Iranian-backed militias in Iraq, but also one of the most powerful. While Iraq's pro-Iran militias have varying degrees of proximity to Tehran, Kataib Hezbollah is one that's reportedly quite close. Muhandis, whose father was Iraqi and mother Iranian, formed the group in 2003 in the fallout of the U.S.-led invasion of Iraq. Some of the group's estimated 5,000 members were among the first to go to Syria to fight for Iran's ally, Syrian President Bashar al-Assad. They then took part in the battle against the Islamic State, briefly putting the group on the same side as its previous foe, the United States. To prepare, the brigade reportedly received battlefield training from Lebanon's main Iran-backed militia, Hezbollah. Muhandis also acted as an adviser to Qasem Soleimani, the commander of Iran's Quds Force, a special arm of the Iranian Revolutionary Guard Corps that oversees Iran's proxies abroad, among other missions
- **The Badr Organization** is headed by **Hadi al-Amiri**, a former transportation minister, is considered Tehran's man in Baghdad. The Badr Organization is one of the largest pro-Iran militias in Iraq and is part of the PMF. It was founded in the 1980s to fight for Iran against then-President Saddam Hussein as part of the Iran-Iraq war. **The Badr Organization** fought U.S. forces after the invasion of Iraq in 2003 and in the brutal and bloody sectarian war that followed. Members have also gone to Syria to fight on Assad's side. The group is additionally deeply embedded in Iraqi politics: The Badr Organization is the military wing of the powerful Fatah coalition in Iraq's parliament.
- **Asaib Ahl al-Haq**, or League of the Righteous is headed by **Qais al-Khizali**, who is on a U.S. terror list, heads the Iranian-backed Shiite militia. He rose to prominence as a leader in the Shiite insurgency after the 2003 U.S.-led invasion. He has called for U.S. troops to leave Iraq now that the Islamic State group has been largely defeated.
- Asaib Ahl al-Haq has a strong political role and owns its own TV station. It made significant gains in last year's elections, and al-Khazali now heads a 15-member bloc in parliament. Al-Khazali's forces fought in Syria alongside President Bashar Assad's troops.
- **Saraya al-Salam is** a major Shia militia that does not support Iran led by populist Shiite cleric Muqtada al-Sadr. It is a reformation of the previous militia he led during the American occupation of Iraq, called the Mahdi Army. al-Sadr aligned himself with recent anti-government protests opposing Iranian influence in Iraq.

Source: Adapted from AP, https://apnews.com/57a346b17d6da07ae732ba1437520fd2, Washington Post, https://www.washingtonpost.com/world/2019/12/31/these-pro-iran-militia-leaders-are-rabble-rousing-protesters-us-embassy-baghdad/,

DIA Assessment of Iraqi and Hizballah Pro-Iranian Forces: 2019

Iraqi Shia Militias

One of Tehran's strongest levers of influence in Iraq is through the many Iran-backed Shia militias. Iran has provided financial backing for some of these groups for decades. The **Badr Organization, Asaib Ahl al-Haq, and Kataib Hizballah** have long served as reliable partners for Tehran, including conducting attacks on U.S. military personnel in Iraq from 2003 to 2011 using Iranian-provided munitions. Following ISIS's widespread territorial gains in Iraq in mid-2014 and the subsequent formation of the Popular Mobilization Forces (PMF), Iran sent IRGC advisers, weapons, and other military support for the PMF and Iraqi counter-ISIS operations.

Since 2011, the IRGC-QF has also deployed these Shia militants outside Iraq in support of Iranian interests. Since at least 2013, Iraqi Shia militias have greatly expanded their strength, influence, and combat capabilities, owing largely to Iranian support and their experience fighting in Iraq and Syria. Shia militias under the Popular Mobilization Committee (PMC) played a leading role in counter-ISIS operations in Iraq, and the majority of these groups have had elements fighting in Syria at Iran's behest as part of Syrian pro- regime forces. During the counter-ISIS campaign, Shia militias staffed more than 50 PMF brigades under the PMC. There are an estimated 75,000–145,000 mainly Shia fighters active in more than 35 Iraqi militias.

Hizballah

Hizballah is Iran's most important and longest-standing nonstate partner and a core member of Tehran's "Axis of Resistance." Shared goals, ongoing personal relationships, and enduring ideological, cultural, and religious ties have contributed to the strength of the partnership. The IRGC-QF has collaborated closely with Hizballah to grow Iran's influence and capacity throughout the region and beyond, using the group to help train and equip other proxies. Iran has attempted to help temper international perceptions of Hizballah as a terrorist organization and increase Hizballah's legitimate political standing in Lebanon. In recent years, both groups have focused their cooperation on immediate needs in Syria and Iraq.

Hizballah, a highly adaptable and malleable organization, has evolved from its insular origins as a sectarian actor in Lebanon into a far more complex regional actor. Hizballah's role in Lebanon—in its formal political institutions, as a social provider for Shia society and as a self-proclaimed defender against Israeli aggression—primarily defines its reason for existence. However, the group has increasingly defined its other regional activities—including involvement in Syria, Iraq, and Yemen—as working in con- cert with its internal Lebanon-centric goals. This concept of Hizballah as a regional power directly contradicts Lebanon's policy of disassociation and has increased sectarian tensions at home.

Hizballah has steadily grown as a military power during the past several decades. Asymmetric attacks against Israel in the 1980s and 1990s, followed by a major conflict in 2006, initially confirmed Hizballah's self-imposed title as a "resistance" force against Israel. Since the 2006 Israel-Hizballah War, Hizballah has steadily increased its military arsenal, promising that any future conflict will be more devastating. Hizballah's concentration of power has allowed it to transform from a hybrid guerilla force into a nascent conventional military, with the capacity to deploy an expeditionary force in Syria in support of the Assad regime and Iran. Hizballah maintains a stockpile of approximately 120,000–150,000 rockets, a massive expansion in capability compared with the approximately 13,000 it had available during the 2006 conflict. Hizballah has an estimated 45,000 fighters, divided between as many as 21,000 full-time personnel and a 24,000-person reserve force

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 59-60

Other IRGC ties to Foreign Forces - I

- **Lebanon:** The IRGC-QF's chief partner in Lebanon, Hezbollah, has improved its military capabilities and become more involved in the government. Among the most important activities undertaken by Hezbollah is the "Precision Project": the effort to expand and upgrade Hezbollah's inventory of rockets, missiles, and drones.33 With Iran's help, Hezbollah has amassed a range of weapons and systems, such as the Fateh-110/M-600 short-range ballistic missile, Shahab-1 and Shahab-2 short-range ballistic missiles, Toophan anti-tank guided missiles, Kornet man-portable anti-tank guided missiles, M113 armored personnel carriers, T-72 main battle tanks, Karrar UAVs, and Katyusha rocket launchers. Hezbollah's armed UAV capabilities are among the most advanced of any terrorist group in the world, and it has destroyed Islamic State targets in Syria using Karrar armed UAVs.
- **Yemen:** The IRGC-QF has provided weapons, funding, and training to the Houthis (officially called Ansar Allah, …Of particular concern are Iranian weapons and parts—including for ballistic missiles, land attack cruise missiles, and UAVs—that have been used by the Houthis to threaten shipping near the Bab el-Mandeb Strait, conduct attacks against land-based targets in Saudi Arabia and the UAE, and threaten U.S. military forces deployed to the region.
- Around 2014, as the war in Yemen intensified with the growing involvement of Saudi Arabia and the UAE, Iran began increasing its aid to the Houthis. It provided anti-tank guided missiles, sea mines, UAVs, 122-millimeter Katyusha rockets, Misagh-2 manportable air defense systems (MANPADS), RDX high explosives, ballistic missiles, unmanned explosive boats, radar systems, and mining equipment. The IRGC-QF and Lebanese Hezbollah also provided training in Yemen and Iran.
- Borkan-2H mobile, short-range ballistic missiles, which the Houthis used to strike Riyadh and other targets in Saudi Arabia, also threatening foreign businesses in the country. A United Nations panel of experts concluded that the missiles were "a derived lighter version" of Iran's Qiam-1 missile and that Iran provided key missile parts to the Houthis. Analysis from the wreckage of 10 Borkan-2H missiles indicates that they were likely smuggled into Yemen in parts and then assembled. Iranian components were also integrated into Yemeni SA-2 surface-to-air missiles to construct the Qaher series of surface-to-surface rockets.
- **Iraq:** Iran has helped Shia militia forces in Iraq build their missile production capabilities. According to some reporting, factories in Iraqi locations such as Jurf Sahkar (north of Kerbala) and al-Zafaraniya (east of Baghdad) have been used to develop missiles. Iranian activities in Iraq threaten the United States and its partners, such as Israel, Jordan, Kuwait, and Saudi Arabia.
- There are three main groups that comprise the *hashd al-sha'abi*, an umbrella organization of Shia militias. First are those groups loyal to Iran's supreme leader, Ayatollah Ali Khamenei, which have a particularly close relationship with the IRGC-QF. Examples include the Badr Organization, Asaib Ahl al-Haq, Kata'ib Hezbollah, Kataeb Sayed al-Shuhada, and Harakat Hizbollah al-Nujaba.
- Second are the groups loyal to Grand Ayatollah Ali al-Sistani, such as Saraya al-Ataba al-Abbasiya, Saraya al-Ataba al-Huseiniya, Saraya al-Ataba al-Alawiya, and Liwa Ali al-Akbar. Sistani urged fighters to join the Iraqi government's security organizations—*not* paramilitary groups tied to Iran—in his June 2014 *fatwa* (or legal ruling).
- Third are groups loyal to Muqtada al-Sadr. The primary organization is Saraya al-Salam (Peace Brigades), which includes two Hashd brigades (Brigades 313 and 314).

Source: Adapted from Seth G. Jones, *Containing Tehran*, CSIS, 1-2020, p. 16-19.

Other IRGC ties to Foreign Forces - II

- **Syria:** Iran has provided substantial assistance to the Assad regime by helping organize, train, and fund over 100,000 Shia fighters n addition to pro- viding light and heavy weapons to the Syrian regime and militias, up to 3,000 IRGC-QF fighters helped plan and execute campaigns, such as the 2016 Battle of Aleppo (or Operation Dawn of Victory). The IRGC-QF worked closely with the Assad regime and the Russian military, which conducted strikes from Russian combat aircraft and naval vessels in the Mediterranean Sea. Syrian forces and militias supported by the IRGC-QF shelled rebel positions in Aleppo, and Russian close air support and Kalibr cruise missile strikes reduced entire neighborhoods to rubble.
- With IRGC-QF support and encouragement, Lebanese Hezbollah deployed up to 8,000 fighters to Syria and increased its arsenal with greater numbers and ranges of rockets and missiles from Syrian territory. Hezbollah also trained, advised, and assisted Shia and other non-state groups in Syria. known as *Al-Muqawama al-Islamiyah fi Suria* (the Islamic Resistance in Syria), examples included: Qu- wat al Ridha (or Ridha Forces), which have operated in such Syrian governorates as Homs; Al-Ghaliboun: Saraya al-Muqawama al-Islamiyah fi Suria (or The Victors: The Companies of the Islamic Resistance in Syria), which have been active in governorates such as Daraa and Quneitra; and Liwa al-Imam al-Baqir (or Baqir Brigade), which has deployed to such governorates as Aleppo.
- **Afghanistan and Others:** The IRGC- QF organized roughly 10,000 Afghan militants un-der the Fatemiyoun Brigade (named after Fatima, daughter of the Prophet Muhammad) and deployed them to Syria to fight alongside pro-Assad forces. Fatemiyoun fighters were used in such battles as Aleppo, Damascus, Hama, Homs, Latakia, Palmyra, and Dayr az Zawr.
- The IRGC-QF trained and equipped roughly 2,000 Pakistani fighters under the Zainebiyoun Brigade (named after Zaynab, Fatima's daughter).
- Iran also funded and trained fighters from Bahrain in Syria. The IRGC-QF has aided other forces, such as the Afghan Taliban, Palestinian Islamic Jihad, and Hamas.

Source: Adapted from Seth G. Jones, *Containing Tehran*, CSIS, 1-2020, p. 16-19.

DIA Assessment of Other Foreign Pro-Iranian Forces: 2019 - I

Huthis

Iran probably sees supporting the Huthi rebels in Yemen as a low-cost, high-reward opportunity to indirectly confront Saudi Arabia, embarrass Riyadh militarily, and establish an ally on the Arabian Peninsula. Iran provides a wide range of support—including advisers, training, and lethal aid—to the Huthis to support their operations against the Saudi-led coalition in the Yemen conflict. Tehran claims Riyadh is the aggressor and the cause of the humanitarian crisis in Yemen and has refuted accusations that it is supporting the Huthis with missiles and other advanced military equipment.

Estimates of Huthi fighters range from 10,000 to 30,000 personnel consisting of core believers, tribal supporters, and familial alliances. The Huthis seek to rule the northern Yemen region or, at a minimum, retain a dominant role in northern Yemen and substantial political and military influence in any future government. Huthi leaders seek to use negotiations, international pressure, military operations, and ballistic missile and maritime attacks to pressure the Saudi-led coalition into accepting settlement terms favorable to the Huthis.

The Huthis depend on Iran for military equipment and support, including ballistic missiles, UAVs, and explosive boat technology. Tehran is using covert means to support this effort while publicly denying its military involvement in Yemen. Although the Huthis have always maintained a sense of identity as Shia Zaydis and Yemenis, they probably are receptive to further strengthening ties with Iran.

Huthi forces hold and defend territory in northern Yemen, disrupt Saudi-led coalition movement and supply efforts, and conduct retaliatory and offensive strikes against the coalition. Huthi fighters are armed with small arms, artillery, and tanks from preconflict Yemeni stockpiles. Iranian-supported Huthi missile forces have conducted multiple ballistic missile attacks against Saudi Arabia—with targets including the capital, Riyadh, and a Saudi oil refinery—using Iranian SRBMs. Huthi maritime forces have ASCMs, naval mines, manned and unmanned explosive boats, and other small boats used for small-arms attacks. The Huthis possess most of the surface-to-air missiles (SAMs) from Yemen's prewar stockpiles and have modified air-to-air missiles (AAMs) for use as SAMs. In 2018, Saudi-led coalition forces also seized advanced Iranian SAMs enroute to the Huthis during countersmuggling operations. he Huthis have also used Iranian UAVs to attack Saudi-led coalition Patriot batteries.

Palestinian Militant Groups

Iran provides support—including training, funding, and military equipment—to HAMAS and other Palestinian groups because of their strategic location and shared hostility toward Israel. Tehran seeks to increase international support in favor of a Palestinian state and desires to be seen as a stronger champion of Palestinians than its Arab rivals, such as Saudi Arabia. However, these primarily Sunni groups are not always receptive to Iranian guidance. During the past year, some Palestinian militant groups, particularly HAMAS, have improved ties to Iran. Relations had deteriorated after 2011, as most Palestinian militant groups refused to support the Assad regime in the Syrian civil war.

HAMAS, the Palestine Islamic Jihad (PIJ), and the Popular Front for the Liberation of Palestine–General Command (PFLP-GC) share some common capabilities to conduct both limited conventional military operations, such as cross-border ATGM attacks and rocket salvos, and terrorist attacks, such as kidnappings and suicide bombings. HAMAS is the best-armed Palestinian militant group with around 25,000 active members in its military wing. PIJ has around 8,000 militants, and PFLP-GC numbers around 800 militants. These groups use a variety of small and heavy arms, including antiarmor weapons and small- to mid-range rockets.

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 61-62

DIA Assessment of Other Foreign Pro-Iranian Forces: 2019 - II

Taliban

Iran's relationship with the Taliban has evolved over the years. Following the Taliban's rise to power in the 1990s, Iran refused to recognize the group as a legitimate government. In 1998, Iran nearly went to war with Afghanistan after the Taliban captured and killed nine Iranian diplomats. However, relations began to thaw after the U.S. invasion of Afghanistan. Since at least 2007, Iran has provided calibrated support—including weapons, training, and funding—to the Taliban to counter U.S. and Western influence in Afghanistan, combat ISIS-Khorasan, and increase Tehran's influence in any post-reconciliation government. Iran balances this support as part of its dual-track strategy for engaging both local groups and the Afghan government in Kabul to achieve its broader security goals. Tehran does not seek to return the Taliban to power but aims to maintain influence with the group as a hedge in the event that the Taliban gains a role in a future Afghan government.

Shia Foreign Fighters

To support its operations in Syria, Iran has employed a variety of Shia foreign fighters from the region, including the Fatemiyun, Zeinabiyun, and Heidariyun, who are fighters of Afghan, Pakistan, and Iraqi origin, respectively. The Fatemiyun and Zeinabiyun are recruited primarily from refugee populations in Iran, while the Heidariyun generally come from established Iraqi Shia militias. These groups have served as a proxy force to fight alongside proregime forces in Syria under the direction of the IRGC-QF and Hizballah. Before being sent into combat, these foreign fighters receive basic training in military skills from Iran or Hizballah. Training usually lasts only 20–45 days, although some fighters reportedly receive additional specialized training, such as sniper courses. Tehran is likely to continue using these fighters in Syria, and it is unclear if there are plans to deploy them to other locations.

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 61-63

Iran's Asymmetric Forces Involve Far More than the Quds Forces. The Other Elements of the IRGC and the Artesh Make up the Bulk of Iran's Forces and Asymmetric Capability

Summary Assessment of IRGC versus Iran's Regular Forces

- Iran has roughly 610,000 active military personnel, of which approximately 195,000 are in the IRGC.
- Its forces include roughly 350,000 soldiers from the regular army (220,000 of whom are conscripts), 18,000 from the regular navy, 37,000 from the regular air force, and 15,000 from air defense force
- Iran has two main ground components: the Islamic Republic of Iran Ground Forces (IRIGF) and the Islamic Revolutionary Guard Corps Ground Forces (IRGC-GF).
- The IRIGF includes six infantry divisions, four armor divisions, six artillery divisions, two commando divisions, one airborne brigade, and one special forces brigade.
- Iran's army is relatively weak. Though Iran does not possess a robust arsenal of modern tanks or armored vehicles, it has rebuilt its armored strength since the 1980-1988 Iran-Iraq War.
- Iran employs smaller vessels that emphasize speed and mobility. Iran could employ these fast-attack vessels to fire on tankers, lay mines, or conduct swarming tactics to isolate and overwhelm targets.
- Iranian acquisition of the Houdong-class missile boats, C 14-class missile boats, and MK 13-class patrol craft—all from China—highlights Iran's focus on irregular capabilities and its ability to fire precision missiles from mobile maritime platforms. Iran produces domestic variants, such as the Peykaap I-/II-class patrol craft and missile boats.
- Mines are similarly used by Iran as an area denial tool. Late in the Iran- Iraq "tanker war" in the 1980s, Iran utilized mine warfare against commercial shipping in the Persian Gulf, planting mines through the Persian Gulf, Gulf of Oman, and the Strait of Hormuz. In 1988, Iran deposited roughly 150 mines in the Strait of Hormuz, one of which succeeded in severely damaging the U.S. guided-missile frigate USS *Roberts*.

Source: Adapted from Seth G. Jones, *Containing Tehran*, CSIS. 1-2020, p. 25.

DIA Estimate of Iranian Regular and IRGC Forces

The Iranian Armed Forces at a Glance

Services	***Artesh:*** Ground Force, Navy, Air Force, Air Defense Force ***IRGC:*** Ground Force, Navy, Aerospace Force, Qods Force, Basij ***LEF***
Personnel	***Active military:*** Approximately 600,000 ***Reserve:*** Approximately 450,000 active reserve, at least 500,000-1 million inactive reserve ***LEF:*** Approximately 200,000-300,000
Recruit Base	Universal male conscription (18-24 months), some volunteer
Equipment Profile	Mostly legacy Western, Chinese, and Soviet-era weapon systems, with some newer domestically produced systems
Core Strengths	Large ballistic missile inventory, littoral naval capabilities, and unconventional partners and proxies abroad
Key Vulnerabilities	Dual military structure and lack of access to modern technology and weapons

Iranian Military Structure and Size Estimates

1805-17887

Islamic Revolutionary Guard Corps (IRGC)		Regular Forces (Artesh)	
IRGC Ground Force (IRGCGF)	150,000	Islamic Republic of Iran Ground Force (IRIGF)	350,000
IRGC Navy (IRGCN)	20,000	Islamic Republic of Iran Navy (IRIN)	18,000
IRGC Aerospace Force (IRGCASF)	15,000	Islamic Republic of Iran Air Force (IRIAF)	37,000
IRGC Qods Force (IRGC-QF)	5,000	Islamic Republic of Iran Air Defense Force (IRIADF)	15,000
Basij (Reserves)	450,000	**Total:**	**420,000**
Total (excl. Basij)	**190,000**		
Total (incl. Basij)	**640,000**		
Total Military (Active): 610,000			
Total Military (incl. Reserves): 1,060,000			

Note: Basij number only includes estimated active reserve personnel; Iran may be able to mobilize an additional 500,000 to 1 million Basij in wartime.

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, pp. 9-11.

DIA Estimate of Iranian Military Command and Control

Supreme Leader Khamenei, Iran's head of state since 1989, is the ultimate decisionmaker in the Iranian political system. Khamenei is responsible for delineating and supervising "the general policies of the Islamic Republic of Iran," according to the Iranian constitution, giving him the authority to direct all of Iran's domestic and foreign policies. As commander in chief, the supreme leader can declare war or peace. He has the power to appoint and dismiss military officials and the head of the judiciary, and appoints 6 of the 12 members of the Council of Guardians, which vets Iranian legislation and candidates for public office.

President Ruhani is a pragmatic conservative cleric who serves as the popularly elected head of government. The president oversees the cabinet ministries, manages the budgetary process, and chairs the Supreme Council for National Security (SCNS). However, the Iranian constitution limits the authority of the president, who has no operational control of the military and can operate only within the boundaries set by the supreme leader.

Supreme Council for National Security

The SCNS is the senior most body for formulating foreign and security policy. The SCNS is formally chaired by the president, who also appoints the SCNS secretary, currently Vice Admiral Ali Shamkhani. Its members also include the speaker of the Majles; the head of the judiciary; the chief of the AFGS; the commanders of the IRGC and Artesh; and the ministers of defense, foreign affairs, the interior, and intelligence. As SCNS chair, the president holds some influence in Iranian foreign and defense policy. The SCNS reports to the supreme leader, who makes all final security policy decisions and gives orders to the armed forces.

Armed Forces General Staff & Khate-molanbia Central Headquarters

The AFGS is the senior most military body in Iran, setting military policy and strategic guidance as directed by the supreme leader. The Khatemolanbia Central Headquarters (KCHQ) is responsible for coordinating military operations. The AFGS and KCHQ monitor and coordinate the activities of Iran's two militaries. In 2016, the KCHQ was separated from the AFGS as a standing independent command responsible for operational command and control (C2); previously, the KCHQ would only be stood up in wartime. At that time, the supreme leader appointed IRGC Major General Mohammad Bagheri as the AFGS chief—Iran's chief of defense (CHOD)— and IRGC Major General Gholam Ali Rashid as the KCHQ commander.

Regular Forces (Artesh)

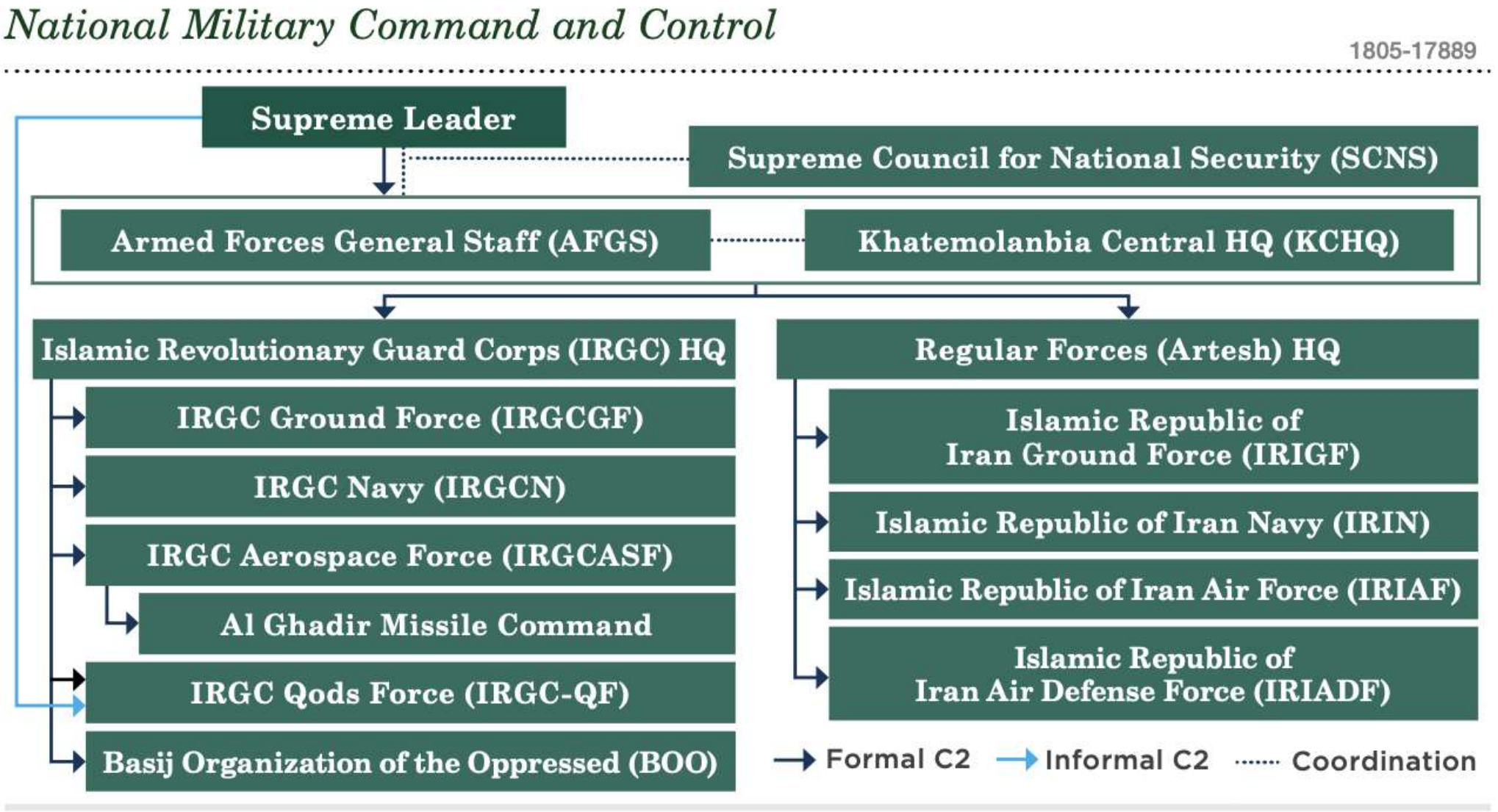
The Artesh primarily focuses on defending Iran's borders from external threats. It consists of ground, naval, air, and air defense components, which in total number about 420,000 personnel. Although generally not as fervent in ideology as the IRGC, the Artesh still adheres to *velayat-e faqih* and remains loyal to the supreme leader. The Artesh commander, currently Major General Adolrahim Musavi, reports to the AFGS chief.

Islamic Revolutionary Guard Corps

Supreme Leader Khomeini established the IRGC, also known as the *Sepah* (corps) or *Pasdaran* (guard), shortly after the Islamic Revolution. It has a broader mission to defend the Iranian revolution from any foreign or domestic threat. The IRGC— designated as an FTO by the United States—consists of ground, naval, aerospace, and unconventional components, which in total number about 190,000 personnel. Including the estimated active personnel from Iran's paramilitary reserve force, the Basij, the IRGC numbers roughly 640,000 personnel. The IRGC commander, currently Major General Hossein Salami, reports to the AFGS chief. Informally, however, IRGC leaders have close access to the supreme leader's office and routinely advise the supreme leader and his advisers on foreign policy matters.

Source: Adapted from DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 27.

DIA Estimate of Iranian Military Command and Control - I



Source: Adapted from DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 27.

IISS Portrayal of Iran's Complex Security Structure: 2019

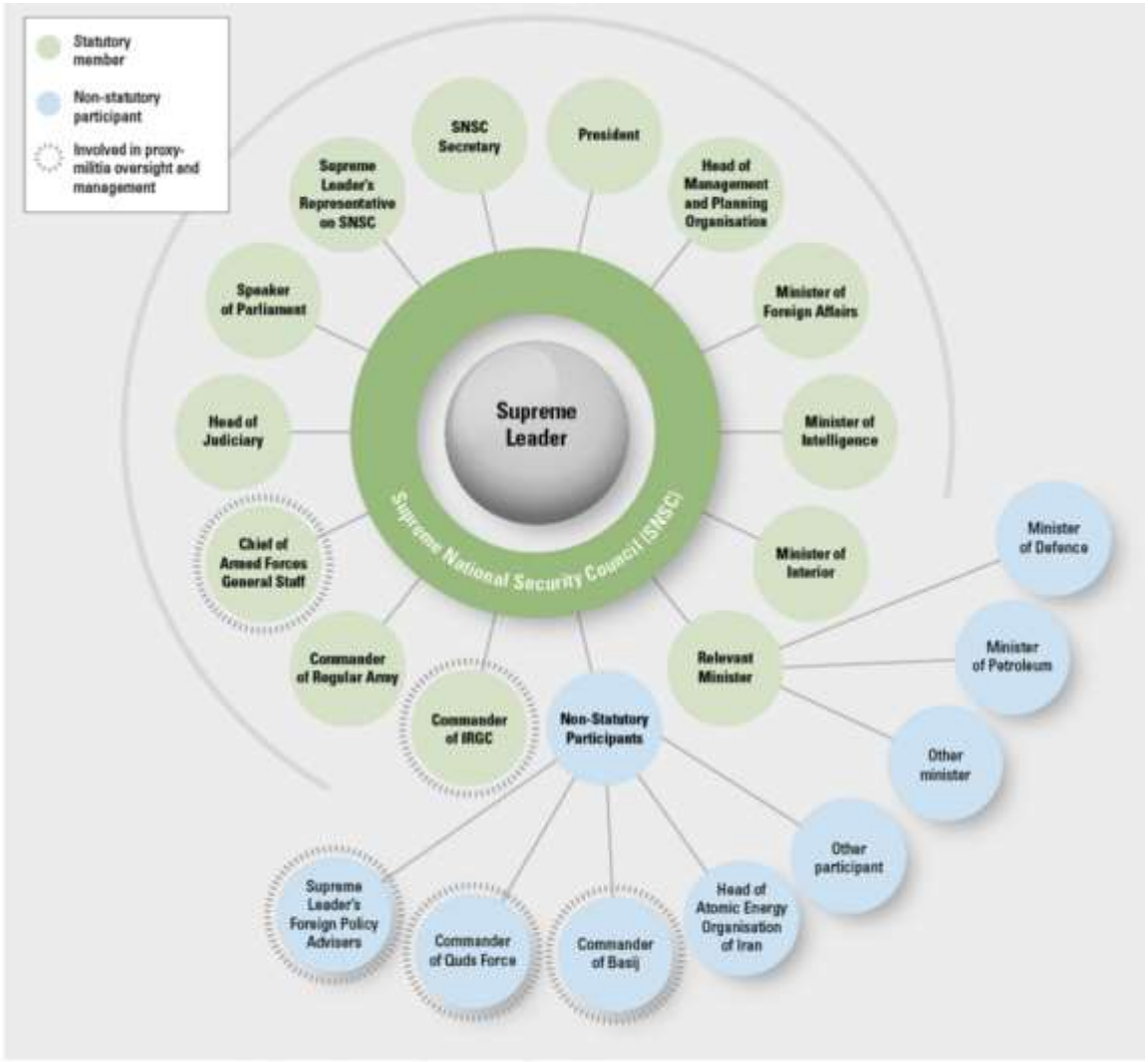


Figure 1.1: **Iran's Supreme National Security Council: structure and participants** *Source: IISS*

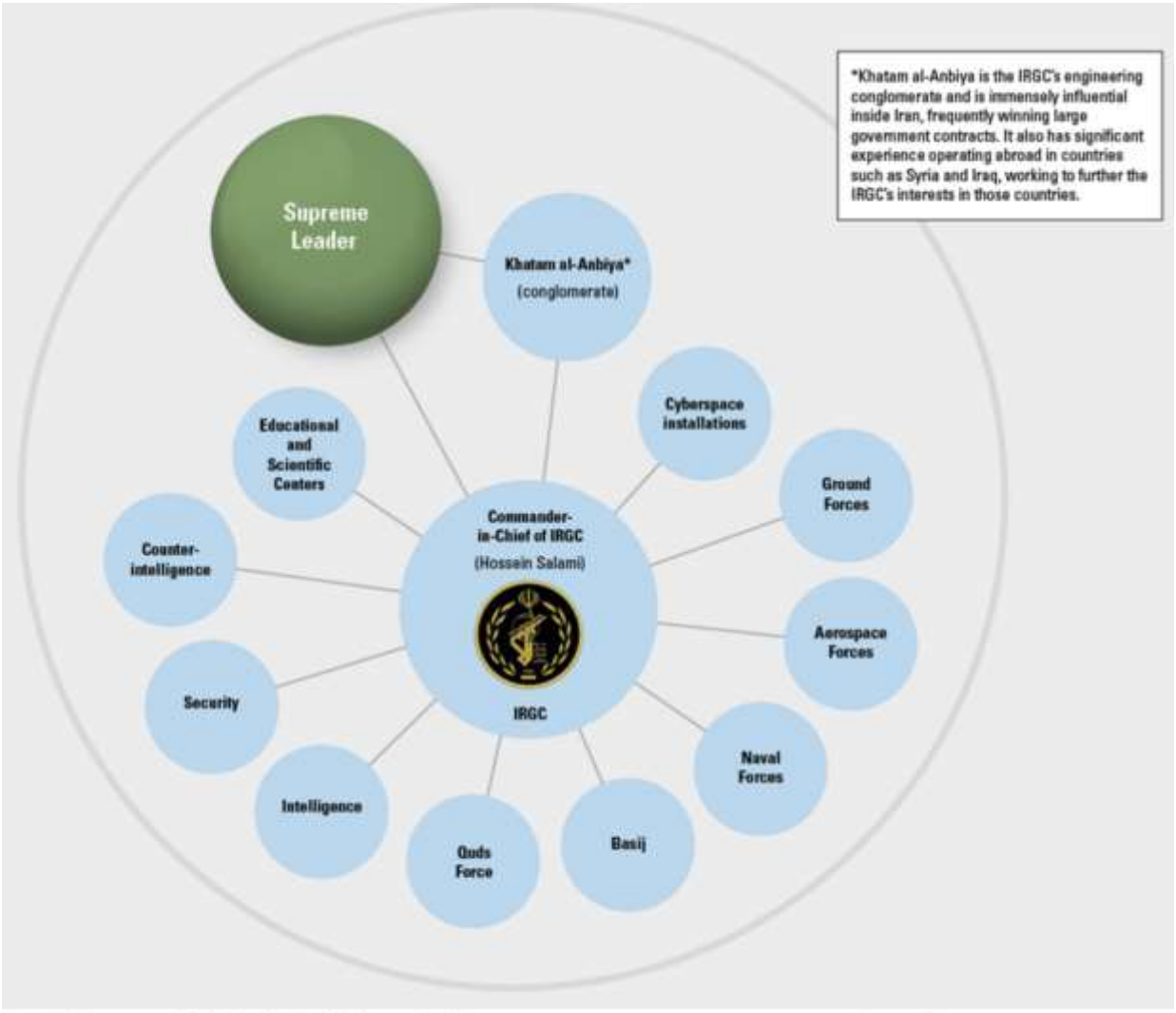
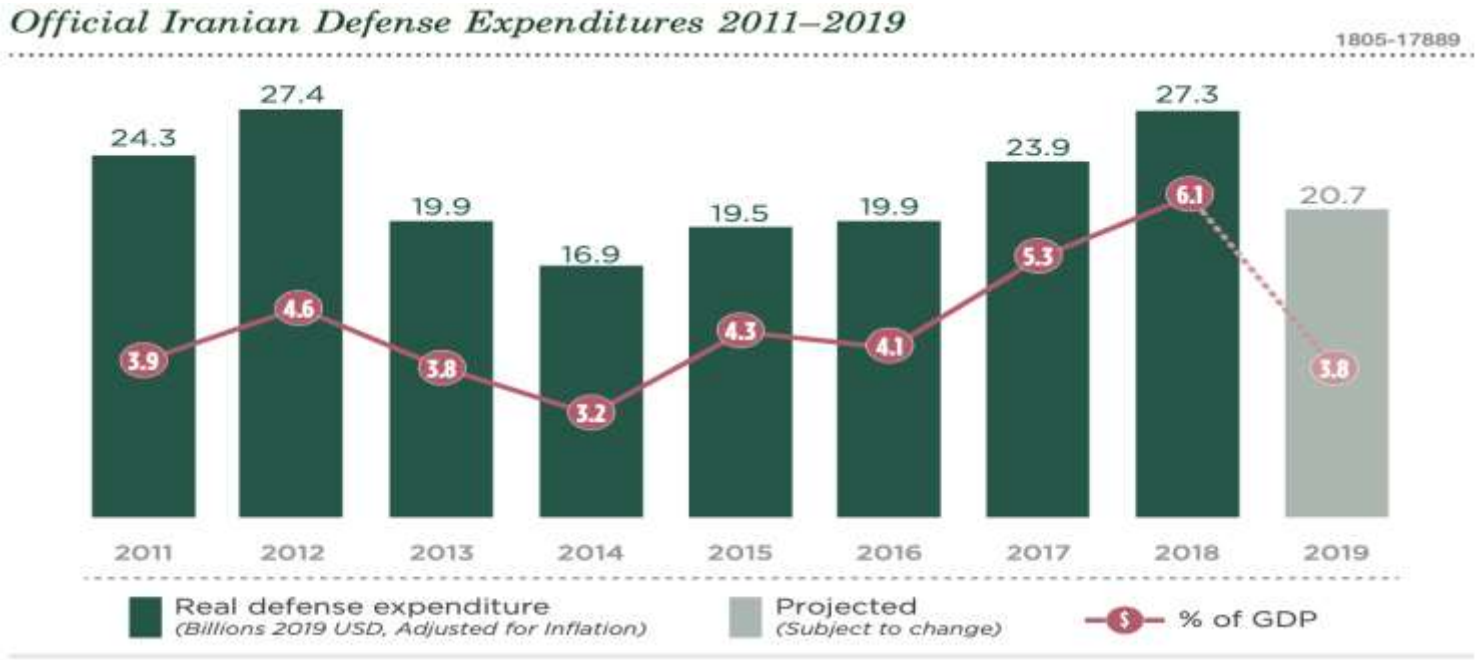
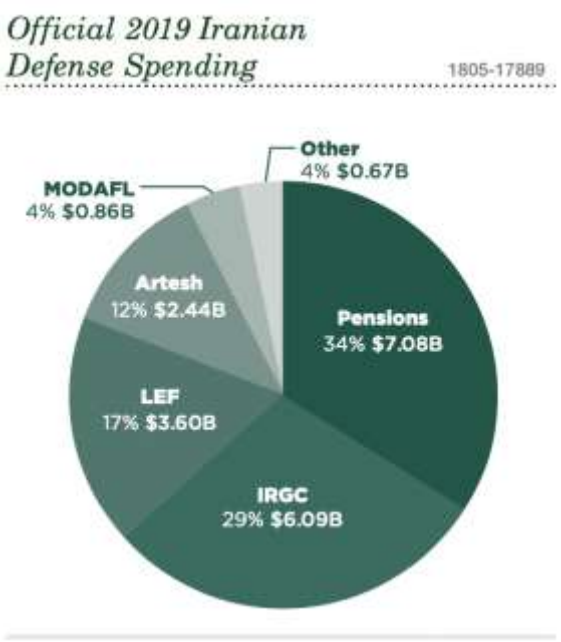


Figure 1.2: **Structure of the Islamic Revolutionary Guard Corps** *Source: IISS*

Source: Adapted from Iran's Networks of Influence in the Middle East, November 2019, https://www.iiss.org/publications/strategic-dossiers/iran-dossier/iran-19-03-ch-1-tehrans-strategic-intent

DIA Estimate of Iranian Defense Spending





Following a significant increase in Iranian defense spending from 2014 to 2018 after the implementation of the JCPOA, Iran's security forces have experienced a funding decrease in 2019. Key drivers of this defense budget decrease include the reimposition of U.S. oil and banking sanctions, the depreciation of the Iranian rial, and chronic economic mismanagement. Iran's official defense budget for 2019 is approximately $20.7 billion, roughly 3.8 percent of gross domestic product (GDP), as passed by the Iranian Majles. This total includes funding for the major components of Iran's security apparatus, including the IRGC, Artesh, and LEF, as well as the Armed Forces General Staff (AFGS), the Ministry of Defense and Armed Forces Logistics (MODAFL), and security forces pensions. The decline in funding for 2019 is similar to the decrease following the implementation of multi- lateral oil and financial sanctions in 2012. Iran's current defense funding may face further cuts as Iranian oil export revenue continues to decline.

Although it is smaller in size, the IRGC receives a greater proportion of the defense budget than the Artesh. In 2019, Iran allocated 29 percent of the defense budget to the IRGC, compared with 12 percent for the Artesh.

The government allocated 34 percent of the budget to pensions for all military personnel, and law enforcement personnel received about a third of the budget. Iran also distributes funding to its many partners and proxies, expenditures not fully accounted for in the official budget. Between 2012 and 2018, Iran provided more than $16 billion to the Syrian regime, Hizballah, Iraqi Shia militias, the Huthis, and Palestinian groups.

Tehran has a variety of off-budget sources of funding, making it difficult to accurately estimate the true size and scope of Iranian defense spending. The supreme leader can authorize transfers to defense and security organizations from the National Development Fund, Iran's reserve fund, as it reportedly has done to sup- port military activities in Syria.120 Moreover, the IRGC runs numerous private companies— most notably the wide-ranging *Khatemolanbia* ("seal of the prophets") Construction Head- quarters—and exploits its far-reaching political and social influence to raise additional revenue. The IRGC and IRGC-QF can also gain extra income through smuggling and other illicit activities in the region.

Iran's new 5-year national development plan, released in July 2017, emphasizes a broader range of conventional capabilities than past plans. The plan continues to prioritize missiles and naval forces, but it also emphasizes air power, including the first public reference to offensive air capabilities in an Iranian strategic document. The plan also provides new focus on electronic warfare (EW) capabilities.

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 18-19.

DIA Assessment of Iranian Military Modernization Goals

Capability	Stated Goals
Missile	Increase the accuracy, lethality, and production of ballistic and cruise missiles
Air Defense	Develop longer-range SAMs and improve short- and medium-range systems
Air	Develop advanced offensive and defensive air power
Navy	Attain regional and deterrent sea power
Ground	Strengthen ground combat and rapid-reaction capability
EW/C4ISR	Improve EW and C4ISR posture, including space-based capabilities
Cyberspace	Increase cyberspace presence and hold adversary infratructure at risk

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 42.

IISS Estimate of IRGC in 2019

Islamic Revolutionary Guard Corps 125,000+

Islamic Revolutionary Guard Corps Ground Forces 100,000+

Controls Basij paramilitary forces. Lightly manned in peacetime. Primary role: internal security; secondary role: external defence, in conjunction with regular armed forces

FORCES BY ROLE

COMMAND

31 provincial corps HQ (2 in Tehran)

SPECIAL FORCES

3 spec ops div

MANOEUVRE

Armoured

2 armd div

3 armd bde

Light

8+ inf div

5+ inf bde

Air Manoeuvre

1 AB bde

Islamic Revolutionary Guard Corps Marines 5,000+

FORCES BY ROLE

MANOEUVRE

Amphibious

1 marine bde

Islamic Revolutionary Guard Corps Naval Forces 20,000+ (incl 5,000 Marines)

FORCES BY ROLE

COMBAT SUPPORT

Some arty bty

Some AShM bty with HY-2 (CH-SSC-3 *Seersucker*) AShM

EQUIPMENT BY TYPE

In addition to the vessels listed, the IRGC operates a substantial number of patrol boats with a full-load displacement below 10 tonnes, including ε40 *Boghammar*-class vessels and small *Bavar*-class wing-in-ground effect air vehicles

PATROL AND COASTAL COMBATANTS 126

PBFG 56:

5 C14 with 2 twin lnchr with C-701 (*Kosar*)/C-704 (*Nasr*) AShM

10 Mk13 with 2 single lnchr with C-704 (*Nasr*) AShM, 2 single 324mm TT

10 *Thondor* (PRC *Houdong*) with 2 twin lnchr with C-802A (*Ghader*) AShM, 2 twin AK230 CIWS

25 *Peykaap* II (IPS-16 mod) with 2 single lnchr with C-701 (*Kosar*) AShM/C-704 (*Nasr*), 2 single 324mm TT

6 *Zolfaghar* (*Peykaap* III/IPS-16 mod) with 2 single lnchr with C-701 (*Kosar*)/C-704 (*Nasr*) AShM

PBFT 15 *Peykaap* I (IPS -16) with 2 single 324mm TT

PBF 35: 15 *Kashdom* II; 10 *Tir* (IPS-18); ε10 *Pashe* (MIG-G-1900)

PB ε20 *Ghaem*

AMPHIBIOUS

LANDING SHIPS • LST 3 *Hormuz* 24 (*Hejaz* design for commercial use)

LANDING CRAFT • LCT 2 *Hormuz* 21 (minelaying capacity)

LOGISTICS AND SUPPORT • AP 3 *Naser*

COASTAL DEFENCE • AShM C-701 (*Kosar*); C-704 (*Nasr*); C-802; HY-2 (CH-SSC-3 *Seersucker*)

Islamic Revolutionary Guard Corps Aerospace Force

Controls Iran's strategic-missile force

FORCES BY ROLE

MISSILE

ε1 bde with *Shahab*-1/-2; *Qiam*-1

ε1 bn with *Shahab*-3

EQUIPMENT BY TYPE

SURFACE-TO-SURFACE MISSILE LAUNCHERS

MRBM • Conventional up to 50: *Shahab*-3 (mobile & silo); some *Ghadr*-1 (in test); some *Emad*-1 (in test); some *Sajjil*-2 (in devt); some *Khorramshahr* (in devt)

SRBM • Conventional up to 100: some *Fateh* 110; Some *Khalij Fars* (*Fateh* 110 mod ASBM); some *Shahab*-1/-2; some *Qiam*-1; some *Zelzal*

UNMANNED AERIAL VEHICLES

CISR • Medium

Shahed 129

Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 341-342.

DIA's Assessment of Iran's Basij Is that it Is Now Largely a Domestic Force – 2019

Iran established its volunteer paramilitary reserve force, called the *Basij* ("mobilization" in Persian), in April 1980 after Supreme Leader Khomeini called for the creation of a 20 million-man army following the 1979 Islamic Revolution. During the Iran-Iraq War, the Basij deployed alongside the IRGC and regular forces. They became known for "human wave" assaults and martyrdom and suffered a large proportion of the total combat casualties during the war. It was incorporated into the IRGC structure in 1981, but it did not come under formal IRGC command until 2007. These changes brought about greater unit discipline and a formal rank structure. In 2009, Iran further integrated the more militarily capable components of the Basij with the IRGCGF, with the remaining personnel forming the much larger Basij Organization of the Oppressed (BOO), which focuses on domestic security and social outreach. The force is composed of mostly young male and female Iranians who volunteer often in exchange for official benefits.

Today, the Basij forms a core part of the regime's internal security apparatus. On multiple occasions, Tehran has used the Basij to help quell domestic unrest, including the widespread 2009 election protests. With branches in almost every Iranian city and town, Basij units aid internal security, law enforcement, suppression of dis- sent, and moral policing. The Basij has specialized branches for different segments of Iranian society, including the Labor Basij, Tribal Basij, Public Servants' Basij, Students' Basij, and Pupil Basij, which serves as a youth organization. In recent years, Basij personnel have also been part of the contingent of deployed Iranian forces supporting operations in Iraq and Syria.

There are five types of Basij members—potential, general, regular, active, and special—with increasing levels of capability and training, although the precise terms and descriptions for these tiers vary. Potential Basij are not formally enrolled in the BOO but are firm believers in the revolution who participate in Basij activities. General Basij are unpaid and receive a minimum level of training. Regular members are also unpaid part-time volunteers, but they receive more ideological indoctrination and rudimentary training to perform basic security duties during peacetime. Active Basij receive greater ideological training and are paid full- time members under temporary contracts. The Special Basij are the most highly trained and experienced members, comparable to full-time IRGC soldiers.

The Basij has several core security components with specific missions, including the Ashura, Al Zahra, Beyt ol Moghaddas, Kowsar, Imam Ali, Imam Hossein, and Fatehin battalions. The Ashura (male) and Al Zahra (female) battalions provide local security, neighborhood defense, infrastructure protection, and low- level antiriot support. The Beyt ol Moghaddas (male) and Kowsar (female) battalions are rapid-reaction units, formed from the Ashura and Al Zahra battalions, intended to help defend cities and villages from potential invasion. The more-capable Imam Ali battalions are primarily set up to counter more significant internal security threats and domestic unrest. The Imam Hossein battalions train as light infantry and work closely with the IRG- CGF, including some deployments to Syria. Finally, the Fatehin are Basij special forces units, some of which have also deployed to Syria to assist the IRGCGF.

There are widely varying estimates for the size of the Basij, which are further complicated by the organization's different capability levels, unit types, and social groups. Some Iranian officials have claimed there are as many as 22 million Basij, which would constitute about a quarter of Iran's population. Such large estimates, if remotely accurate, would include the many men, women, and children who perform social service and outreach functions as part of the BOO and have little to no military or security training. These members probably significantly out-number the militarized Basij components.

The Basij probably has around 450,000 active reserve personnel—those with military training who serve in operational units on a semi- regular basis and help staff much of the IRGC provincial corps throughout the country. The Basij may have another 500,000 to one million inactive reserve personnel—those with at least some military training who could be mobilized in wartime. There may be an additional 3–4 million Basij within the BOO with at most basic military training, making roughly 4–5 million a more realistic estimate of the total number of military-age Basij of all types. Estimates in the range of 10-20 million could be possible if they include all nonmilitary components of the BOO.

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 78-80

DIA's Assessment Indicates the IRGC Navy Plays Key Role in Iran's Asymmetric Warfare Capabilities – 2019 - I

Iran operates two independent naval forces—the Islamic Republic of Iran Navy(IRIN), the Artesh's naval branch, and the IRGC Navy (IRGCN). Iran established the IRGCN in 1985. In 2007, the two naval forces reorganized, and Iran assigned specific areas of operation for each. Tehran assigned the IRGCN sole responsibility for the Persian Gulf and assigned the IRIN the Gulf of Oman and Caspian Sea. Both services continued to share responsibility for the Strait of Hormuz. The geographic split helped stream- line command and control (C2) while reducing confusion, miscommunication, and duplication of efforts. With the added responsibility, the IRGCN established two new naval districts (NDs) in the central and southern Persian Gulf. The reorganization also provided the IRIN with a greater mandate to operate farther from the Iranian coast.

The IRGCN, which comprises approximately 20,000 personnel, is tasked with an asymmetric doctrine that emphasizes speed, mobility, large numbers, surprise, and survivability and takes advantage of Iran's geography with the shallow and confined waterways of the Persian Gulf and Strait of Hormuz. Although the IRGCN has significantly upgraded its fleet in terms of size and lethality since the end of the Iran-Iraq War, it remains a force composed of smaller platforms. Rather than acquire larger ships as a more traditional navy might, the IRGCN has pursued smaller, faster vessels armed with a variety of weapon systems. Iran views acquiring these types of vessels in sufficient numbers will allow it to threaten foreign navies and overcome wartime attrition.

The IRGCN aims to overwhelm an adversary's defenses by using multiple platforms and weapons together to achieve tactical surprise. These systems include small boats armed with guns, rockets, torpedoes, and missiles; CDCMs; naval mines; and maritime special operations forces. IRGCN units train to use hit-and-run attacks against larger enemy naval vessels using swarms of small boats. The IRGCN could also restrict access or even attempt to fully close the Strait of Hormuz. Iran has modified a range of small boats to be able to deliver naval mines rap- idly. In support of these goals, IRGCN acquisition efforts have focused on fielding a large fleet of faster and more-capable small boats; developing more-advanced ASCMs to be launched from sea, ground, or air; and building a large inventory of more-sophisticated naval mines.

Fast Attack Craft and Fast Inshore Attack Craft

The IRGCN is the primary operator of Iran's hundreds of fast attack craft (FAC) and fast inshore attack craft (FIAC). These platforms have been the mainstay of the IRGCN since its inception in the 1980s, although the Iranian FAC/FIAC inventory has grown significantly in terms of size and lethality since that time. Larger and more-capable, Iranian FAC are usually armed with ASCMs or torpedoes. The largest of these vessels are Iran's 10 Chinese-built Houdong missile boats acquired in the mid-1990s, which serve as the capital ships of the IRGCN fleet; these vessels are frequently used in Persian Gulf and Strait of Hormuz patrols. Originally equipped with C802 missiles, Iran has since upgraded the Houdongs with extended-range Ghader ASCMs. Iranian FIAC, which are smaller but far more numerous, are lightly armed and usually fit- ted with only machine guns or rockets. Used en masse, these vessels can harass merchant ship- ping and conduct swarm tactics during a force- on-force naval engagements.

Surface Combatants

The IRIN operates Iran's larger surface combatants, which include three 1960s-era British-built Vosper Mk 5 class corvettes and several French-built Combattante

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 48-52.

DIA's Assessment Indicates the IRGC Navy Plays Key Role in Iran's Asymmetric Warfare Capabilities – 2019 - II

class patrol craft acquired before the Islamic Revolution. To expand the IRIN fleet, Iran has since domestically built several of its own Combattante patrol craft and three new Jamaran class corvettes, which closely resemble Iran's Vospers with modifications, such as an added helicopter flight deck. Iran has commissioned three of the vessels, including one on the Caspian Sea, which was severely damaged in early 2018. The IRIN has also expanded its number of missile combatants by upgrading older auxiliaries and patrol ships with short- and medium-range ASCMs.

Submarines

Submarines are a critical component of the IRIN, which has undertaken an ambitious construction program to increase its subsurface production capabilities and expand its fleet. Iran has four classes of submarines in its order of battle. Iran's largest and most capable subsurface platforms are the three Kilo class attack submarines it purchased from Russia in the 1990s. The IRIN also has 14 North Korean-designed Yono class midget submarines, which it can arm with Iranian Valfajar heavy-weight torpedoes. In February 2019, Iran presented its first submarine-launched ASCM, the Jask-2, which can be launched from the Yono. Iran also has a single domestically designed and produced Nahang midget submarine, which lacks torpedo tubes and may serve as a special operations platform. Also in February 2019, the IRIN officially commissioned its first coastal submarine, the *Fateh*. Iran claims the Fateh class, Iran's largest domestically built submarine, can launch both torpedoes and ASCMs.

Naval Mines

Mine warfare has been an integral part of Iran's naval strategy since the Tanker War. Iran has an estimated inventory of more than 5,000 naval mines, which include con- tact and influence mines. Both navies have devised strategies to rapidly deploy mines while improving force survivability. Iran has a variety of vessels that can lay mines, but the IRGCN has integrated its doctrine of using smaller, faster vessels into its mine-laying strategy. Iran has equipped many of its Ashoora small boats with mine rails capable of holding at least one mine.

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 48-

DIA's Assessment of Iran's Intelligence Services is Mixed– 2019

The Ministry of Intelligence and Security (MOIS) and the IRGC are the most robust intelligence services in Iran. The MOIS, as a government ministry, remains accountable to the president, while the IRGC remains accountable only to the supreme leader. This bifurcated intelligence structure is intended to ensure that no single organization becomes too powerful. However, tension between the IRGC and MOIS has been a constant fixture of their relationship because their duties overlap and their responsibilities are poorly delineated.

Ministry of Intelligence and Security

The MOIS was founded in 1984 to collect intelligence and lead Iran's domestic security and counterterrorism missions. Minister of Intelligence Mahmud Alavi leads the service, which has about 30,000 officers and support staff. The MOIS is the only Iranian intelligence and security service that reports to both the president and the supreme leader.

…Domestic activities are a priority for the MOIS, unless the Supreme Council for National Security (SCNS) or the supreme leader deem it necessary for the ministry to become involved directly with Iran's interests abroad. MOIS intelligence officers conduct the majority of their operations in the Middle East, Central Asia, Europe, and the United States. MOIS collection and influence operations beyond Iran's borders are typically embassy- and consulate-based under official, commercial, academic, or nongovernmental organization cover. The ministry liaises with other foreign intelligence agencies, as well as organizations such as Hizballah that protect and promote Iran's foreign agenda. During the 1980s and 1990s, the MOIS was linked to an assassination campaign that killed dozens of Iranian dissidents, many of them in Europe. More recently, it has been implicated in the murder of two dissidents in the Netherlands and a foiled plot last year against a People's Mujahedeen of Iran (MEK) rally in Paris. The MOIS changed its organizational structure in 2017 by elevating its Bureau for Foreign Intelligence, providing the organization with a direct line of accounting in Iran's annual budget separate from the rest of the MOIS.

IRGC Intelligence Organization

The IRGC Intelligence Organization (IRGC-IO)—Iran's foremost military intelligence service, capable of all-source collection, analysis, and investigations—exercises primary dominance over internal Iranian military intelligence responsibilities. Hossein Taeb has led the organization since its inception in October 2009. Taeb reports directly to the supreme leader, although he must also coordinate with the IRGC commander. Regime critics claim the IRGC-IO includes more conservative and violent elements than the MOIS, its parallel intelligence and security organization. However, despite evidence of rivalries between the MOIS and IRGC-IO, both services share the common goal of preserving Iran's clerical regime.

Artesh Intelligence

The Artesh maintains a joint military intelligence capability in the form of a Directorate for Intelligence (or J2). It focuses on traditional tactical intelligence as well as intelligence and counterintelligence operations, security within the Artesh, and coordination with other intelligence bodies.

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 81-82

DIA Assessment of Iranian Special Forces: 2019 - I

IRGC Ground Force SOF

The IRGCGF maintains several SOF units—called *Saberin* ("patient ones")—including the 110th Salman Farsi Commando Brigade, the 33rd Al Mahdi Airborne Special Forces Brigade, and the elite Saberin Special Forces Brigade (or Saberin Special Unit). Some regular IRG- CGF divisions and brigades at the provincial level also have dedicated Saberin detachments directly subordinate to them.

The IRGCGF is upgrading select SOF units, transforming commando units into special forces. The 33rd Al Mahdi Brigade also transitioned from an airborne to a special forces brigade. With these changes, Iran is attempting to create a more agile and responsive force, particularly following the rise of ISIS and Iranian combat deployments to Syria.

IRGCGF Saberin units are highly trained in specialized capabilities, such as raiding, hostage rescue, and heliborne assault. Some Saberin personnel use ultralight aircraft and are capable of conducting operations in a wide range of terrain and environmental conditions, including mountains, deserts, and swamps. Saberin have also deployed to Syria to support Iranian combat operations.

IRGC Navy MARSOF

The IRGCN has a MARSOF component known as the Sepah Navy Special Force (SNSF). The unit is based on Forur Island, strategically located near the Strait of Hormuz. SNSF personnel train in combat diving, direct action, counterterrorism, special reconnaissance, underwater demolitions, amphibious assault, hostage rescue, and maritime VBSS operations. Among the unit's missions is to protect Iranian commercial vessels, and SNSF personnel have deployed to the Gulf of Aden to assist with Iranian counterpiracy operations

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp. 61-62

Iran Nuclear Efforts Remain a Major Issue – and Could Make It Harder to Counter Escalate Against Iran's Asymmetric Threats

Regional Nuclear Capabilities

Iran

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
Shahab-1	Shahab-3	Shahab-5	Shahab-6
Shahab-2	Shahab-4	-	-
Mushak-120	Ghadr-101	-	-
Mushak-160	Ghadr-110	-	-
Mushak-200	IRIS	-	-
-	Sajil	-	-

Syria

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
SCUD-B	-	-	-
SCUD-C	-	-	-
SCUD-D	-	-	-
SS-21b	-	-	-

Israel

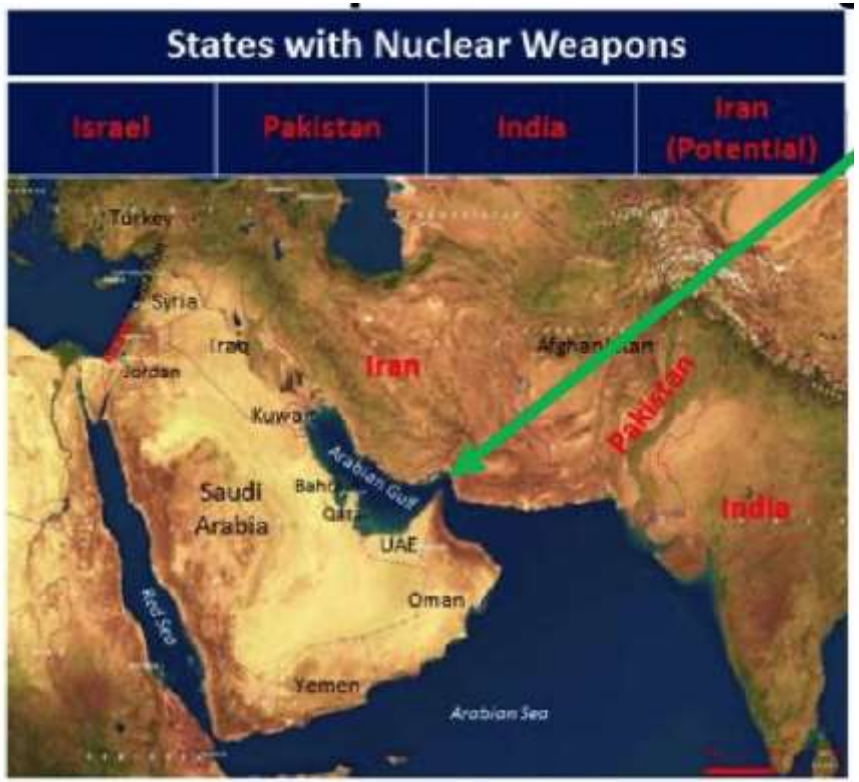
SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
-	Jericho II	-	Jericho III

Pakistan

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
Shaheen I	Shaheen II	-	-
Hatf I	Ghauri I	-	-
Hatf II	Ghauri II	-	-
Hatf III	Ghauri II	-	-
M-11	-	-	-

India

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
Agni I	Agni II	Agni III	Surya
Prithvi I			
Prithvi II			



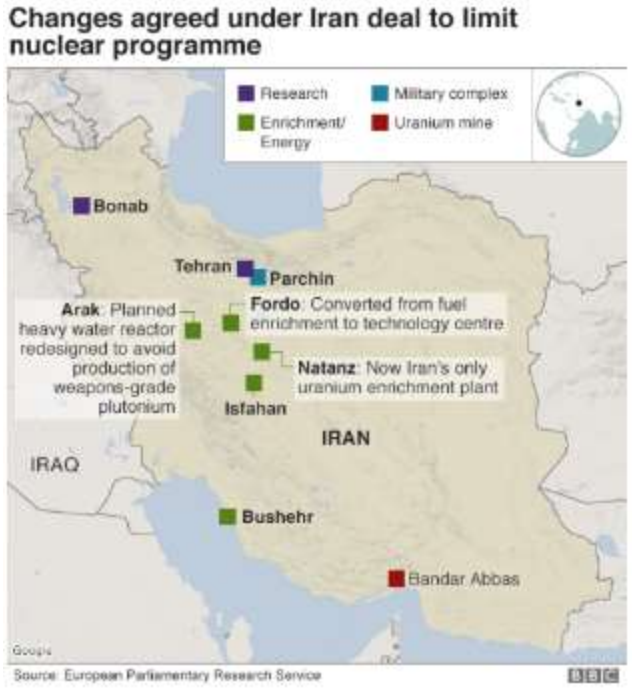
Iran is the only state between the four that has signed and ratified the NPT Treaty

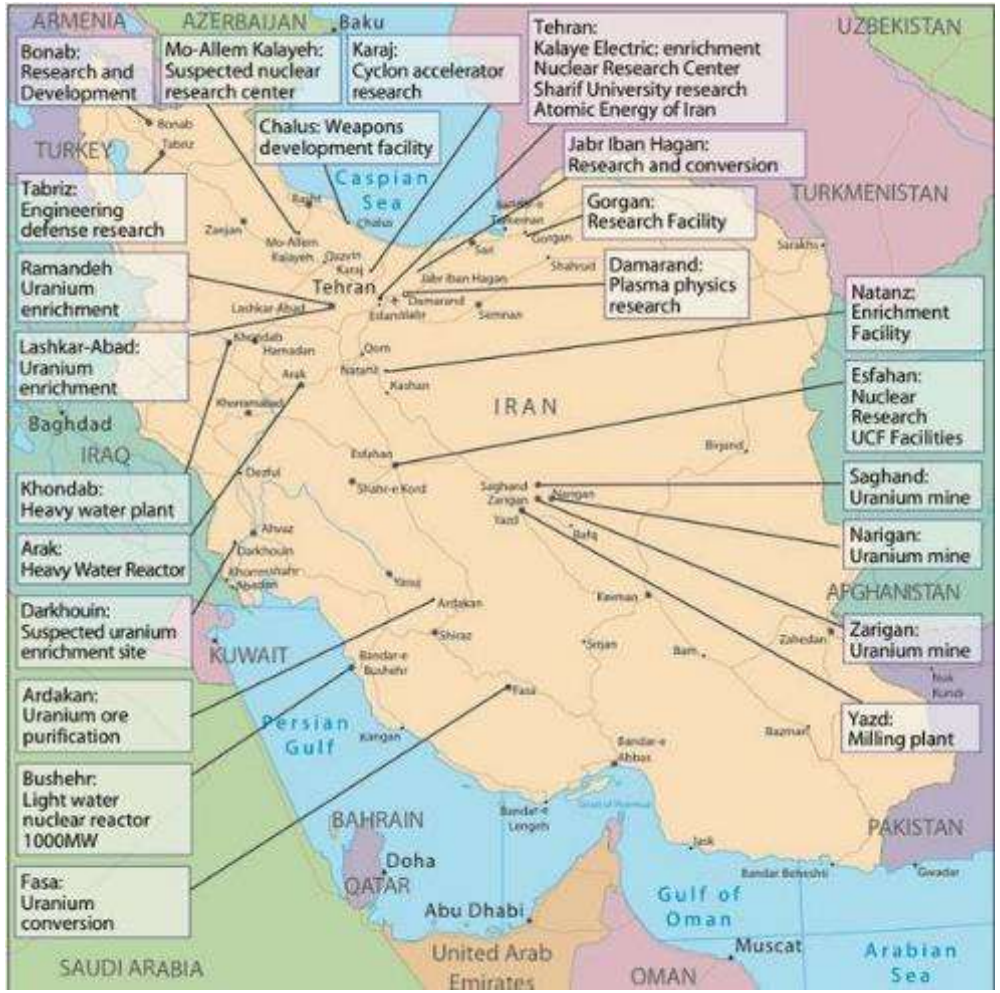
Iran has been heavily investing in:

- Precision Strike Munitions
- Naval-anti-ship weapons such as the Chinese C802 that hit the Israeli Navy ship durin the 2006 war in Lebanon and the Ra'ad 350 km anti-ship missile.
- Ballistic Missiles
- Cruise Missiles such as the Kh55 Russian land attack cruise missile, effective against Oi Platforms.

Source: Adapted from an Analysis by Dr. Abdullah Toukan..

Remaining Iranian Nuclear Facilities





Iran had two facilities - Natanz and Fordo - where uranium hexafluoride gas was fed into centrifuges to separate out the most fissile isotope, U-235.
Low-enriched uranium, which has a 3%-4% concentration of U-235, can be used to produce fuel for nuclear power plants. "Weapons-grade" uranium is 90% enriched.
In July 2015, Iran had almost 20,000 centrifuges. Under the JCPOA, it was limited to installing no more than 5,060 of the oldest and least efficient centrifuges at Natanz until 2026 - 10 years after the deal's "implementation day" in January 2016.
Iran's uranium stockpile was reduced by 98% to 300kg (660lbs), a figure that must not be exceeded until 2031. It must also keep the stockpile's level of enrichment at 3.67%.
By January 2016, Iran had drastically reduced the number of centrifuges installed at Natanz and Fordo, and shipped tons of low-enriched uranium to Russia.
In addition, research and development must take place only at Natanz and be limited until 2024.
No enrichment will be permitted at Fordo until 2031, and the underground facility will be converted into a nuclear, physics and technology center. The 1,044 centrifuges at the site will produce radioisotopes for use in medicine, agriculture, industry and science.
Iran had been building a heavy-water nuclear facility near the town of Arak. Spent fuel from a heavy-water reactor contains plutonium suitable for a nuclear bomb…Under the JCPOA, Iran said it would redesign the reactor so it could not produce any weapons-grade plutonium, and that all spent fuel would be sent out of the country as long as the modified reactor exists.
Iran will not be permitted to build additional heavy-water reactors or accumulate any excess heavy water until 2031.

Source: Google, https://www.google.com/search?q=map+of+iranian+nuclear+facilities&client=firefox-b-1-d&sxsrf=ACYBGNQ1Kb5gaMJfql9zC99v5WBRVe2EQg:1572347047035&tbm=isch&source=iu&ictx=1&fir=gNsb6dG9BFBP3M%253A%252CzOdI42rgjMRjIM%252C_&vet=1&usg=AI4_-kSfjS_j9TGHx_AT1TA5nz0B8APSsg&sa=X&ved=2ahUKEwi62M6ZqcHlAhUJx1kKHW-pAv8Q9QEwB3oECAUQEg#imgrc=gNsb6dG9BFBP3M

DIA Assessment of Iran's Underground Facilities – 2019

Iran has the largest underground facility (UGF) program in the Middle East. Based on the central pillars of Iran's passive defense doctrine, Tehran has invested heavily in constructing UGFs to conceal and protect critical military and civilian infra- structure throughout the country. Iran designed and built these facilities to support various aspects of its defense industries, key nuclear infrastructure, and military forces, including naval sites, missile bases, and equipment storage.

In late 2009, Ali Akbar Salehi, head of the Atomic Energy Organization of Iran (AEOI), stated Iran would build nuclear facilities in mountains as a response to international pressure for Tehran to abandon its nuclear ambitions. Iran houses portions of its nuclear program within deep tunnels and underground bunkers at locations such as Natanz and Fordow (Qom). However, both sites are subject to restrictions outlined in the JCPOA and closely monitored by the IAEA.

UGFs support most facets of Tehran's ballistic missile capabilities, including the operational force and the missile development and production program. Missile-related UGFs house weapons and equipment storage, underground basing of mobile missiles, and hardened launch sites. In recent years, Iran has used state media to broadcast the launch of ballistic missiles from underground launch chambers and showcase underground missile garrisons. Regional media also indicates Iran is aiding proxies in the Middle East by helping them construct underground missile production facilities.

Source: DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, p.39

Hard Targets: Iran's Fordow Facility

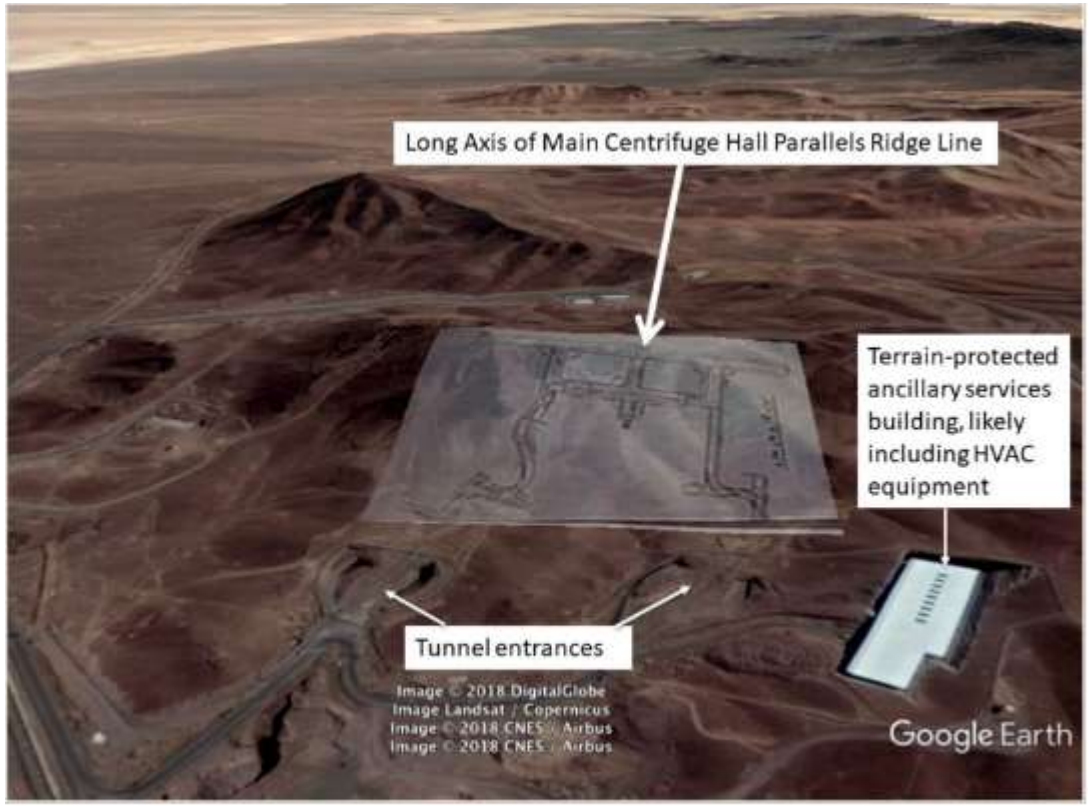


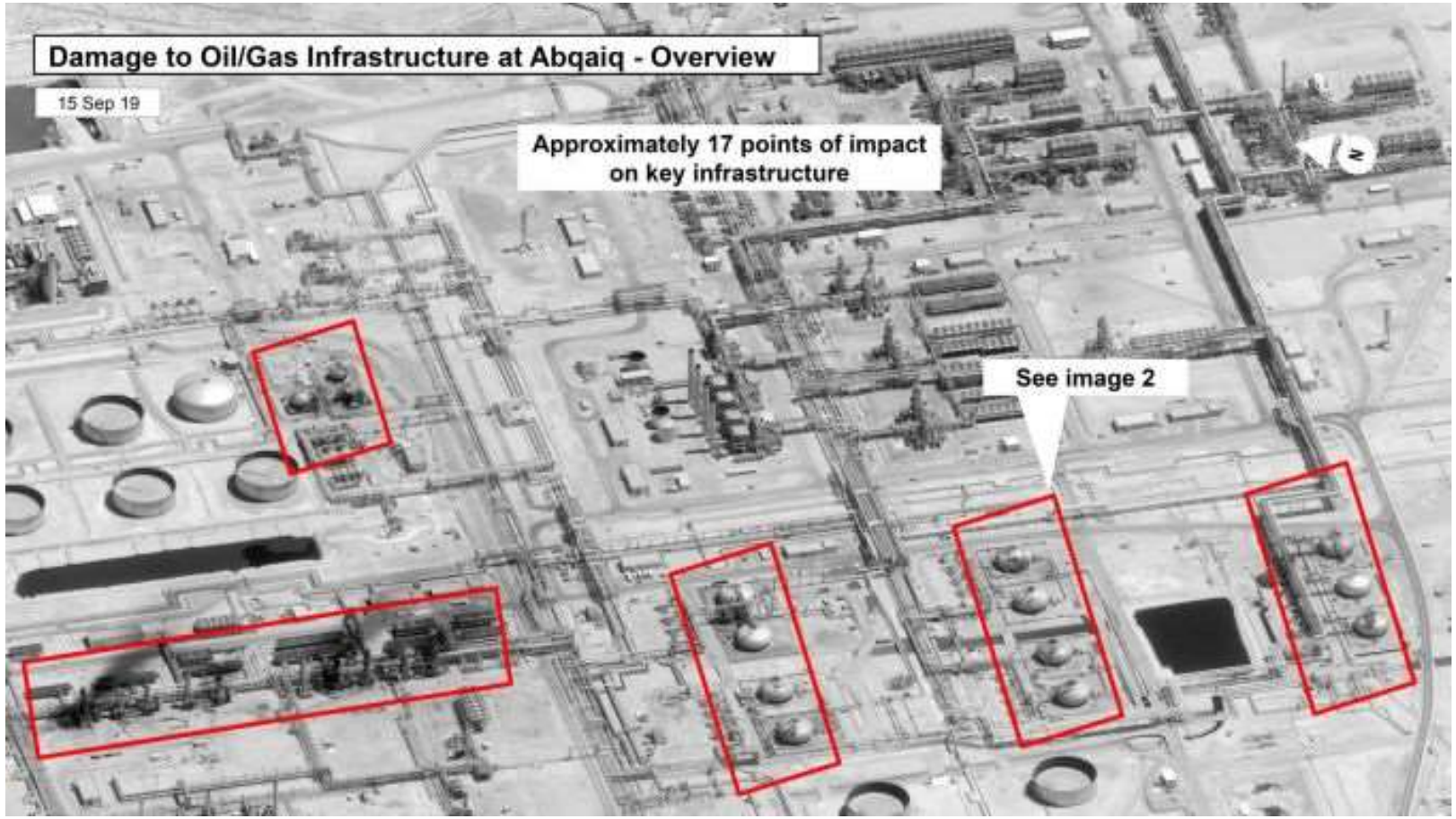
Figure 1. A 2018 Google Earth image with a schematic of the underground tunnel complex overlain. The schematic was part of the Iranian Nuclear Archive, as revealed by Israeli Prime Minister Benjamin Netanyahu on April 30, 2018.

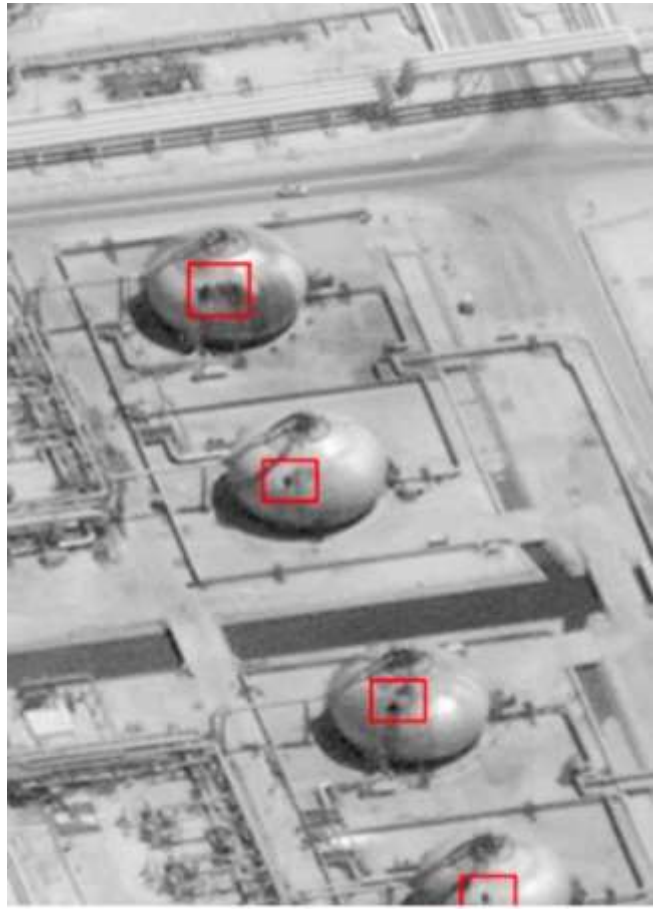
Figure 2. Overview of the Fordow facility, which includes the underground tunnel complex and the support complex.

Source: ISIS, http://isis-online.org/isis-reports/detail/conversion-of-fordow-another-unfulfilled-hope-of-the-iran-nuclear-deal.

Iran's Missile Forces are Evolving Toward Major Conventional Precision Strike Forces, Solid-Fuel Quick Deployability and Ease of Operation, and a Wide Range of Different Systems Including Low Altitude Air Breathers

Iranian Precision Strikes on Abqaiq in September 2019





In March 2015 Iran unveiled a cruise missile named Soumar. The missile retains several characteristics of the Russian-made Kh-55, six of which were acquired by Iran from Ukraine, but without the Ukrainian R95-300 turbofan engine the original terrain counter-matching (TERCOM) navigation system. The missile displayed did not appear to possess an advanced seeker head, suggesting that the navigation system is likely a mechanical inertial navigation system (INS) coupled with a GPS system. Other modifications to the original Kh-55 include a solid rocket booster rather than liquid, making it suitable for ground-launched rather than air-launched platforms.
With a warhead of between 150 and 170 kg and calculated cruise speed of Mach 0.7, the potential addition of the Soumar is viewed more as a substantial expansion of capabilities rather than a revolutionary enhancement of its missile arsenal.

Source: https://www.cnbc.com/2019/09/17/satellite-photos-show-extent-of-damage-to-saudi-aramco-plants.html and Jane's IHS, "Iran", p. 84

DIA on Iran's Theater Missile and UAV Strike Capabilities, 2019 - I

Iran's ballistic missiles constitute a primary component of its strategic deterrent. Lacking a modern air force, Iran has embraced ballistic missiles as a long-range strike capability to dissuade its adversaries in the region—particularly the United States, Israel, and Saudi Arabia—from attacking Iran. Iran has the largest missile force in the Middle East, with a substantial inventory of close-range ballistic missiles (CRBMs), short-range ballistic missiles (SRBMs), and medium-range ballistic missiles (MRBMs) that can strike targets

throughout the region as far as 2,000 kilometers from Iran's borders. Iran is also developing land-attack cruise missiles (LACMs), which present a unique threat profile from ballistic missiles because they can fly at low altitude and attack a target from multiple directions.

Decades of international sanctions have hampered Iran's ability to modernize its military forces through foreign procurement, but Tehran has invested heavily in its domestic infrastructure, equipment, and expertise to develop and produce increasingly capable ballistic and cruise missiles. Iran will continue to improve the accuracy and lethality of some of those systems and will pursue the development of new systems, despite continued international counterproliferation efforts and restrictions under UNSCR 2231. Iran is also extending the range of some of its SRBMs to be able to strike targets farther away, filling a capability gap between its MRBMs and older SRBMs.

Iran can launch salvos of missiles against large-area targets, such as military bases and population centers, throughout the region to inflict damage, complicate adversary military operations, and weaken enemy morale. Although it maintains many older, inaccurate missiles in its inventory, Iran is increasing the accuracy of many of its missile systems. The use of improved guidance technology and maneuverability during the terminal phase of flight enables these missiles to be used more effectively against smaller targets, including specific military facilities and ships at sea. These enhancements could reduce the miss-distance of some Iranian missiles to as little as tens of meters, potentially requiring fewer missiles to damage or destroy an intended target and broadening Iran's options for missile use.

Iran's more-accurate systems are primarily short range, such as the Fateh-110 SRBM and its derivatives. Iran's longer-range systems, such as the Shahab 3 MRBM, are generally less accurate. However, Iran is developing MRBMs with greater precision, such as the Emad-1, that improve Iran's ability to strike distant targets more effectively. Iran could also complicate regional missile defenses by launching large missile salvos.

Iran lacks intermediate-range ballistic missiles (IRBMs) and intercontinental ballistic missiles (ICBMs), but Tehran's desire to have a strategic counter to the United States could drive it to develop and eventually field an ICBM. Iran continues to develop space launch vehicles (SLVs) with increasing lift capacity—including boosters that could be capable of ICBM ranges and potentially reach the continental United States, if configured for that purpose. Progress in Iran's space program could shorten a pathway to an ICBM because SLVs use inherently similar technologies

Other Long-Range Strike Options

To supplement its long-range strike capabilities, Iran could also attempt to use its regional proxies and limited airstrike capability to attack an adversary's critical infrastructure. Iran maintains an aging inventory of combat aircraft—such as decades-old U.S. F-4 Phantoms— which it could attempt to use to attack its regional adversaries. However, these older plat- forms would be more vulnerable to air defenses than modern combat aircraft. Iran could also use its armed UAVs for limited long-range airstrikes, potentially in combination with missiles, as it demonstrated during strikes against ISIS in Syria in 2018.

Source: Adapted from DIA, *Iran Military Power, 2019*, www.dia.mil/Military-Power-Publications, pp 32-32.

DIA on Iran's Theater Missile and UAV Strike Capabilities, 2019 - II

During a conflict, Iran probably would attempt to attack regional military bases and possibly energy infrastructure and other critical economic targets using its missile arsenal. Even with many of its missile systems having poor accuracy, Iran could use large salvos of missiles to complicate an adversary's military operations in theater, particularly if some of Iran's newer, more-accurate systems are incorporated. Iran has also developed short-range ASBMs based on its Fateh-110 system. Iran could use these ASBMs, in concert with its other countermaritime capabilities, to attack adversary naval or commercial vessels operating in the Persian Gulf or Gulf of Oman

Missile Developments

Iran has the largest and most diverse ballistic missile arsenal in the Middle East, with a substantial inventory of close-range ballistic missiles (CRBMs), short-range ballistic missiles (SRBMS), and medium-range ballistic missiles…Iran's missile force—the Al-Ghadir Missile Command (AGMC), which falls under the control of the IRGC Aerospace Force (IRG- CASF)—serves as a critical strategic deterrent and a key tool of Iranian power projection.

The AGMC periodically conducts highly publicized national-level exercises demonstrating the capabilities and readiness of the force, often as part of the IRGC's NOBLE PROPHET series of exercises. In 2017, Iran for the first time used the name EQTEDAR-E VELAYAT for its major AGMC exercise. These show-of-force events typically include publicized missile launches and statements highlighting Iran's missile capabilities and deterrent posture. Prior exercises have showcased launches against a mock U.S. airfield and naval targets.

Iran has also used its missiles in combat on several occasions in recent years. In June 2017 and October 2018, Iran launched SRBMs from western Iran in high-profile strikes against ISIS targets in Syria. Iran conducted both operations in direct response to terrorist attacks in Iran, although some officials noted the attacks were also intended as a message to any of Iran's potential adversaries. n September 2018, Iran launched SRBMs against Kurdish militant targets in Iraq, damaging the Kurdish Democratic Party of Iran (KDPI) headquarters.

Iran's continued production of missiles and refinement of ballistic missile technology pose a growing threat to U.S. forces and allies in the Middle East. Tehran is also a major proliferator of ballistic missile technology to regional state actors and proxy groups. Although Iranian leaders emphasize self-reliance, Iran continues to depend on foreign suppliers for critical components and technology.

Iran has an extensive missile development program, and the size and sophistication of its missile force continues to grow despite decades of counterproliferation efforts aimed at curbing its advancement. Iran continues to attempt to increase the lethality, reliability, and accuracy of its missile force. In recent years, Iran has unveiled SRBMs with increasingly greater range and precision as well as MRBMs with claimed accuracy and warhead improvements. Iran is fielding an increasing number of theater ballistic missiles, improving its existing inventory, and developing technical capabilities that could enable it to produce an intercontinental ballistic missile (ICBM).

Within the Aerospace Industries Organization (AIO), the Shahid Hemmat Industries Group (SHIG) and Shahid Bakeri Industries Group (SBIG) are the primary entities responsible for ballistic missile development and production. Iran domestically develops and produces liquid- and solid-propellant CRBMs, SRBMs, and MRBMs and continues to improve the range, lethality, and

accuracy of its missile systems. In recent years, Iran has unveiled SRBMs with increasingly greater range and precision as well as MRBMs with claimed accuracy and warhead improvements. Iran is fielding an increasing number of theater ballistic missiles, improving its existing inventory, and developing technical capabilities that could enable it to produce an ICBM. Iran also continues to pursue development of more powerful SLVs. In July 2017 and January 2019, Iran launched its liquid-propellant Simorgh SLV, which could be capable of ICBM ranges if configured as a missile. Tehran also is pursuing long-range, precision LACMs, which present a new type of threat in the region

Close- and Short-Range Ballistic Missiles

Iran's liquid-propellant SRBMs—the Shahab 1, Shahab 2, and Qiam-1—are based on Scud technology. The Qiam-1 has a range of at least 750 kilometers, and variants of the system have been used as part of Iranian strikes on ISIS in Syria. Tehran has also supplied extended-range Qiam-1 variants to the Huthis in Yemen. These missiles, launched mostly at Riyadh, Saudi Arabia, have flown to a range of more than 900 kilometers.

DIA on Iran's Theater Missile and UAV Strike Capabilities, 2019 -- III

Iran's solid-propellant CRBMs and SRBMs primarily consist of the many variants of the Fateh- 110 family of missiles. Most of these systems have ranges up to about 300 kilometers, but Iran has unveiled a variant called the Fateh-313 with a 500-kilometer range. Iran has also advertised several variants of these missiles configured with different terminal seeker technologies, including electro-optical and antiradiation homing, which makes them capable of targeting ships. These systems—which include the Khalij Fars, Hormuz 1, and Hormuz 2—reportedly have ranges of about 300 kilometers. In September 2016, Iran unveiled the new Zolfaghar SRBM, a solid-propellant system with a 700-kilometer range. Iran used these missiles in its 2017 and 2018 strikes against ISIS in Syria.

Medium-Range Ballistic Missiles

The liquid-propellant Shahab 3 is the main- stay of Iran's MRBM force. Iran has modified the Shahab 3, which is based on the North Korean No Dong MRBM, to extend its range and effectiveness, with the longest range variant being able to reach targets at a distance of about 2,000 kilometers. In 2015, Iran publicized the first launch of a Shahab 3 variant—called the Emad-1—equipped with a maneuverable reentry vehicle (MARV), which could allow the system to strike targets up to potentially 2,000 kilometers away with near-precision accuracy. Iran has also conducted multiple launches of the solid-propellant Sejjil MRBM, which also has a range of 2,000 kilometers. Iranian officials have announced plans for an Emad-2 with greater precision as well as a new Sejjil variant, which can also be guided all the way to the target. In September 2016, Iran claimed production of the new Khorramshar MRBM would begin in 2017. The Khorramshahr, which Iran states has a 2,000-kilometer range, appears to be derived from North Korean Musudan technology.

Land-Attack Cruise Missiles

In 2012, Iran announced the development of its first land-attack cruise missile (LACM), called Meshkat. In 2015, Iran displayed what it called the Soumar LACM, a ground-launched system that appears to be based on the Russian air- launched AS-15. Iran claims the Soumar has a 2,000-kilometer range. LACMs can provide Iran with a precision-strike capability up to MRBM ranges that could further complicate missile defenses.

Coastal Defense Cruise Missiles

CDCMs have been one of Iran's primary layers of defense for both navies to protect the country's littoral and maritime approaches. Iran initially gained experience with CDCMs using Chinese-built Silkworm missiles during the Tanker War. Both the IRGCN and IRIN operate CDCM forces, and Iran has invested greatly in developing and producing more-capable ASCMs, primarily based on Chinese C802 and C700-series missiles. Based on its domestic copy of the C802, called the Noor, Iran has developed the 200-kilometer-range Ghader and the 300-kilometer-range Ghadir ASCMs. Iran also domestically produces the 35-kilometer-range Chinese C704 ASCM as the Nasr.

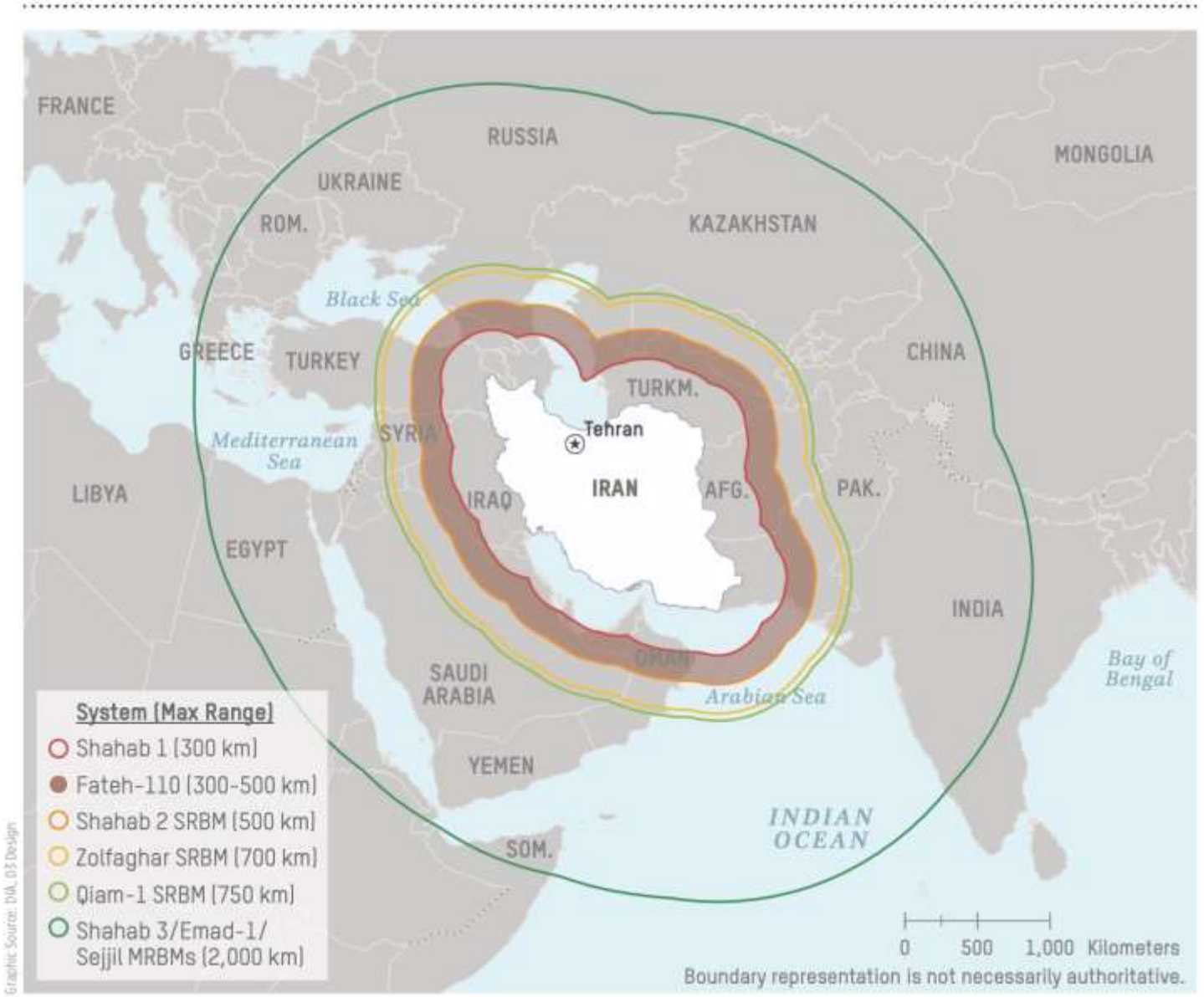
Antiship Ballistic Missiles

The IRGCASF has publicly announced and tested its ability to target ships with several ballistic missile models—including the Khalij Fars, Hormuz 1, and Hormuz 2— based on the Fateh-110 SRBM. These anti- ship ballistic missiles (ASBMs) have ranges of up to 300 kilometers and are equipped with terminal seekers that steer the missile to its target. These systems use a variety of seekers, including electro-optical and antiradiation homing.

UAVs, Islamic Revolutionary Guard Corps Aerospace Force

UAVs are Iran's most rapidly advancing air capability. Iran uses these versatile platforms for a variety of missions, including ISR and air-to-ground strikes. The IRGCASF is the primary operator of Iran's growing fleet of UAVs, although most Iranian military services employ them. Iran regularly conducts ISR flights along its border and littoral, including the Persian Gulf and Strait of Hormuz. The IRGCASF has also deployed various armed and unarmed UAVs to Syria and Iraq for ISR and strike missions to support counter-ISIS operations and the Syrian regime. In 2018, Iran for the first time employed UAVs to conduct long-range, cross-border strike operations, using armed UAVs in concert with ballistic missiles as part of a retaliatory attack against ISIS in eastern Syria. Iran has also provided UAV platforms and technology to Hizballah and the Huthis to challenge its regional rivals.

DIA Estimate of Iranian Missile Ranges



Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 47.

IISS/CSIS Estimate of Iran's Missiles: 2019-2020

An analysis by CSIS indicates Iran has produced indigenously designed solid-propellant missiles (the Fateh series), based on Chinese technology, with ranges of 200 to 2,000 kilometers. Fateh A-110 have undergone many capability enhancements since its debut in 2003.

Notable variants include: the Khalij Fars (a supersonic anti-ship ballistic missile), the Hormuz-1 (Fateh-110 with anti-radiation capabilities to target radar systems), the Mobin (Fateh-110 with an electro-optical seeker), and the Zolfighar (extended range to 700 km).

In addition, Iran possesses land-attack cruise missiles such as the Soumar and the Meshkat with ranges of approximately 2,000 km.

Iran has used ballistic missiles in a warfighting capacity. In September 2018, for ex- ample, Iran launched seven short-range ballistic missiles (SRBMs) in an attack on northern Iraq- based Iranian Kurdish dissidents.

In June 2017, Iran launched a Qiam-1 (Shahab-2 variant) SRBM within a salvo that included five Zolfaghar SRBMs, targeting Islamic State militants in Syria's Dayr az Zawr region, though some sources dispute the success of these strikes.

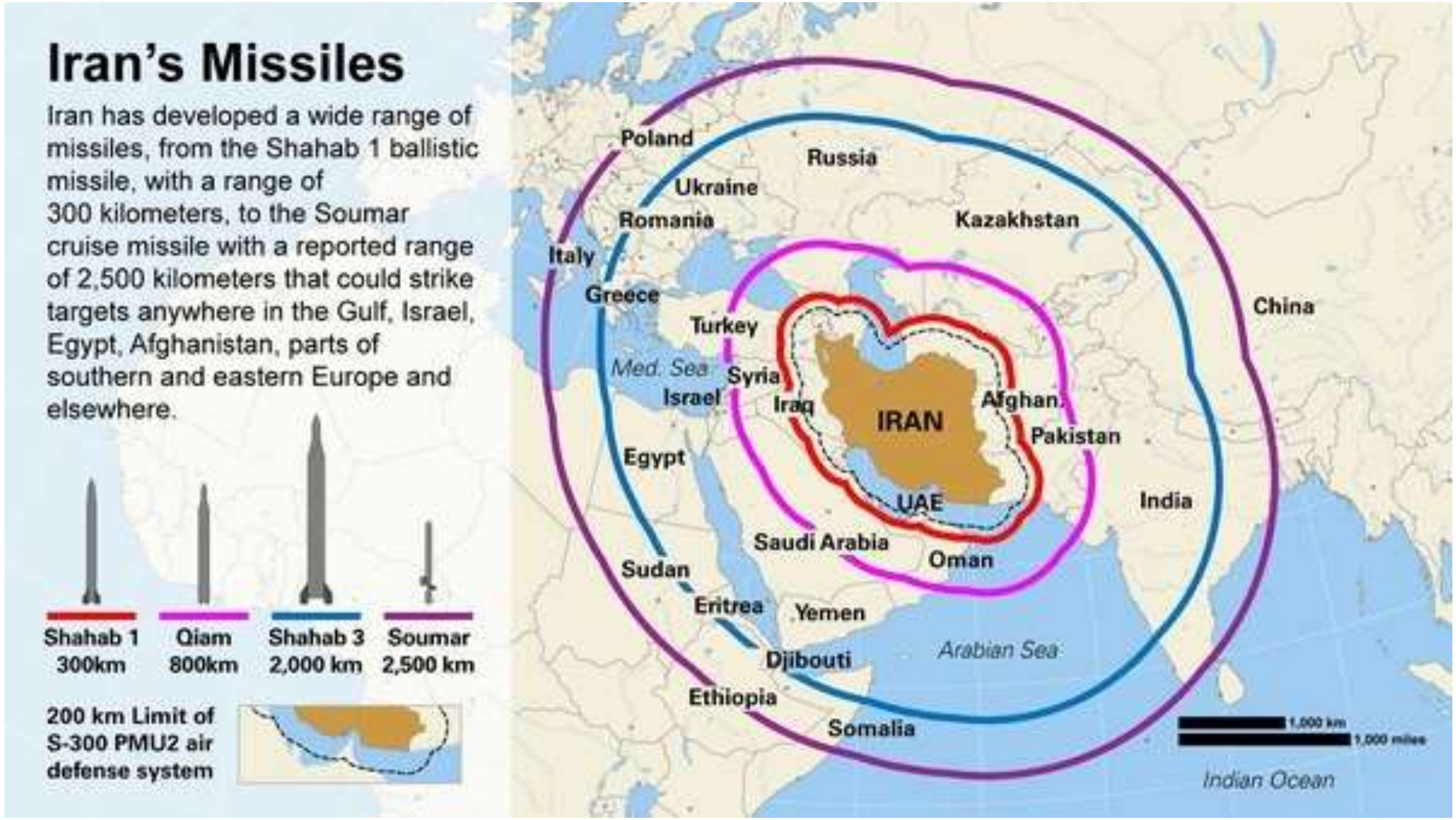
And in September 2019, Iran launched a combination of cruise missiles and UAVs against Saudi Arabia's Abqaiq and Khurais oil facilities.

The Shahab series, which can hit targets from 300 to 2,000 km away, constitutes the core of Iran's missile force. Examples include the Shahab-1/-2/-3 variants. Iran also possesses the Qiam-1 (Shahab-2 variant), Ghadr-1 (Shahab-3 variant), and Emad-1 (Shahab-3 variant), which feature improved navigation and guidance components, lethality, and range. Iran has deployed some of its missiles to neighboring countries, such as Syria.

Map 1.3: **Iranian regional missile reach: selected ballistic and cruise missiles**
Sources: IISS. Note: Maximum missile ranges assuming standard payload and most forward deployment. Distances

Source: Adapted from Iran's Networks of Influence in the Middle East, November 2019, https://www.iiss.org/publications/strategic-dossiers/iran-dossier/iran-19-03-ch-1-tehrans-strategic-intent, and Adapted from Seth G. Jones, *Containing Tehran*, CSIS. 1-2020, pp. 27-28.

Iranian Missile Ranges



Source: https://www.militarytimes.com/news/2019/06/04/what-war-with-iran-could-look-like/

DIA Estimate of Iranian Missile Profiles

System	Fateh-110 SRBM (and variants)	Shahab 1 SRBM	Shahab 2 SRBM	Zolfaghar SRBM	Qiam-1 SRBM	Shahab 3 MRBM	Emad-1 MRBM	Sejjil (Ashura) MRBM
Maximum Range (km)	300-500	300	500	700	At least 750	Up to 2,000	Up to 2,000	2,000
Propellant Type	Solid	Liquid	Liquid	Solid	Liquid	Liquid	Liquid	Solid
Deployment Mode	Road-mobile	Road-mobile	Road-mobile	Road-mobile	Road-mobile, Silo	Road-mobile, Silo	Road-mobile	Road-mobile

Note: This chart does not include all systems in development. All ranges are approximate.

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 43.

Key Deployment Factors

GCC vs Iran Airbases, Air Defense, and Ballistic Missile Military Balance

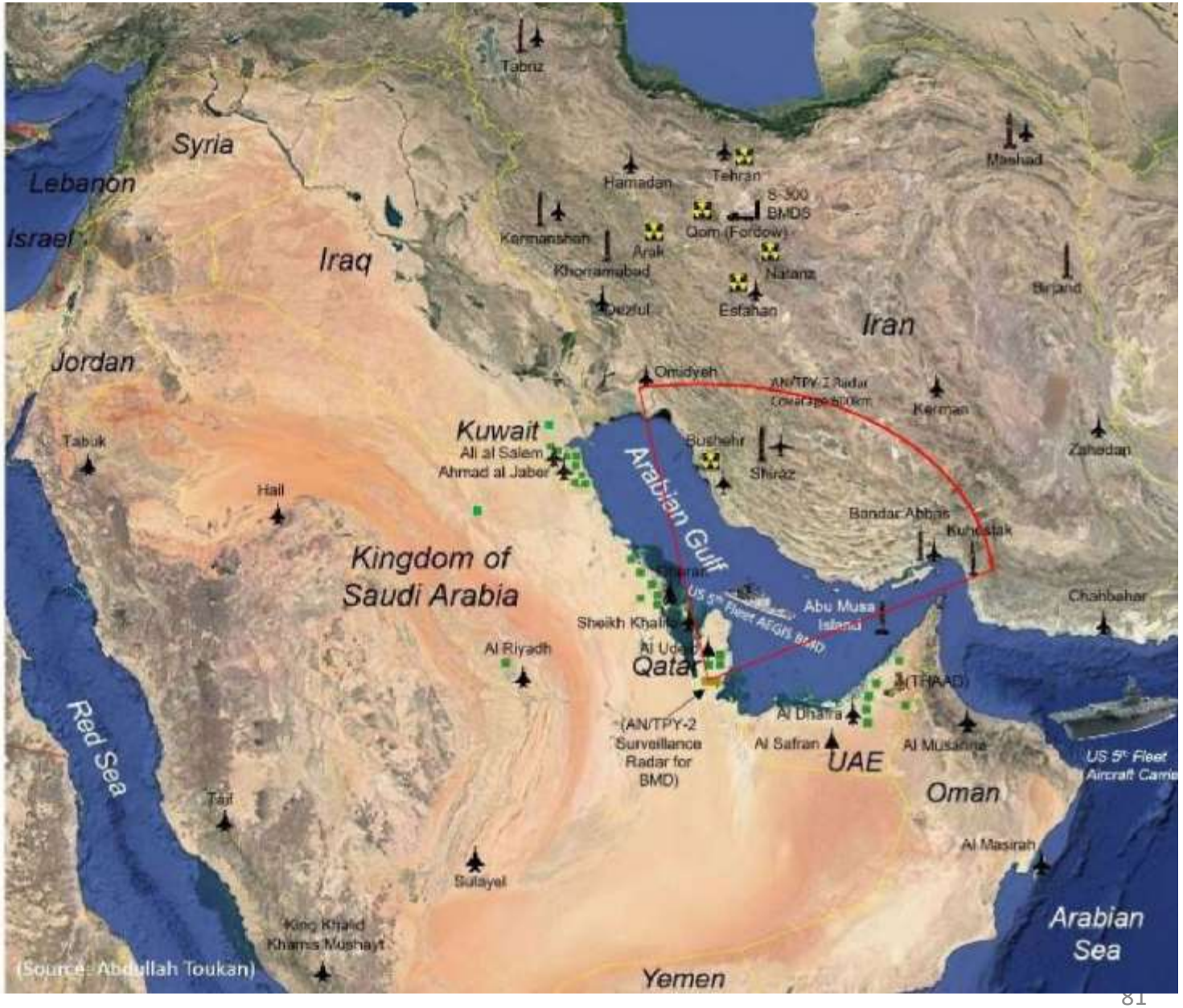
- Iran Nuclear Program Sites
- UAE THAAD Battery
- PAC-2/3 Battery
- AN/TPY-2 X-Band radar for BMD, with a Terminal Phase Range of 600km
- Iran Ballistic Missile Launch Sites
- Iran S-300 AD system deployed around Fordow (NYT August 29,2016)

Reference: Abdullah Toukan adapted from:

IISS The 2016 Military Balance Chart Gulf Region Missile Defense.

IHS Janes Sentinel 2016

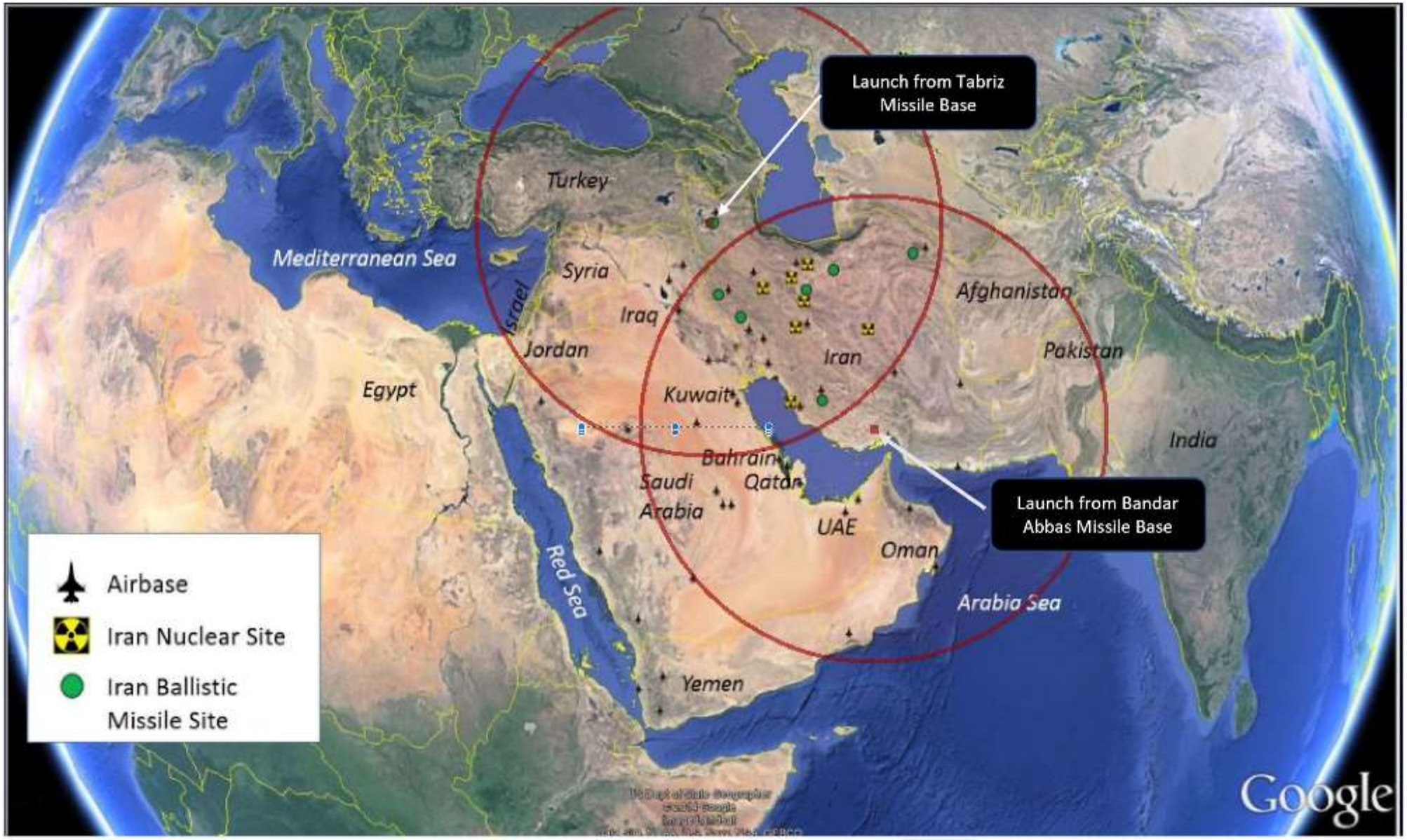
NTI Iran Nuclear and Ballistic Missile Location



Source: Dr. Abdullah Toukan, November 2019

Shahab 3M Coverage

(1,000kg Warhead, Maximum Range 1.200 km)



Source: Dr. Abdullah Toukan, November 5, 2019.

Southern Arab Gulf State Tactical Missile Inventories

	Saudi Arabia	UAE	Qatar	Oman	Bahrain	Kuwait
Air-Launched Missiles	**AAM**: **IR** AIM-9P/L *Sidewinder*; **IIR** AIM-9X *Sidewinder* II; IRIS-T; **SARH** AIM-7 *Sparrow*; AIM-7M *Sparrow*; **ARH** AIM-120C AMRAAM **ASM** AGM-65 *Maverick*; AR-1 **AShM** *Sea Eagle* **ARM** ALARM **ALCM** *Storm Shadow*	**AAM**: **IR** AIM-9L *Sidewinder*; R-550 *Magic*; **IIR** AIM-9X *Sidewinder* II; **IIR/ARH** *Mica*; **ARH** AIM-120B/C AMRAAM **ASM** AGM-65G *Maverick*; *Hakeem* 1/2/3 (A/B) **ARM** AGM-88C HARM **ALCM** *Black Shaheen* (*Storm Shadow*/ SCALP EG variant)	**AAM • IR** R-550 *Magic* 2; **ARH** *Mica* RF **ASM** *Apache*; HOT **AShM** AM39 *Exocet*	**IR** AIM-9/M/P *Sidewinder*; **IIR** AIM-9X *Sidewinder* II; **ARH** AIM-120C7 AMRAAM **ASM** AGM-65D/G *Maverick* **AShM** AGM-84D *Harpoon*	**AAM • IR** AIM-9P *Sidewinder*; **SARH** AIM-7 *Sparrow*; **ARH** AIM-120B/C AMRAAM **ASM** AGM-65D/G *Maverick*; some TOW	**AAM • IR** AIM-9L Sidewinder; R-550 Magic; **SARH** AIM-7F Sparrow; **ARH** AIM-120C7 AMRAAM **ASM** AGM-65G Maverick; AGM-114K Hellfire **AShM** AGM-84A Harpoon
Surface-to-Surface Missiles		**SRBM**: 6 Scud-B (up to 20 msl); MGM-140A/B ATACMS (launched from M142 HIMAzRS)			**SRBM • Conventional** MGM-140A ATACMS (launched from M270 MLRS)	
Bombs	**Laser-guided** GBU-10/12 *Paveway* II; *Paveway* IV **INS/GPS-guided** GBU-31 JDAM; FT-9	**INS/SAT guided** *Al Tariq* **Laser-guided** GBU-12/58 *Paveway* II		**Laser-guided** EGBU-10 *Paveway* II; EGBU-12 *Paveway* II **INS/GPS guided** GBU-31 JDAM	**Laser-guided** GBU-10/12 *Paveway* II	

Source: Adapted from the *IISS, Military Balance, 2018*.

Saudi and UAE Missile Inventories

Saudi Arabia

Strategic Missile Forces

- MSL ● Tactical
  - **IRBM** 10+ DF-3 (CH-SS-2) (service status unclear)
  - **MRBM** Some DF-21 (CH-SS-5) (reported)

Air-Launched Missiles

- **AAM**: **IR** AIM-9P/L *Sidewinder*; **IIR** AIM-9X *Sidewinder* II; IRIS-T; **SARH** AIM-7 *Sparrow*; AIM-7M *Sparrow*; **ARH** AIM-120C AMRAAM
- **ASM** AGM-65 *Maverick*; AR-1
- **AShM** *Sea Eagle*
- **ARM** ALARM
- **ALCM** *Storm Shadow*

Bombs

- **Laser-guided** GBU-10/12 *Paveway* II; *Paveway* IV
- **INS/GPS-guided** GBU-31 JDAM; FT-9

UAE

Surface-to-Surface Missile Launchers

- **SRBM**: 6 Scud-B (up to 20 msl); MGM-140A/B ATACMS (launched from M142 HIMARS)

Air-Launched Missiles

- **AAM**: **IR** AIM-9L *Sidewinder*; R-550 *Magic*; **IIR** AIM-9X *Sidewinder* II; **IIR/ARH** *Mica*; **ARH** AIM-120B/C AMRAAM
- **ASM** AGM-65G *Maverick*; *Hakeem* 1/2/3 (A/B)
- **ARM** AGM-88C HARM
- **ALCM** *Black Shaheen* (*Storm Shadow*/ SCALP EG variant)

Bombs

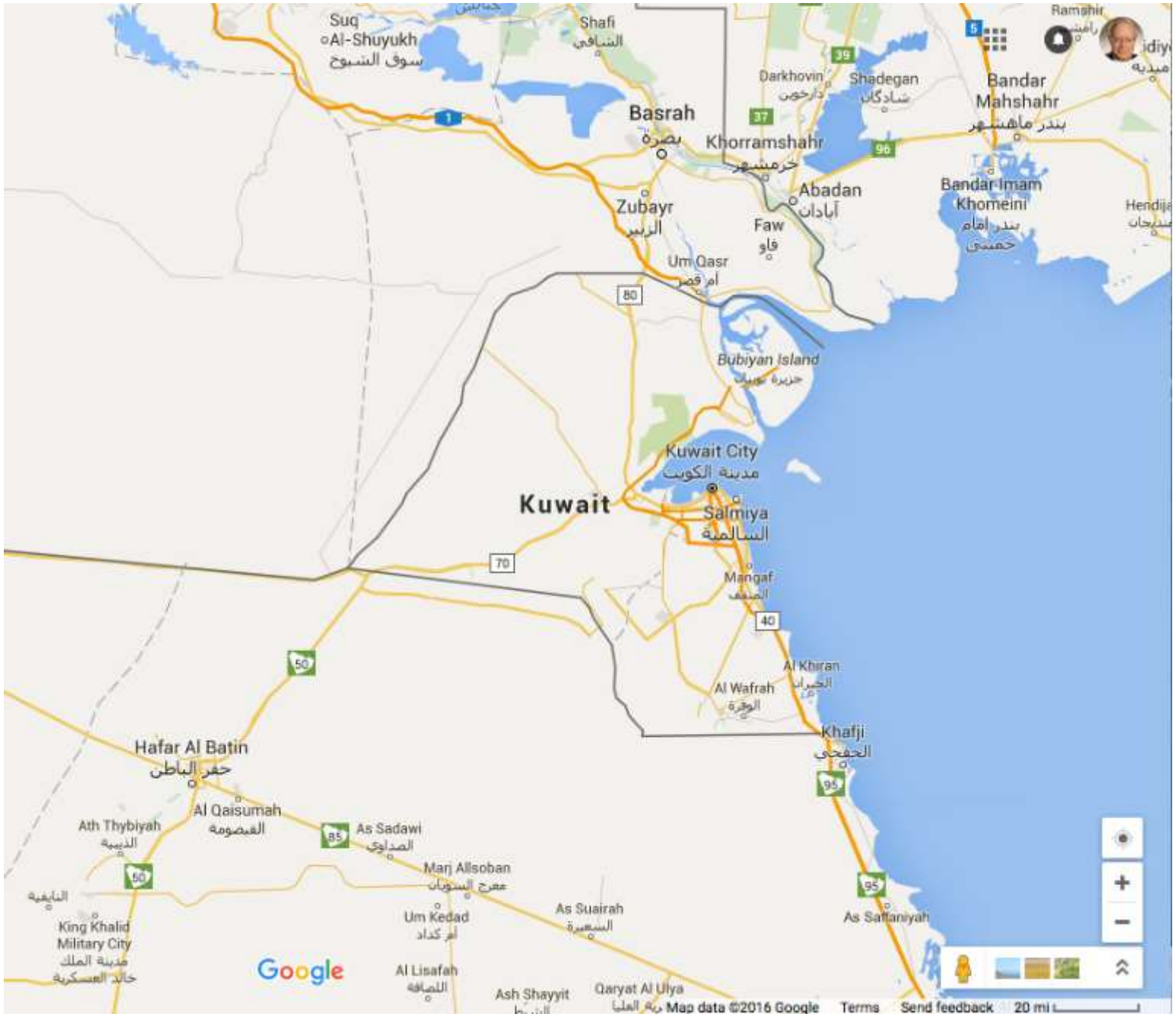
- **INS/SAT guided** *Al Tariq*
- **Laser-guided** GBU-12/58 *Paveway* II

Source: Adapted from the IISS, Military Balance, 2019.

Iran-Iraq Border Area

Source: AustralianNationalUniversity, https://www.google.com/search?q=Iraq-Iran+border+map&client=firefox-b-1&tbm=isch&source=iu&ictx=1&fir=Zx8dCVG47k3E4M%253A%252CwFRRnFBYkytTuM%252C_&usg=__cnRP2OFoY0kS9hilA3osRQOe5BE%3D&sa=X&ved=2ahUKEwijq6S4rMfcAhXNJt8KHSc8DCsQ9QEwAXoECAYQBg#imgrc=slz3ntU760J6uM:

The Kuwaiti "Hinge" in Land Combat in the Gulf



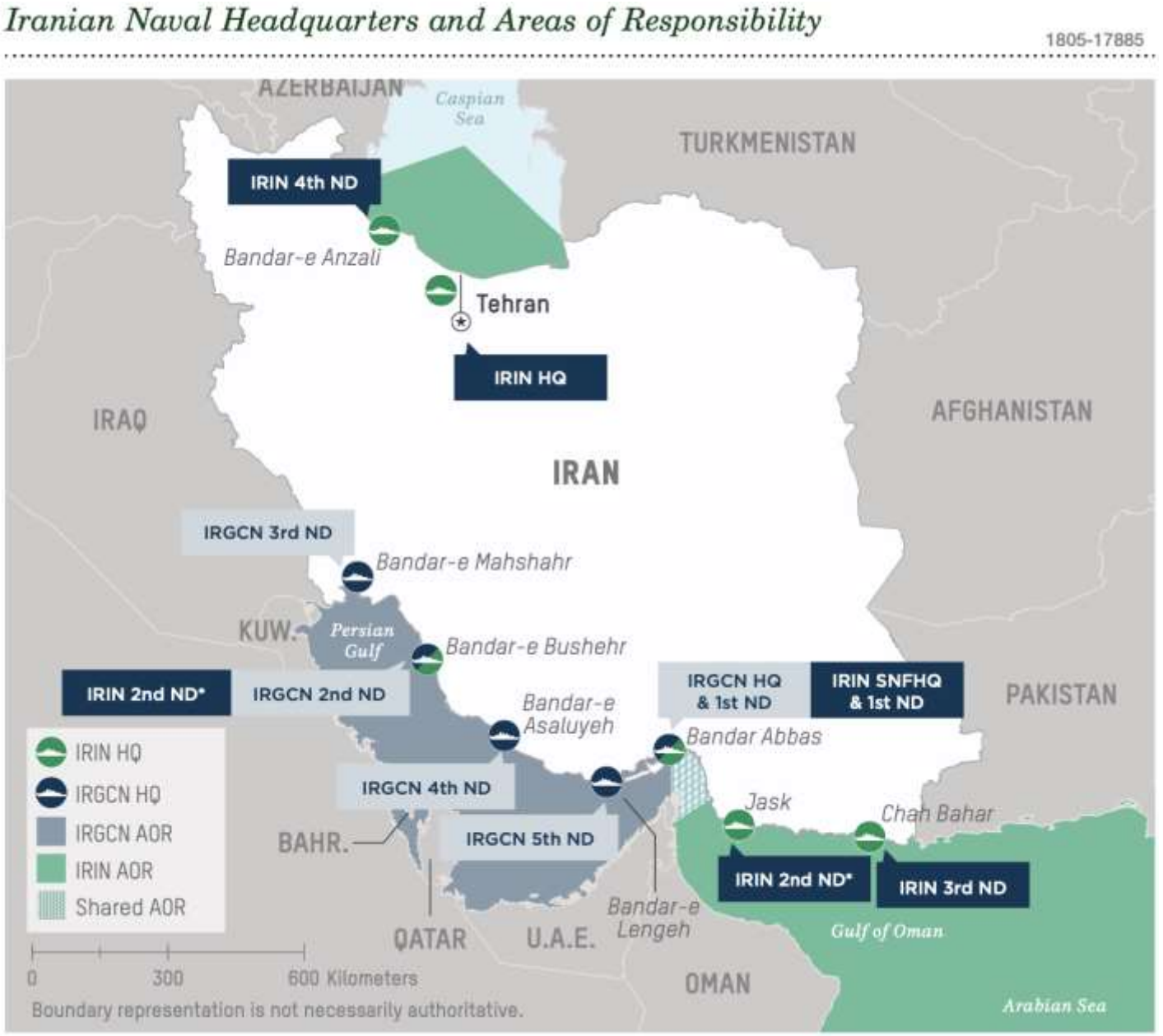
IRGC and Artesh Naval/Missile/Air Forces Are Also Key Areas of Potential Asymmetric Conflict. Iran Can Now Operate Throughout the Gulf, Gulf of Man, and in the Red Sea

Iran and the Arab Gulf Naval Forces in 2019

	Iraq	Iran	GCC	Saudi	UAE	Bahrain	Kuwait	Oman	Qatar
Active Naval Personnel	3,000	18,000	25,400	13,500	2,500	700	2,000	4,200	2,500
Marines	1,000	2,600	3,000	3,000	-	-		-	-
Naval IRGC	-	20,000	-	-	-	-	-	-	-
Destroyers (with missiles)	-	-	3	3	-	-	-	-	-
Destroyers (without missiles)		-	-	-	-	-	-	-	-
Frigates (with missile)	-	-	8	4	1	1	-	3	-
Frigates (without missiles)	-	-	-	-	-	-	-	-	-
Corvettes	-	6	21	4	10	2	-	5	-
Coastal Patrol Boats (with missiles)		78	53	9	20	4	10	3	7
Coastal Patrol Boats (without missiles)	32	108	58	19	12	6	10	7	4
Submarines	-	21	-	-	-	-	-	-	-
Submersibles	-	3	-	-	-	-	-	-	-
Mine Warfare	-	-	5	3	2	-	-	-	-
Landing Ships	-	13	3	-	2	-	-	1	-
Landing Craft	-	13	42	5	17	9	6	5	-

Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 334-373.

DIA Map of of Iranian Naval Commands



Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 48.

DIA Estimate of Iranian Naval Forces

IRIN Order of Battle[285]

1805-17887

Class	Type	Inventory
Kilo	Attack submarine	3
Fateh	Coastal submarine	1
Yono (Ghadir)	Midget submarine	14
Nahang	Midget submarine	1
Jamaran (Mowj)	Corvette	3
Vosper Mk 5	Corvette	3
PF 103 (Bayandor)	Corvette	2
Combattante II (Kaman)	Fast attack craft, missile	13
Hendijan	Patrol craft, missile	3
PGM-71 (Parvin)	Patrol craft, missile	3
Cape (Kayvan)	Patrol craft, missile	3
U.S. Mk II	Patrol craft, coastal	6
U.S. Mk III	Patrol craft, coastal	10
C-14	Patrol craft, coastal	9
FB 40	Patrol craft, inshore	6
Hengham	Landing ship, tank	3
Karbala	Landing ship, logistic	6
Wellington Mk 4	Hovercraft	2
Wellington Mk 5	Hovercraft	4
Kharg	Replenishment ship	1
Bandar Abbas	Fleet supply ship	2
Delvar	Support ship	6
Hendijan	Tender	7
Shahsavar	Training ship	1

IRGCN Order of Battle[294]

1805-17887

Class	Type	Inventory
Houdong (Thondor)	Fast attack craft, missile	10
Peykaap I	Patrol craft, coastal, torpedo	15
Peykaap II	Patrol craft, coastal, missile	25
Peykaap III	Patrol craft, coastal, missile	5
Mk 13	Patrol craft, coastal, missile	10
C-14	Patrol craft, coastal, missile	5
Tir	Patrol craft	10
Tarlan	Patrol craft, inshore	15
Kashdom II	Patrol craft, inshore	15
Ashoora	Patrol craft, inshore	Unknown*
Cougar	Patrol craft, inshore	Unknown*
FB RIB-33	Patrol craft, inshore	Unknown*
Gashti	Patrol craft, inshore	Unknown*
Kuch	Patrol craft, inshore	Unknown*
Bladerunner (Siraj)	Patrol craft, inshore	Unknown*
Boghammar	Patrol craft, inshore	20
Hormuz 21	Landing ship	2
Hormuz 24	Landing ship	3
Harth 55	Support ship	1
Safir Kish	Transport	3
Naser	Transport	3

*Note: The exact numbers for many Iranian small boat types are unknown, but the IRGCN has hundreds of small boats throughout the Persian Gulf.

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, pp. 50-53.

Iranian Naval and IRGC Naval Asymmetric Forces in 2019

Islamic Revolutionary Guard Corps Naval Forces 20,000+ (incl 5,000 Marines)

Some arty bty

Some AShM bty with HY-2 (CH-SSC-3 *Seersucker*) AShM

EQUIPMENT BY TYPE

In addition to the vessels listed, the IRGC operates a substantial number of patrol boats with a full-load dis- placement below 10 tons, including ε40 *Boghammar*- class vessels and small *Bavar*-class wing-in-ground effect air vehicles

PATROL AND COASTAL COMBATANTS 126 **PBFG** 56:

5 C14 with 2 twin lnchr with C-701 (*Kosar*)/C-704 (*Nasr*) AShM

10 Mk13 with 2 single lnchr with C-704 (*Nasr*) AShM, 2 single 324mm TT

10 *Thondor* (PRC *Houdong*) with 2 twin lnchr with C-802A (*Ghader*) AShM, 2 twin AK230 CIWS

25 *Peykaap* II (IPS-16 mod) with 2 single lnchr with C-701 (*Kosar*) AShM/C-704 (*Nasr*), 2 single 324mm TT

6 *Zolfaghar* (*Peykaap* III/IPS-16 mod) with 2 single lnchr with C-701 (*Kosar*)/C-704 (*Nasr*) AShM **PBFT** 15 *Peykaap* I (IPS -16) with 2 single 324mm TT

PBF 35: 15 *Kashdom* II; 10 *Tir* (IPS-18); ε10 *Pashe* (MIG-G-1900)

PB ε20 *Ghaem* **AMPHIBIOUS**

LANDING SHIPS • LST 3 *Hormuz* 24 (*Hejaz* design for commercial use)

LANDING CRAFT • LCT 2 *Hormuz* 21 (minelaying capacity)

LOGISTICS AND SUPPORT • AP 3 *Naser* **COASTAL DEFENCE • AShM** C-701 (*Kosar*); C-704 (*Nasr*); C-802; HY-2 (CH-SSC-3 *Seersucker*)

HELICOPTERS

MRH 5 Mi-171 *Hip*

TPT • Light some Bell 206 (AB-206) *Jet Ranger*

Islamic Revolutionary Guard Corps Marines

5,000+

Amphibious 1 marine bde

Navy 18,000

In addition to the vessels listed, the Iranian Navy operates a substantial number of patrol boats with a full-load dis- placement below 10 tons

SUBMARINES 21

TACTICAL 21

SSK 3 *Taregh* (RUS *Paltus* Project-877EKM) with 6 single 533mm TT

SSC 1 *Fateh* (in trials)

SSW 17: 16 *Qadir* with 2 single 533mm TT with *Valfajar*

HWT (additional vessels in build); 1 *Nahang*

PATROL AND COASTAL COMBATANTS 67

PCFG 13 *Kaman* (FRA *Combattante* II) with 1–2 twin lnchr with C-802 (*Noor*) (CH-SS-N-8 *Saccade*) AShM, 1 76mm gun

PBG 9:
3 *Hendijan* with 2 twin lnchr with C-802 (*Noor*) (CH- SS-N-8 *Saccade*) AShM
3 *Kayvan* with 2 single lnchr with C-704 (*Nasr*) AShM 3 *Parvin* with 2 single lnchr with C-704 (*Nasr*) AShM

PBFT 3 *Kajami* (semi-submersible) with 2 324mm TT

PBF 1 MIL55

PB 34: 9 C14; 9 *Hendijan*; 6 MkII; 10 MkIII

AMPHIBIOUS LANDING SHIPS 12

LSM 3 *Farsi* (ROK) (capacity 9 tanks; 140 troops)

LST 3 *Hengam* with 1 hel landing platform (capacity 9 tanks; 225 troops) **LSL** 6 *Fouque*

LANDING CRAFT 11 **LCT** 2

LCU 1 *Liyan 110*

UCAC 8: 2 *Wellington* Mk 4; 4 *Wellington* Mk 5; 2 *Tondar* (UK *Winchester*)

NAVAL AVIATION 2,600

Aircraft:

TPT 16: **Light** 13: 5 Do-228; 4 F-27 *Friendship*; 4 *Turbo Commander* 680; **PAX** 3 *Falcon* 20 (ELINT) **HELICOPTERS**

ASW ε10 SH-3D *Sea King*

MCM 3 RH-53D *Sea Stallion*

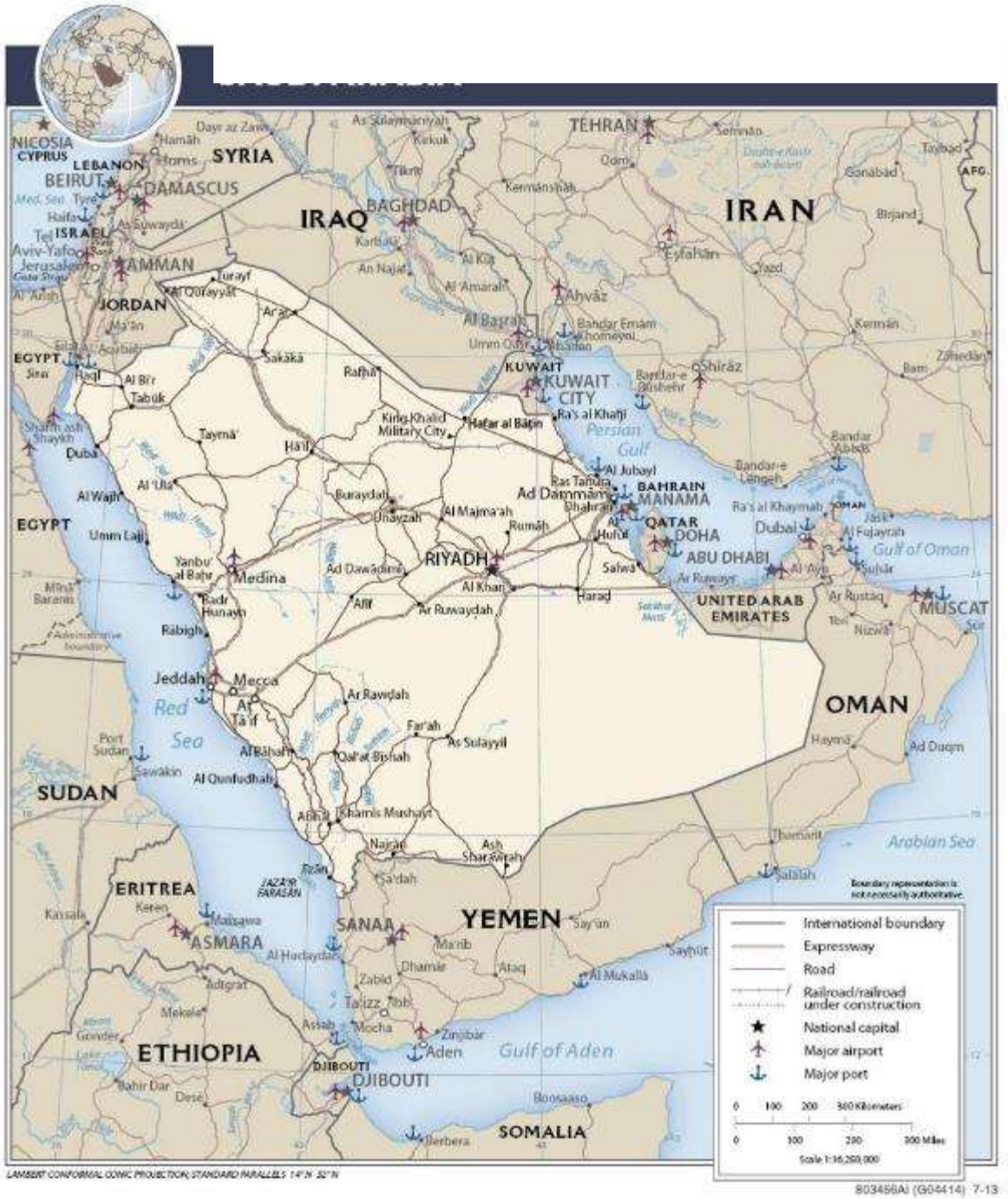
TPT • Light 17: 5 Bell 205A (AB-205A); 2 Bell 206 *Jet Ranger* (AB-206); 10 Bell 212 (AB-212)

MARINES 2,600

Amphibious 2 marine bde

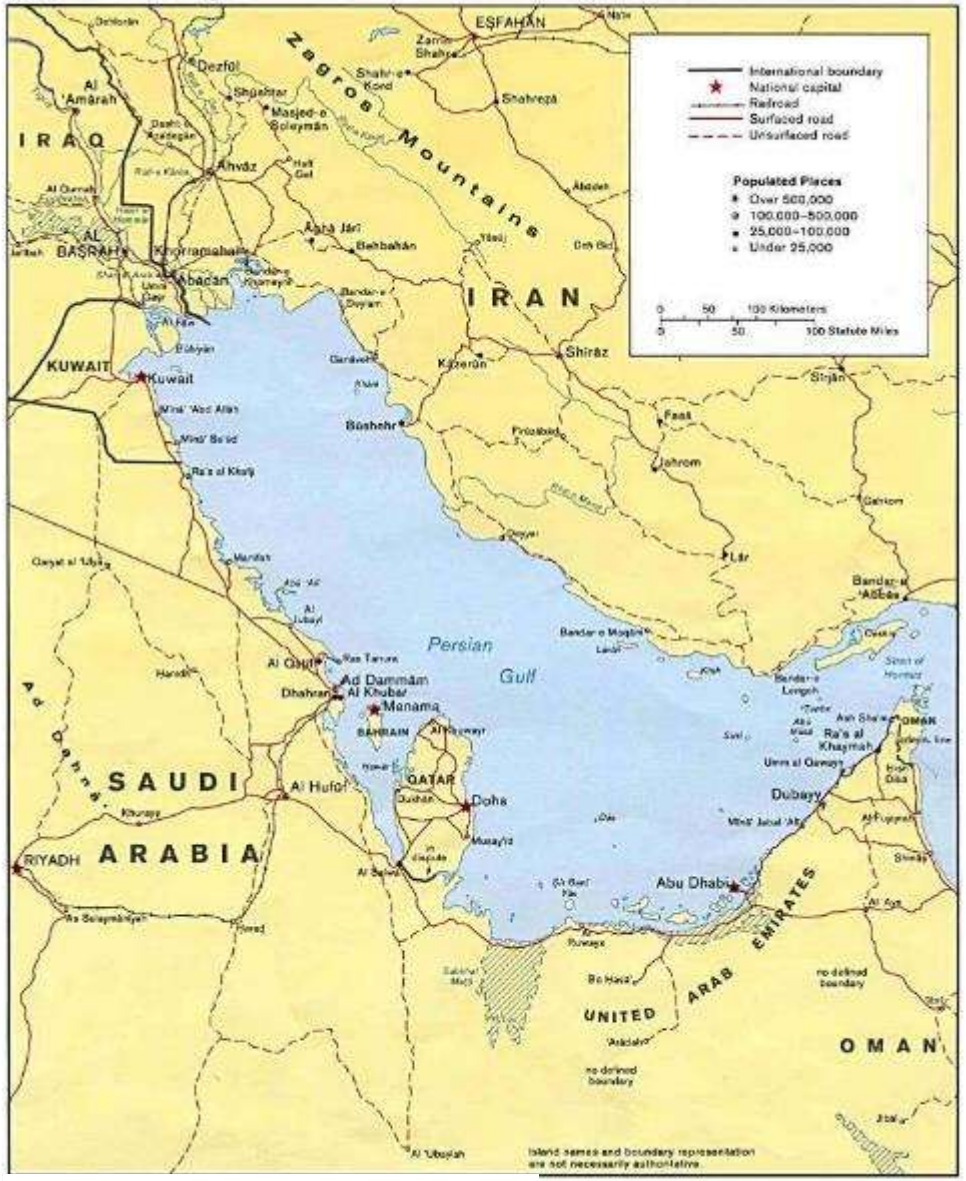
Does not include air forces or land and air-based anti-ship missile and mine warfare capabilities.
Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 334-373.

Key Naval Operating Areas in the Arabian Peninsula, Gulf of Oman, Indian Ocean, and and Red Sea Areas



Source: Google, CIA and EIA

L6: Key Naval Operating Areas in and Near the Gulf



Source: Google, CIA and EIA

Strait of Hormuz

The Strait of Hormuz is the world's most important oil chokepoint because of the large volumes of oil that flow through the strait. In 2018, its daily oil flow averaged 21 million barrels per day (b/d), or the equivalent of **about 21% of global petroleum liquids consumption**.

Flows through the Strait of Hormuz in 2018 made up about one-third of total global seaborne traded oil. **More than one-quarter of global liquefied natural gas trade** also transited the Strait of Hormuz in 2018.

At the end of 2018, the total available crude oil pipeline capacity from the two countries combined was estimated at 6.5 million b/d. In that year, 2.7 million b/d of crude oil moved through the pipelines, leaving about 3.8 million b/d of unused capacity that could have bypassed the strait.

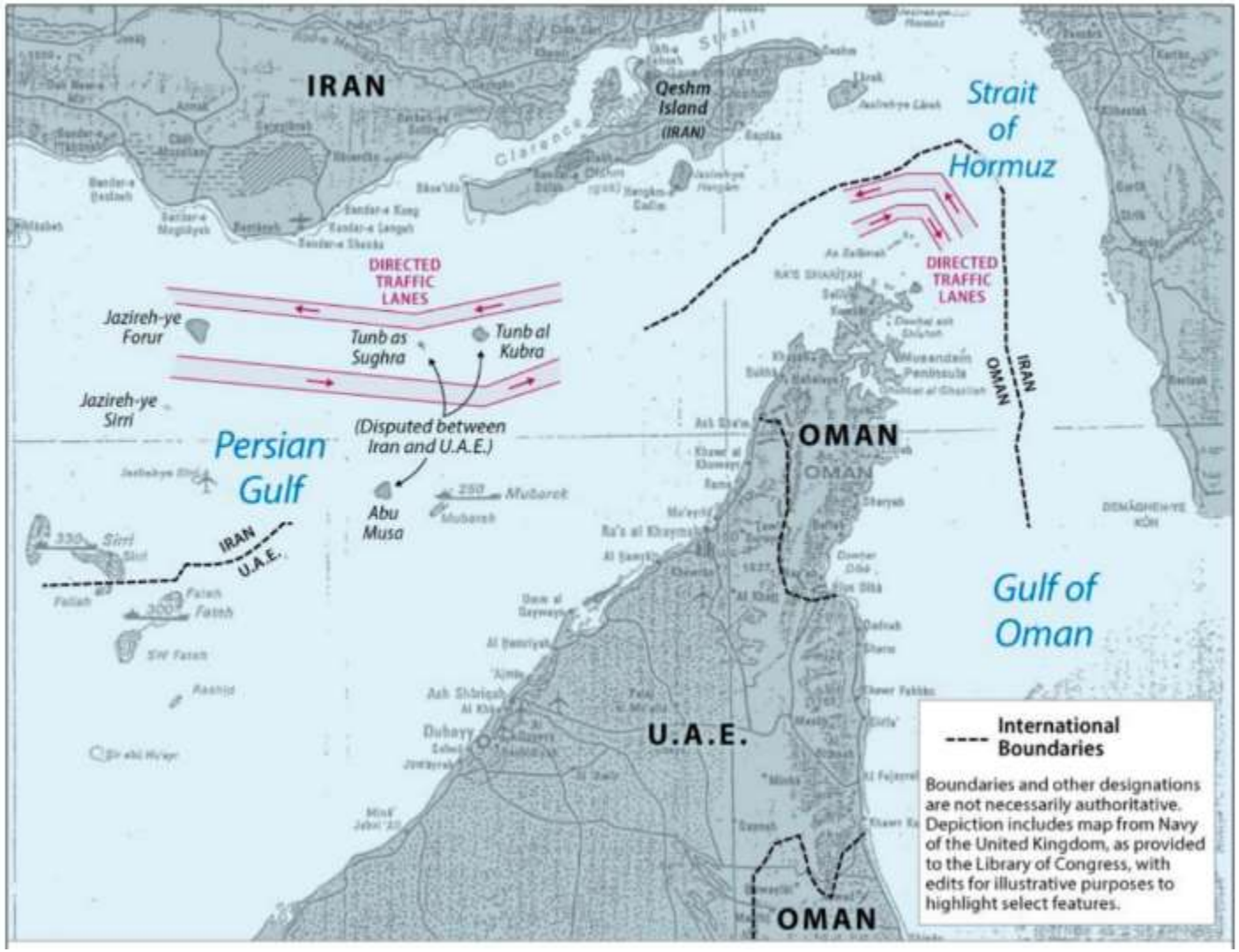
76% of the crude oil and condensate that moved through the Strait of Hormuz went to Asian markets in 2018. China, India, Japan, South Korea, and Singapore were the largest destinations for crude oil moving through the Strait of Hormuz to Asia, accounting for 65% of all Hormuz crude oil and condensate flows in 2018.

	2014	2015	2016	2017	2018
Total oil flows through Strait of Hormuz	17.2	18.4	20.6	20.3	20.7
Crude and condensate	14.4	15.2	17.3	17.2	17.3
Petroleum products	2.8	3.2	3.3	3.1	3.3
World maritime oil trade	56.4	58.9	61.2	62.5	N/A
World total petroleum and other liquids consumption	93.9	95.9	96.9	98.5	99.9
LNG flows through Strait of Hormuz (Tcf per year)	4.0	4.2	4.2	4.1	4.1

Vessels transiting to the Western part of the Persian Gulf must first enter from the Gulf of Oman, and pass through the Strait of Hormuz. The shipping lanes separate inbound and outbound traffic and keep vessels in navigable waters. The inbound lane, outbound lane, and separation lane (a median strip in between) occupy a width of 4 miles, completely in Omani territorial waters and as far from Iran's shore as safe navigation permits, but never further than 30 miles from Iran's Qeshm Island.

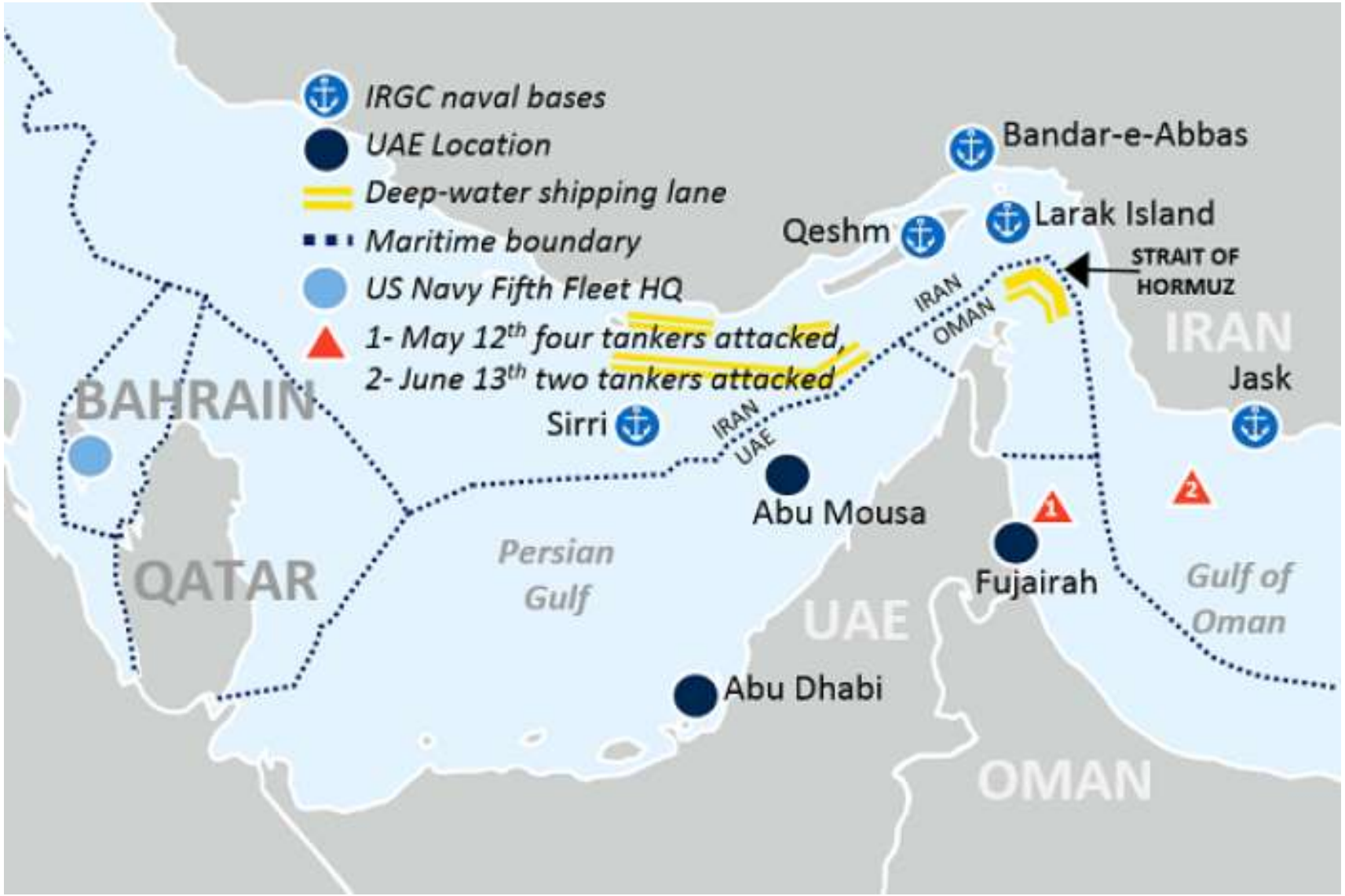
Upon entering the Persian Gulf, east of the Strait of Hormuz, vessels navigate a second set of directed traffic lanes keeping vessels headed in opposite directions apart, and clear of obstacles. The inbound lane, which is to the north, at one point comes within 6 miles of the Iranian mainland. The outbound lane lies to the south of the inbound lane; the separation lane directs traffic on either side of the Tunb islands.

During the Iran-Iraq war, to avoid Iranian naval forces, ships entered the Gulf through the Strait of Hormuz shipping lane and headed along the U.A.E. coast to a point 12 miles south of Abu Musa island.

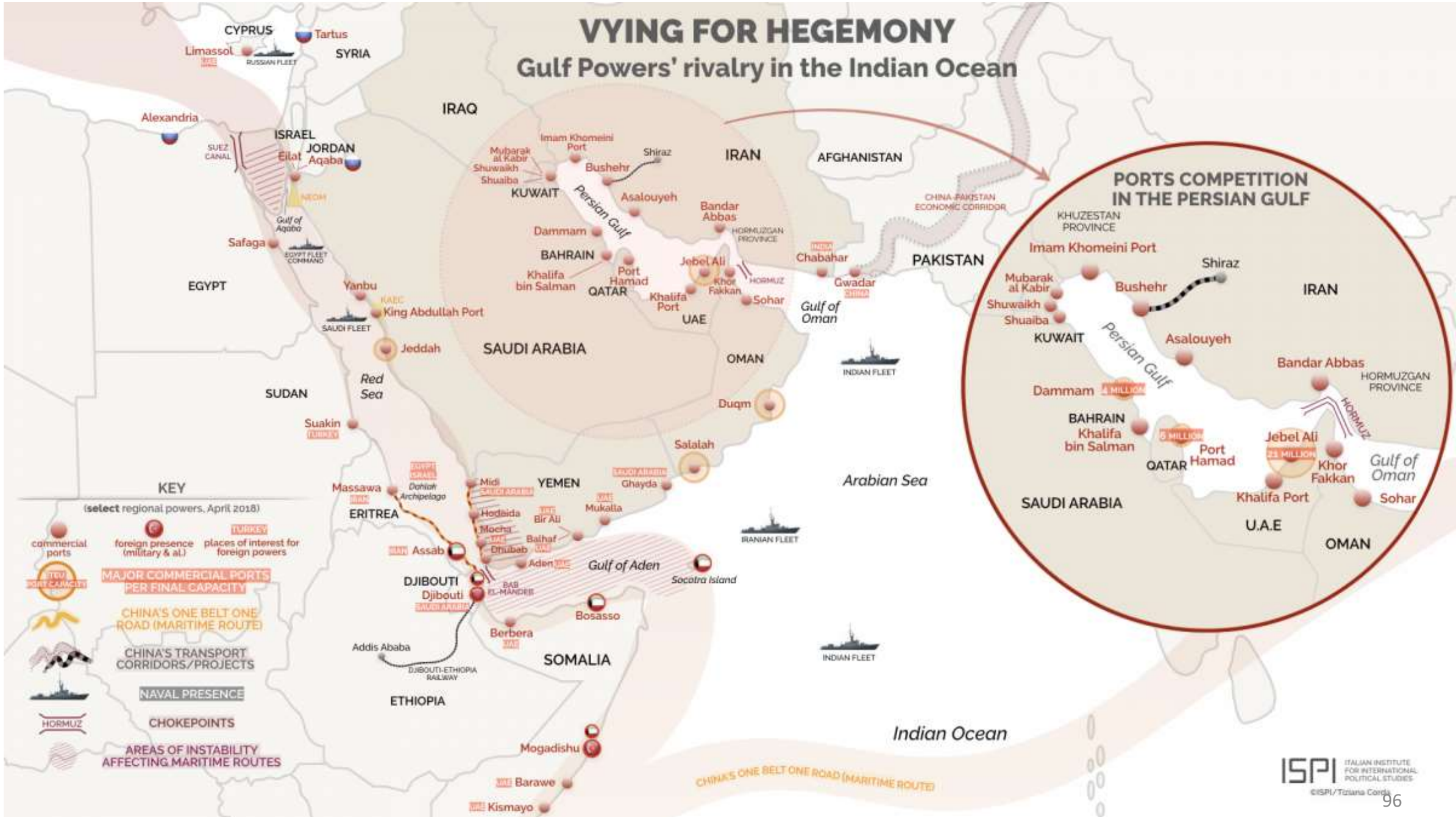


Source: CRS and EIA, https://www.eia.gov/todayinenergy/detail.php?id=39932

Iranian Tanker Attacks in 2019



Source: https://www.abc.net.au/news/2019-07-19/iran-seizes-oil-tanker-in-persian-gulf/11323564


VYING FOR HEGEMONY
Gulf Powers' rivalry in the Indian Ocean
CYPRUS
Limassol
Tartus
RUSSIAN FLEET
SYRIA
IRAQ
Alexandria
ISRAEL
JORDAN
Eilat
Aqaba
SUEZ CANAL
NEOM
Gulf of Aqaba
Safaga
EGYPT FLEET COMMAND
EGYPT
Yanbu
KAEC
King Abdullah Port
SAUDI FLEET
Jeddah
SAUDI ARABIA
Red Sea
SUDAN
Suakin
Imam Khomeini Port
Mubarak al Kabir
Shuwaikh
Shuaiba
KUWAIT
Bushehr
Shiraz
IRAN
AFGHANISTAN
Persian Gulf
Asalouyeh
Bandar Abbas
HORMUZGAN PROVINCE
Dammam
BAHRAIN
Khalifa bin Salman
Port Hamad
QATAR
Jebel Ali
Khor Fakkan
HORMUZ
Khalifa Port
Sohar
UAE
CHINA-PAKISTAN ECONOMIC CORRIDOR
Chabahar
Gwadar
PAKISTAN
Gulf of Oman
OMAN
INDIAN FLEET
Duqm
Salalah
Ghayda
Mukalla
YEMEN
Arabian Sea
IRANIAN FLEET
Massawa
Dahlak Archipelago
ERITREA
Midi
Hodeida
Mocha
Bir Ali
Balhaf
Dhubab
Aden
Assab
DJIBOUTI
Djibouti
BAB EL-MANDEB
Gulf of Aden
Socotra Island
Bosasso
Berbera
Addis Ababa
DJIBOUTI-ETHIOPIA RAILWAY
SOMALIA
ETHIOPIA
Mogadishu
Barawe
Kismayo
Indian Ocean
CHINA'S ONE BELT ONE ROAD (MARITIME ROUTE)
PORTS COMPETITION IN THE PERSIAN GULF
KHUZESTAN PROVINCE
Imam Khomeini Port
Mubarak al Kabir
Shuwaikh
Shuaiba
KUWAIT
Bushehr
Shiraz
IRAN
Persian Gulf
Asalouyeh
Bandar Abbas
HORMUZGAN PROVINCE
Dammam
3 MILLION
BAHRAIN
Khalifa bin Salman
6 MILLION
Port Hamad
QATAR
Jebel Ali
23 MILLION
HORMUZ
Khor Fakkan
Gulf of Oman
Khalifa Port
Sohar
SAUDI ARABIA
U.A.E
OMAN
KEY
(select regional powers, April 2018)
commercial ports
foreign presence (military & al.)
places of interest for foreign powers
MAJOR COMMERCIAL PORTS PER FINAL CAPACITY
CHINA'S ONE BELT ONE ROAD (MARITIME ROUTE)
CHINA'S TRANSPORT CORRIDORS/PROJECTS
NAVAL PRESENCE
HORMUZ
CHOKEPOINTS
AREAS OF INSTABILITY AFFECTING MARITIME ROUTES
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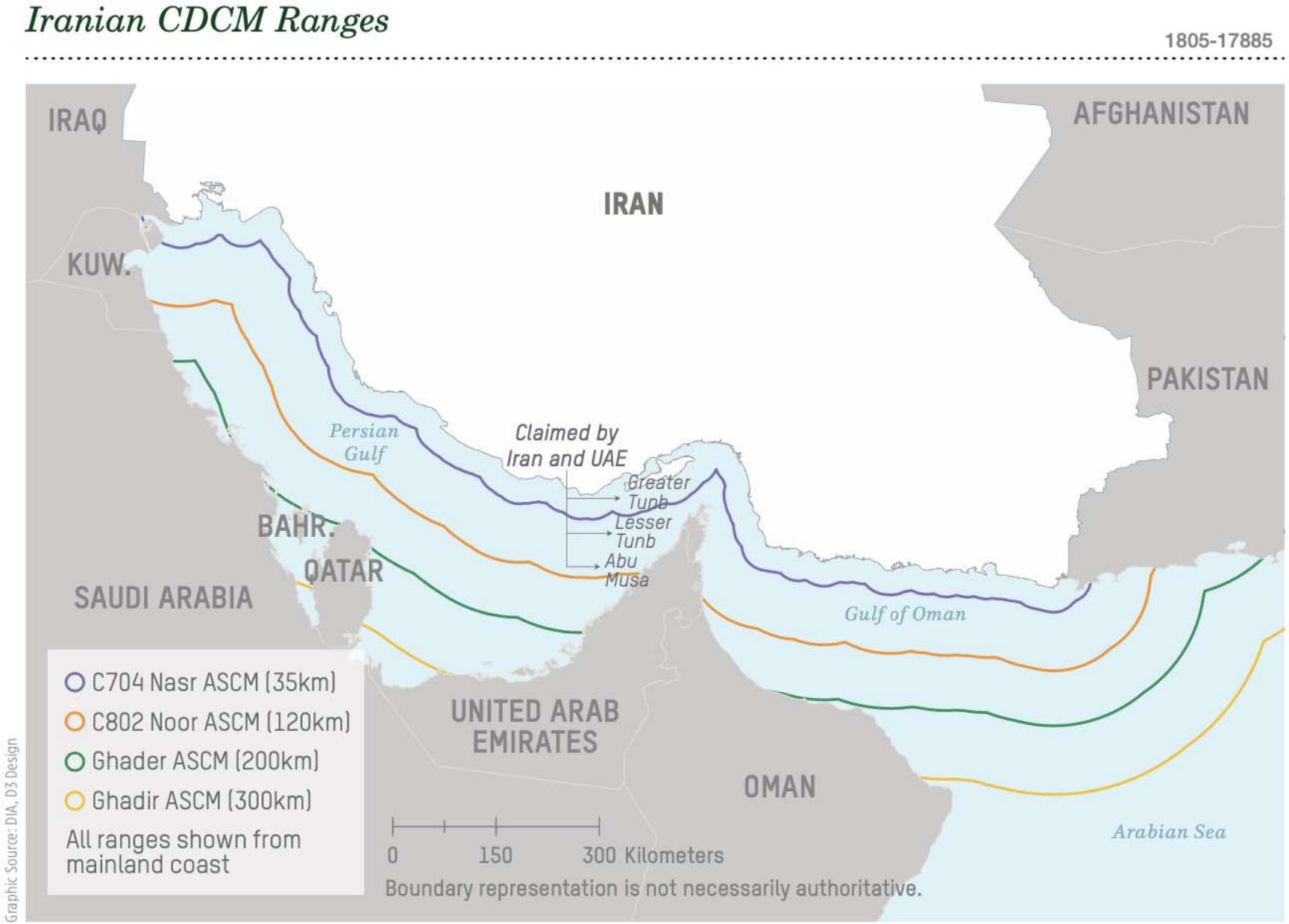
Iranian Port Visits and Naval Exercises

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 19.

Iranian Coastal Defense Cruise Missile Ranges

CDCMs have been one of Iran's primary layers of defense for both navies to protect the country's littoral and maritime approaches. Iran initially gained experience with CDCMs using Chinese-built Silkworm missiles during the Tanker War. Both the IRGCN and IRIN operate CDCM forces, and Iran has invested greatly in developing and producing more-capable ASCMs, primarily based on Chinese C802 and C700-series missiles. Based on its domestic copy of the C802, called the Noor, Iran has developed the 200-kilometer-range Ghader and the 300-kilometer-range Ghadir ASCMs.301 Iran also domestically produces the 35-kilometer-range Chinese C704 ASCM as the Nasr.302

Antiship Ballistic Missiles
The IRGCASF has publicly announced and tested its ability to target ships with several ballistic missile models—including the Khalij Fars, Hormuz 1, and Hormuz 2— based on the Fateh-110 SRBM. These anti- ship ballistic missiles (ASBMs) have ranges of up to 300 kilometers and are equipped with terminal seekers that steer the missile to its target. These systems use a variety of seekers, including electro-optical and antiradiation homing.3



Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 19, 54-56.

Air and Air Defense Forces Are Evolving to Modernize Air Defenses and to Use Drones and UCAVs, and “Cruise” Missiles for Precision Strikes

Gulf Air Power And Air and Missile Bases

Ballistic Missiles

Iran:	Operational Sites
Tabriz	Missile Base
Karaj	Production
Parchin	Production
Tehran	Production/Training/ Education
Semnan	Production/Missile Base
Hamadan	Missile Base
Kermanshahan	Missile Base
Korramabad	Missile Base
Esfihan	Production
Tabas	Test Site
Shiraz	Production
Bandar Abbas	Missile Base
Kuhestak	Missile Base
Abu Musa Island	Missile Base

(Source:
Jane's IHS Markit
NTI: (https://gmap.nti.org/missile_iran.html)

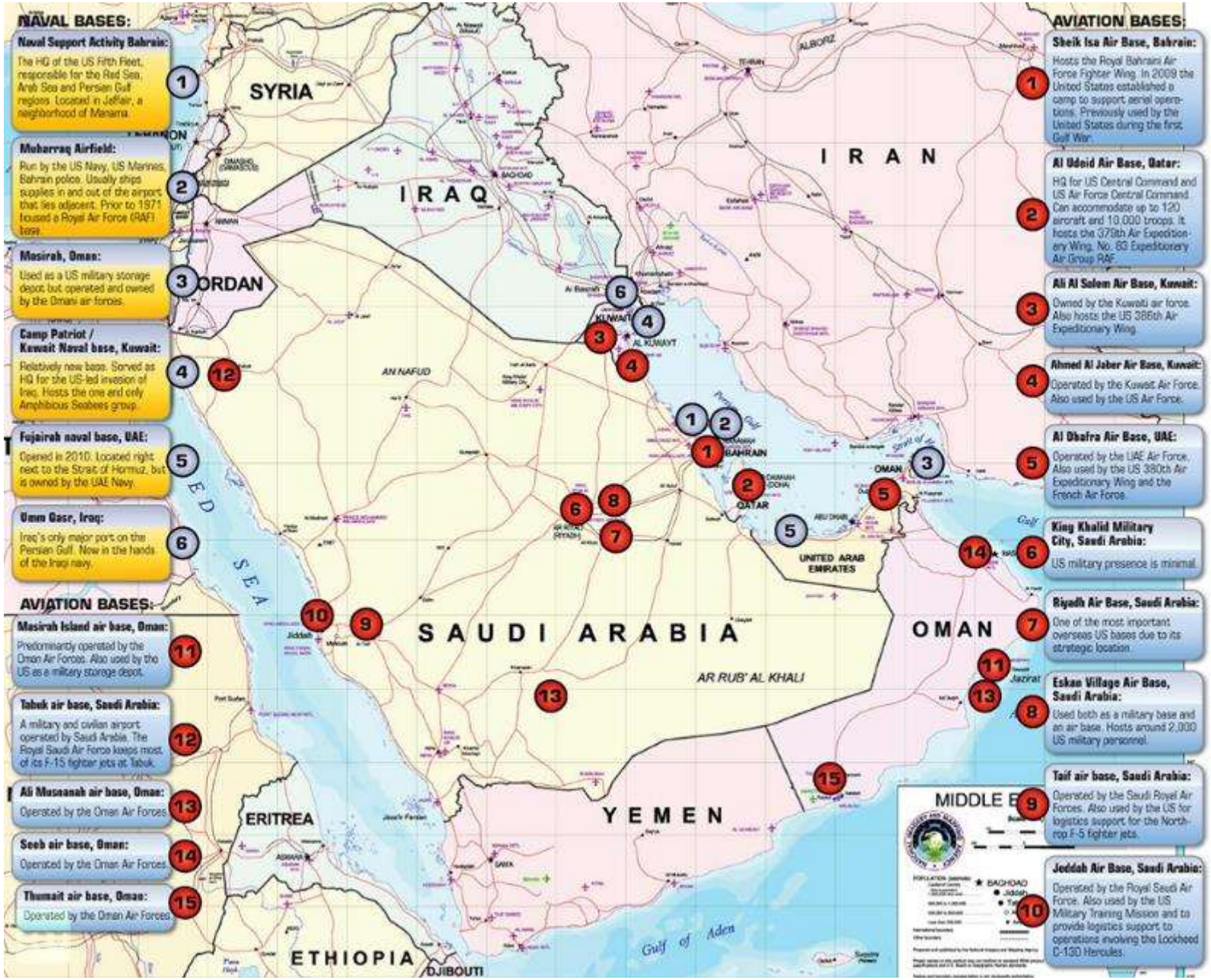
Air Defense/Attack Mission

Iran (Operational):	Inventory
Tabriz	12 F5E/F
Mehrabad	12 F-5E
Mashhad	12 F-5E
Hamadan	12 F-4E
Esfahan	44 F-14A
Dezful	12 F-5E
Omidiyeh	30 F-7N
Shiraz	28 Su-24 MK
Bushehr	12 F-14E
Bandar Abbas	12 F-4E
Chah Bahar	7 F-4D

GCC (Operational):	Inventory
Tabuk (Saudi Arabia)	24 F-15C
Taif (Saudi Arabia)	72 Typhoon
Khamis Mushait (Saudi Arabia)	84 F-15S
Dhahran (Saudi Arabia)	67 Tornado IDS
Ahmed al-Jaber (Kuwait)	39 F-18C
Issa (Bahrain)	16 F-16C
Doha (Qatar)	9 Mirage-2000-5
Al-Safran (UAE)	42 Mirage 2000-9
Al Dhafra (UAE)	55 F-16C
Adam (Oman)	10 Typhoon
Thumrait (Oman)	23 F-16C

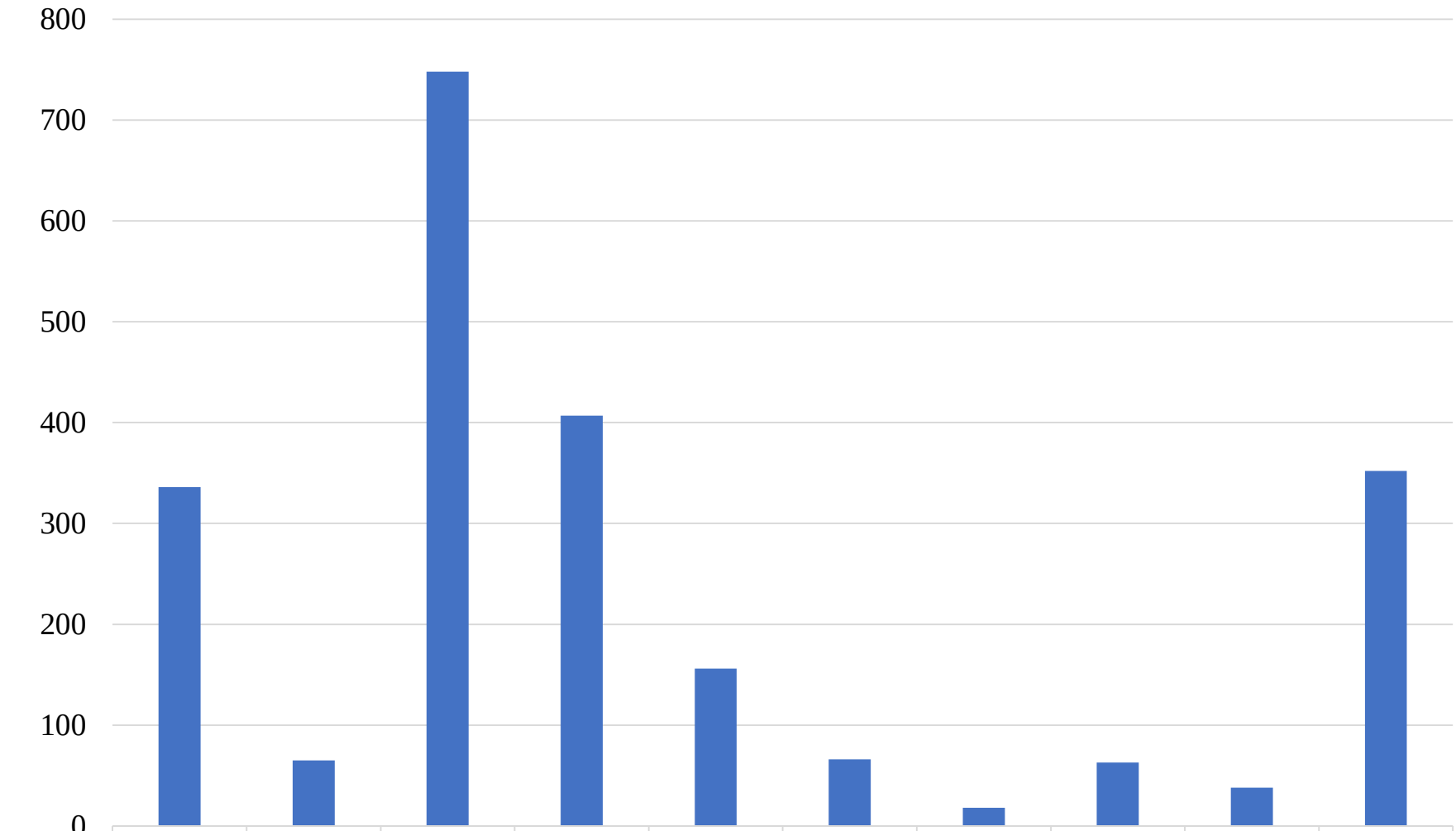
Source: Dr. Abdullah Toukan, November 5, 2018

Iranian (Pars) View of Gulf Air Threat



Source: https://www.google.com/search?q=Map+of+Gulf+military+air+bases&client=firefox-b-1-d&sxsrf=ACYBGNQwGHEt0nNgIkX1UX5Ln0EdWj9LkA:1572350225610&tbm=isch&source=iu&ictx=1&fir=W10KinVt9z_ShM%253A%252C7F8LtoIfVUYxsM%252C_&vet=1&usg=AI4_-kSc5e6JohF4zPaBgtwRw3FaVkFcIg&sa=X&ved=2ahUKEwi-wqOFtcHlAhUKx1kKHe4nAfUQ9QEwA3oECAQQDA#imgrc=BWZd-cwKB9ySSM&imgdii=nRKQ6_858rIBcM

Comparative Total Fixed-Wing Combat Aircraft Strength, 2019



	Iran	Iraq	GCC	Saudi Arabia	UAE	Kuwait	Qatar	Oman	Bahrain	Israel
Aircraft	336	65	748	407	156	66	18	63	38	352

Source: adapted from the IISS, *Military Balance, 2019*.

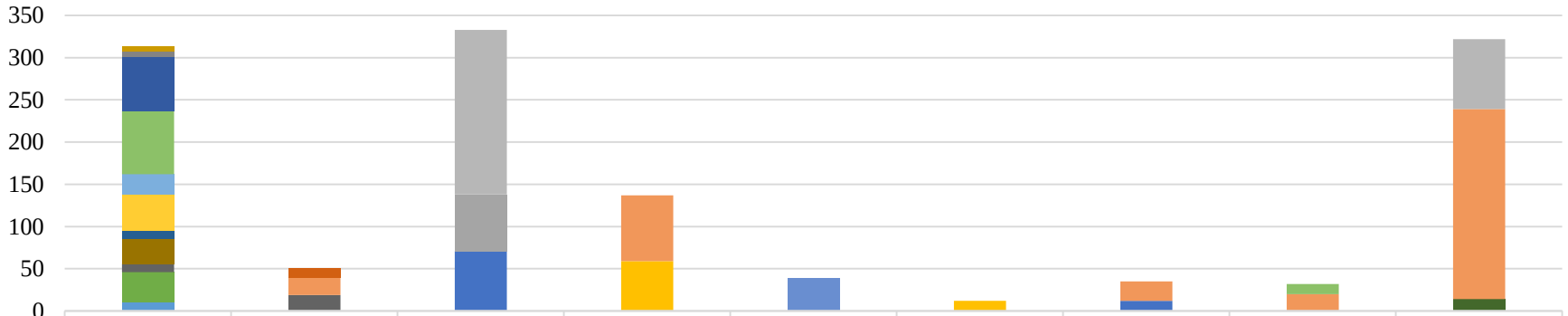
Iranian Combat Airbases and Major Combat Aircraft

1st FB	MiG-29, C-130, B707 (cargo and tanker), B747 (cargo and tanker), Falcon 20, Jetstar, RC-707, RC-130, IL-76, An-74	8th FB	F-14A/AM, F-7/FT-7N, PC-7
2nd FB	MiG-29, F-5E/F, Saeghe I/II (Iranian F-5 variants)	9th FB	F-4E, P-3
3rd FB	F-4E, RF-4E	10th FB	F-4D, Mirage F1
4nd FB	F-5E/F	Omidiyeh Air Base	F-7N
6th FB	F-4E	Mashhad Air Base	F-5E/F
7th FB	Su-24MK, C-130, P-3, IL-76, Su-22, Y-12		

Platform	Delivered to Iran (Origin)	Role
F-4D/E Phantom II	1968-1978 (USA)	Multirole Fighter
F-5E/F Tiger II (and later Iranian variants)	1973-1976 (USA)	Multirole Fighter
F-14A/AM Tomcat	1976-1978 (USA)	Fighter
Su-22 Fitter	1991 (Iraq)	Fighter-Bomber
Su-24MK Fencer	1990 (Russia); 1991 (Iraq)	Fighter-Bomber
MiG-29 Fulcrum A	1990 (Russia); 1991 (Iraq)	Multirole Fighter
Mirage F1	1991 (Iraq)	Multirole Fighter
F-7N Airguard	1987-1996 (China)	Multirole Fighter

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, p. 27.

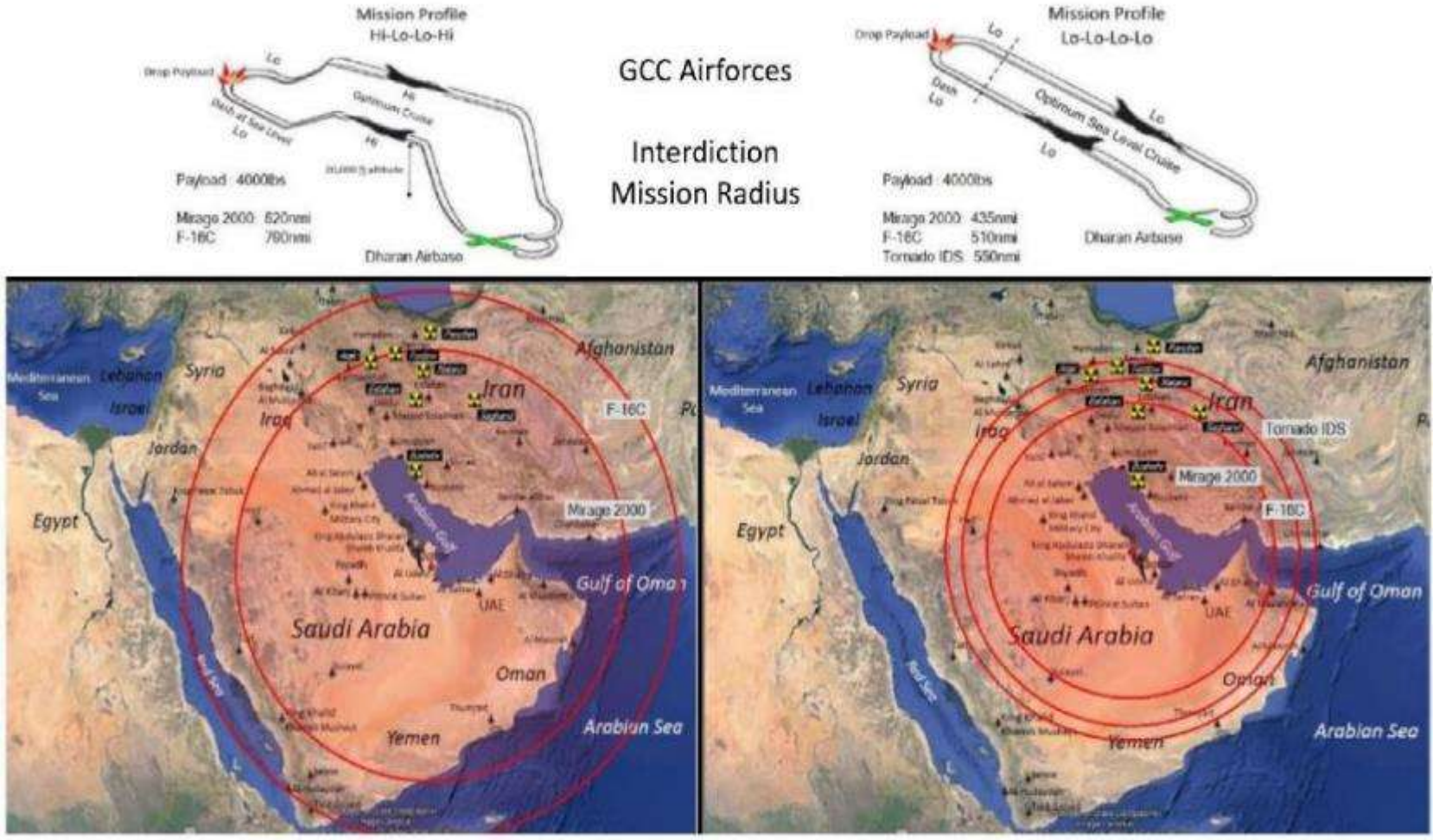
J3. Comparative Fixed-Wing Combat Aircraft Strength By Type, 2019



	Iran	Iraq	Saudi Arabia	UAE	Kuwait	Qatar	Oman	Bahrain	Israel
Azarakhsh	6								
Seagheh	6								
L-159		11							
F-4	64								
F-5	75							12	
F-7	24								
F-14	43								
F-15c/d/i/s			195						83
F-16		21		78			23	20	225
F-18					39				
F-35									14
Su-20/22	10								
Su-24	29								
Su-25	10	19							
Mig-21/U									
Mig-25									
Mig-29	36								
Mirage F-1E	10								
Mirage 2000				59		12			
Tornado IDS			67						
Tornado ADV									
Typhoon-2			71				12		

Source: adapted from the IISS, *Military Balance, 2019*.

Range of GCC Air Power



(Source: Abdullah Toukan)

Source: Dr. Abdullah Toukan, September 24, 2016

Major Iranian UAVs

UAVs are Iran's most rapidly advancing air capability. Iran uses these versatile platforms for a variety of missions, including ISR and air-to-ground strikes. The IRGCASF is the primary operator of Iran's growing fleet of UAVs, although most Iranian military services employ them.

Iran regularly conducts ISR flights along its border and littoral, including the Persian Gulf and Strait of Hormuz.

The IRGCASF has also deployed various armed and unarmed UAVs to Syria and Iraq for ISR and strike missions to support counter-ISIS operations and the Syrian regime.

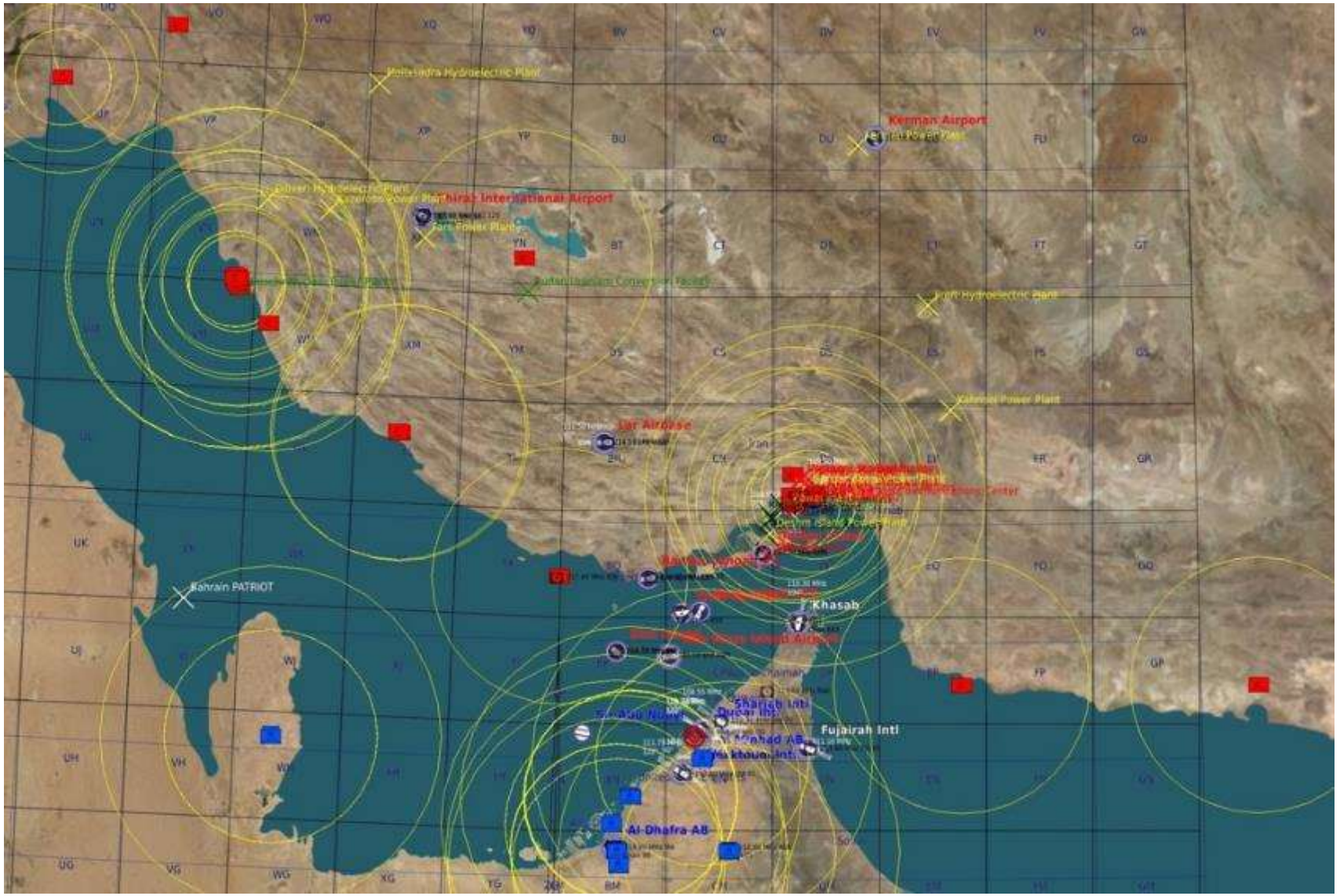
In 2018, Iran for the first time employed UAVs to conduct long-range, cross-border strike operations, using armed UAVs in concert with ballistic missiles as part of a retaliatory attack against ISIS in eastern Syria.

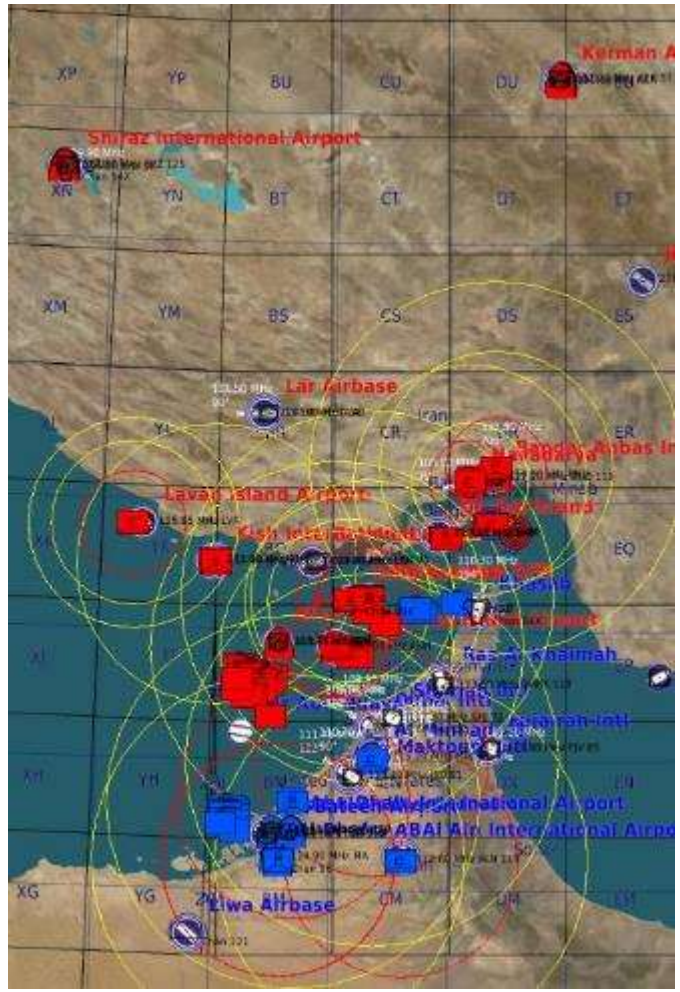
Iran has also provided UAV platforms and technology to Hizballah and the Huthis to challenge its regional rivals.

Platform Family	System	Role
Ababil	Ababil-2	Multirole
	Ababil-3	ISR
	Qasef-1	Multirole
Shahed	Shahed-129	Multirole, including ISR and air-to-ground strike[365,366]
	Shahed-123	ISR
Mohajer	Mohajer-2	ISR
	Sadegh	Multirole
	Mohajer-4	ISR
	Mohajer-6	Multirole, including ISR and air-to-ground strike[367]
Toufan	Toufan 1	One-way attack
Fotros	Fotros	Multirole, including ISR and air-to-ground strike[368,369]
Karrar	Karrar	Multirole
Hemaseh	Hemaseh	Multirole
IRN-170	IRN-170 variants	Multirole

Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, pp. 67-68.

Gulf SAM Defenses (Pre S-300)

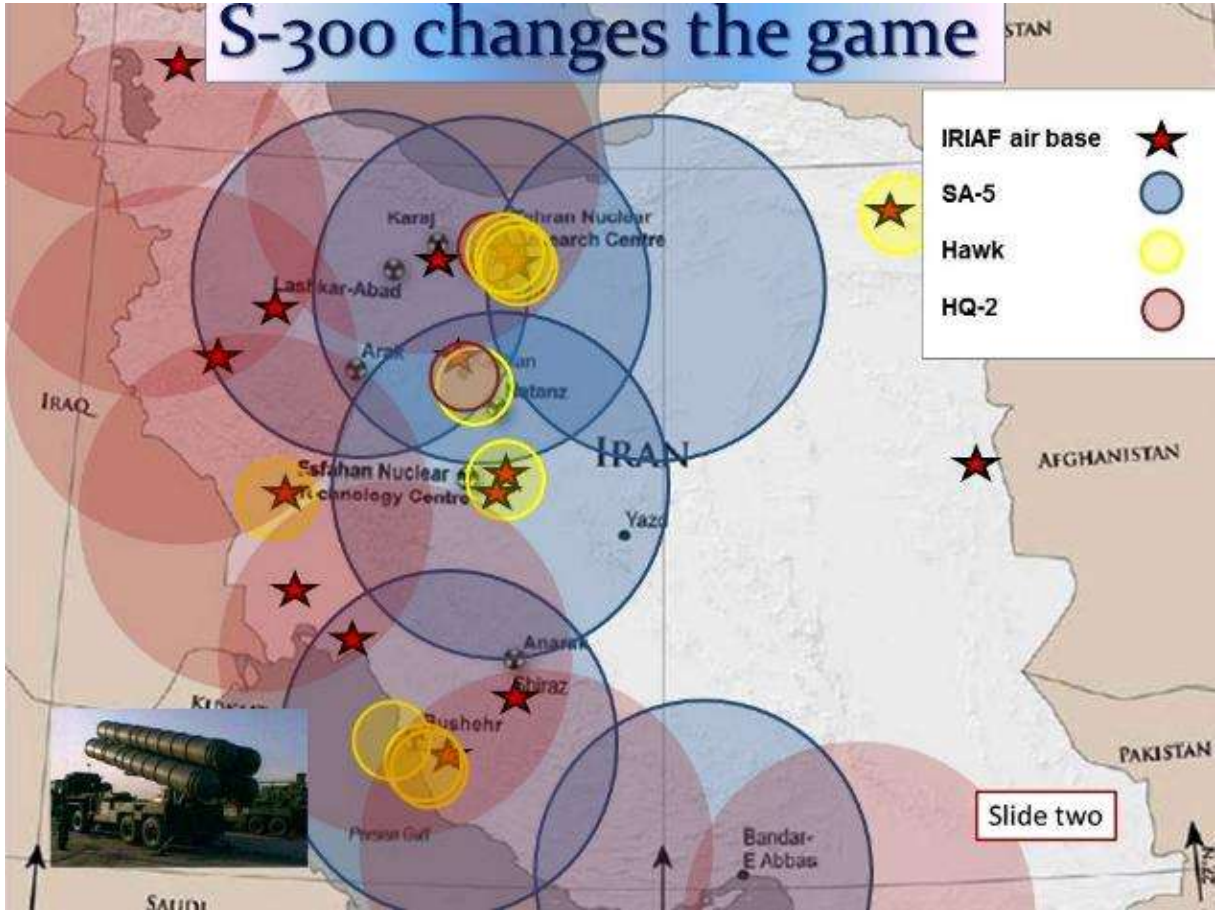




Source: www.digitalcombatsimulator.com

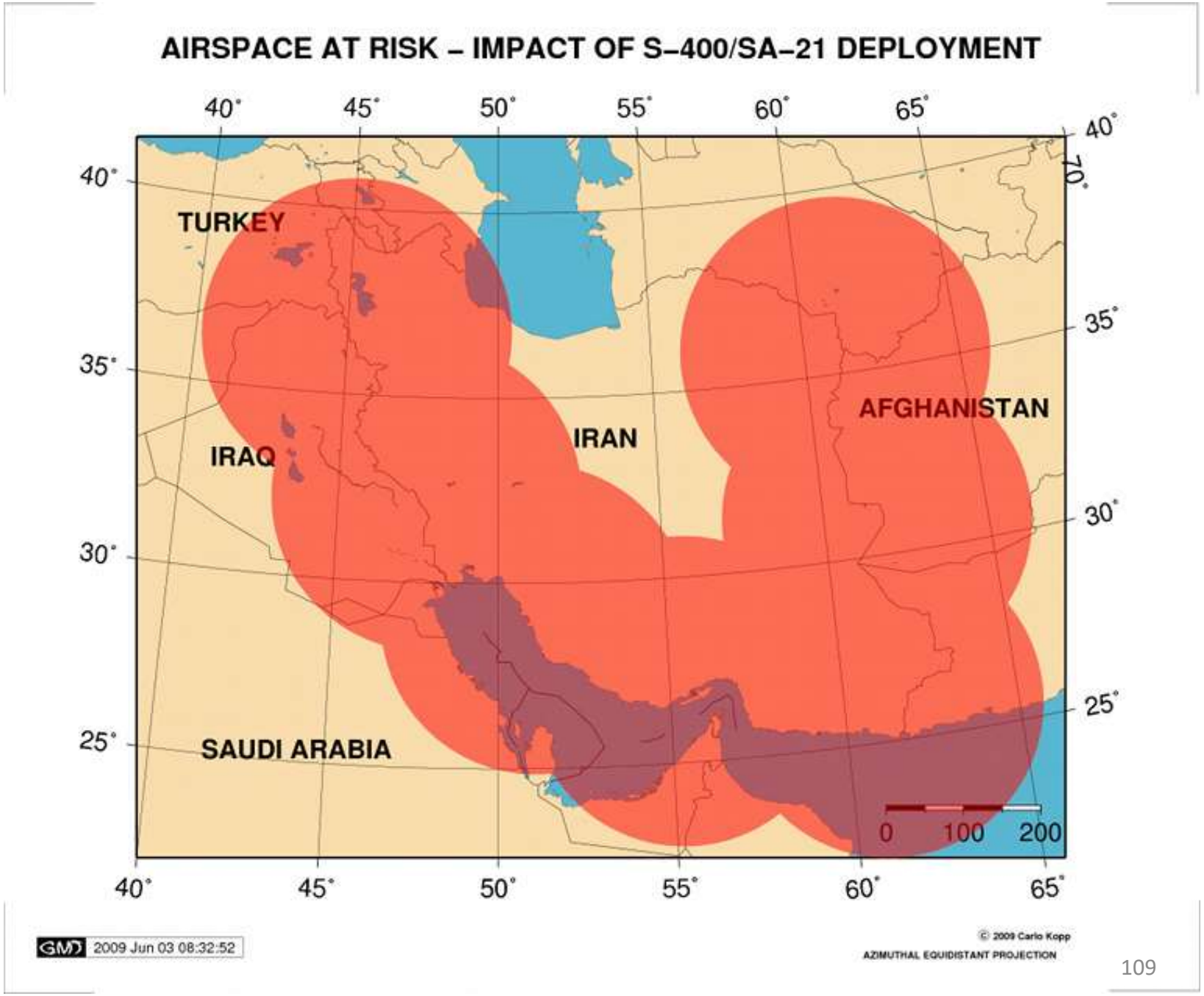
Iranian Major Bases and SAM Defenses

Iran has imported roughly 32 Russian-made S-300 surface-to-air missile systems—including the S-300PMU2 (SA-20 Gargoyle)



Source: Israel Behind the News and https://www.google.com/search?q=Map+of+Iranian+air+defenses&client=firefox-b-1-d&sxsrf=ACYBGNQ4juxQ63Xm4ITtvu6zNdLL8rRadQ:1572352350650&tbm=isch&source=iu&ictx=1&fir=s6-xzWzv3--wYM%253A%252Ch3gvCg87kl00FM%252C_&vet=1&usg=AI4_-kRZ78u56OGpAq6Kmqxh0zGmhU8IJA&sa=X&ved=2ahUKEwiu1Mn6vMHlAhVng-AKHUwAB04Q9QEwAXoECAYQCQ#imgrc=NbQtvb-LIWaH5M&imgdii=GKQL2hzUL2QhzM

Iran with S400



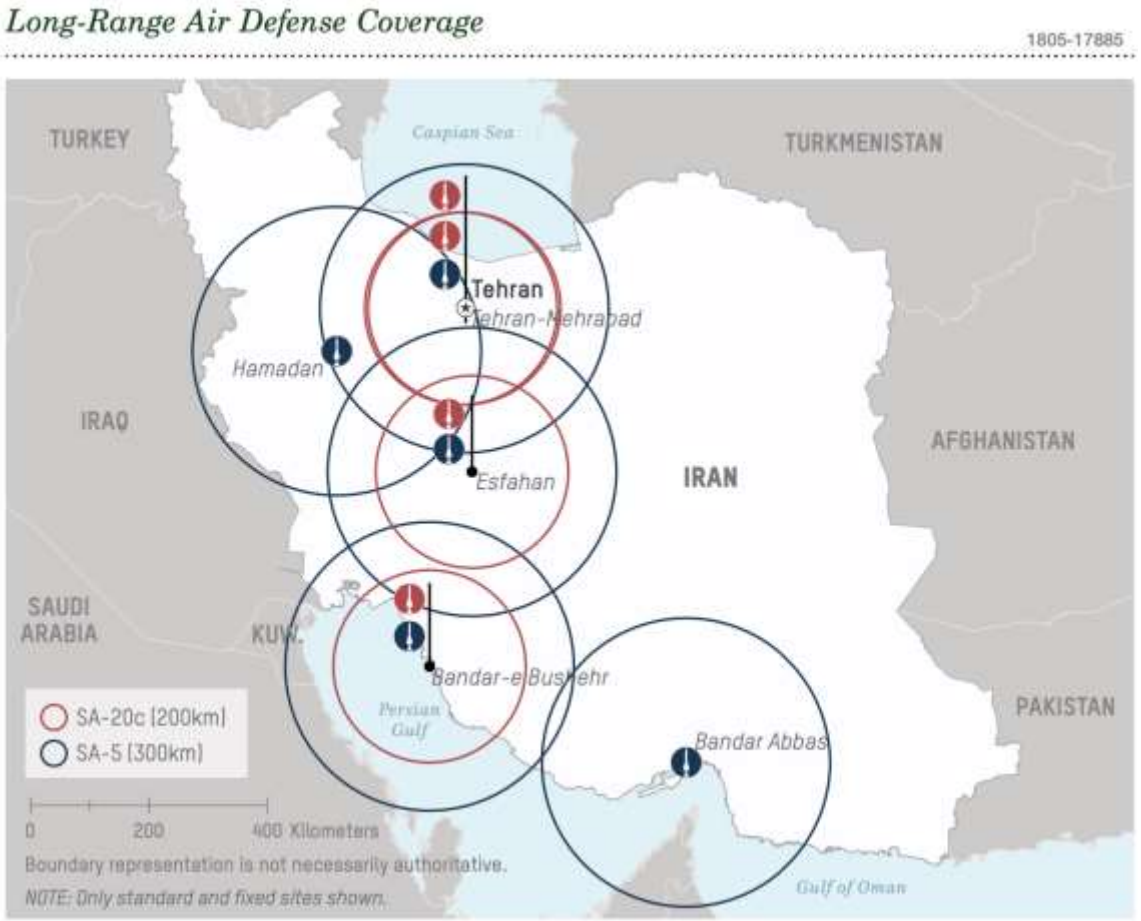
Source: Israel Behind the News

Iranian Long-Range Land-Based Air Defense Systems and Surface to Air Missiles

Khatemolanbia Air Defense Headquarters

The KADHQ maintains responsibility for overseeing and coordinating Iran's national-level air defenses across both the IRIADF and IRGCASF. It controls the country's air defense C2, air surveillance radars, SAM systems, and network of visual observation posts. KADHQ C2 is centralized during peacetime at the national Air Defense Operations Center and can be decentralized during crisis or conflict, transferring decisionmaking authority down to a network of fixed and mobile regional sector operations centers (SOCs). SOCs manage air defense operations within their areas of responsibility and coordinate with adjacent sectors.[380,381,382]

Type	Systems
Long-Range	SA-20c Gargolye (S-300 PMU2), SA-5 Gammon (S-200), Bavar-373, Sayyad-3
Medium-Range	I-HAWK/Mersad, CSA-1, Third of Khordad, Raad, Talash, Sayyad-1, Sayyad-2
Short-Range	SA-15 Gauntlet (Tor M1), Rapier



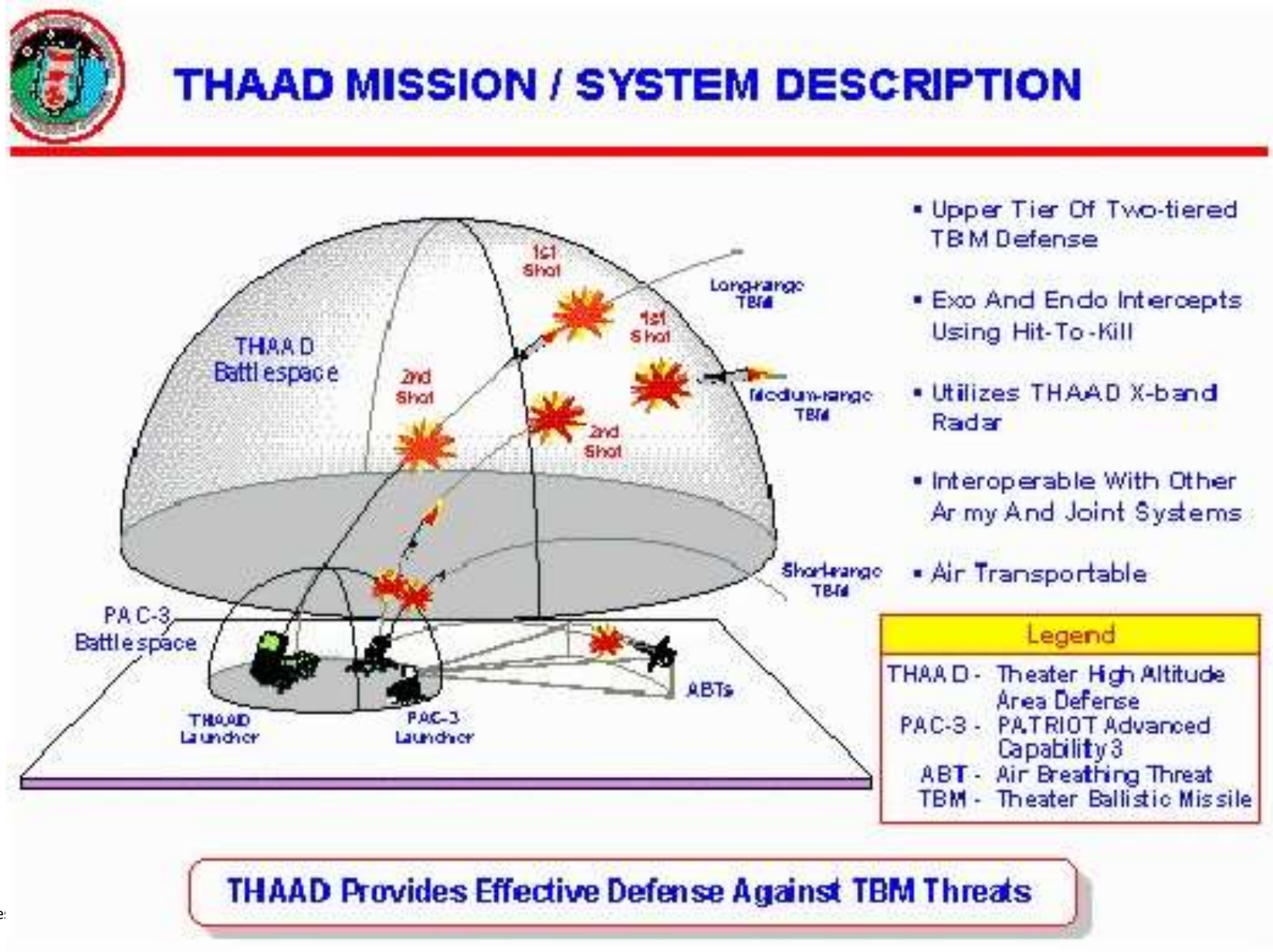
Source: DIA, *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, DIA, November 2019, pp. 68.

THAAD vs. Patriot

THAAD and Patriot Pac-3 are complementary to each other. Patriot pac-3 intercepts aircraft/UAVs, and cruise missiles and a ballistic missile in it's terminal stage of flight (in atmosphere), while Thaad intercepts a missile while it is in Stratosphere.

So, if Thaad fails in intercepting a missile Pac-3 might do that.

UAE is acquiring Patriot pac-3, Patriot pac-2, Thaad and Pantzir-s1 which makes it's airspace fully protected.



Source: https://defense.pk/pdf/threads/patriot-pac-3-succes intercept-a-cruise-missile.176196/page-2

Iran's Land Forces Are Large but of Very Mixed Quality. They are Largely Geared to Defense in Depth

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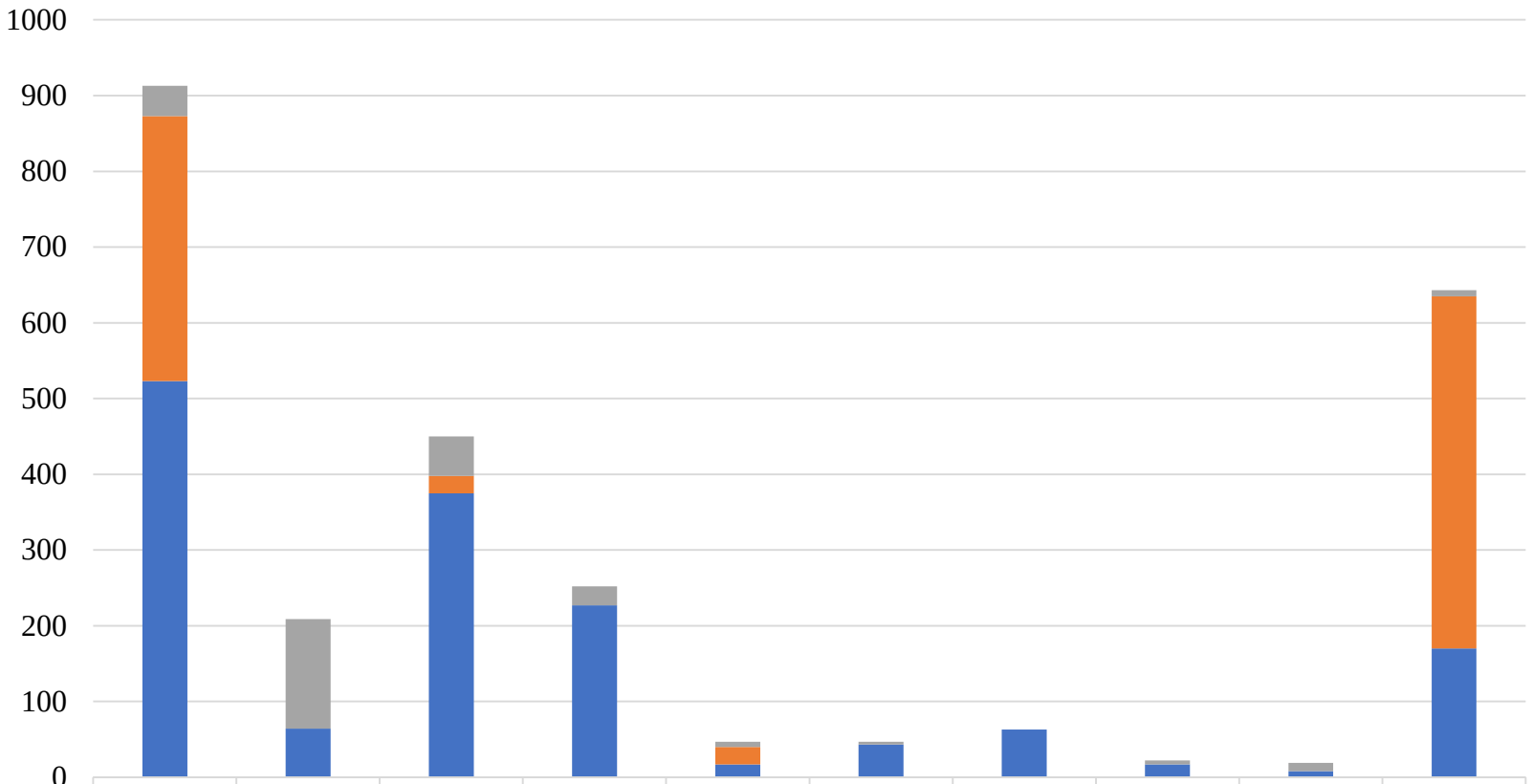
Comparative Active Armed Forces, Estimated Reservist, and Active Paramilitary Personnel (thousands)



	Iran	Iraq	GCC	Saudi Arabia	Kuwait	Oman	UAE	Qatar	Bahrain	Israel
Active Paramilitary	40	145	52	25	7	4	0	5	11	8
Estimated Reservists	350	0	23	0	23	0	0	0	0	465
Active Armed Forces	523	64	375	227	17	43	63	17	8	170

Source: IISS Country Comparison and Defense Data. 2019

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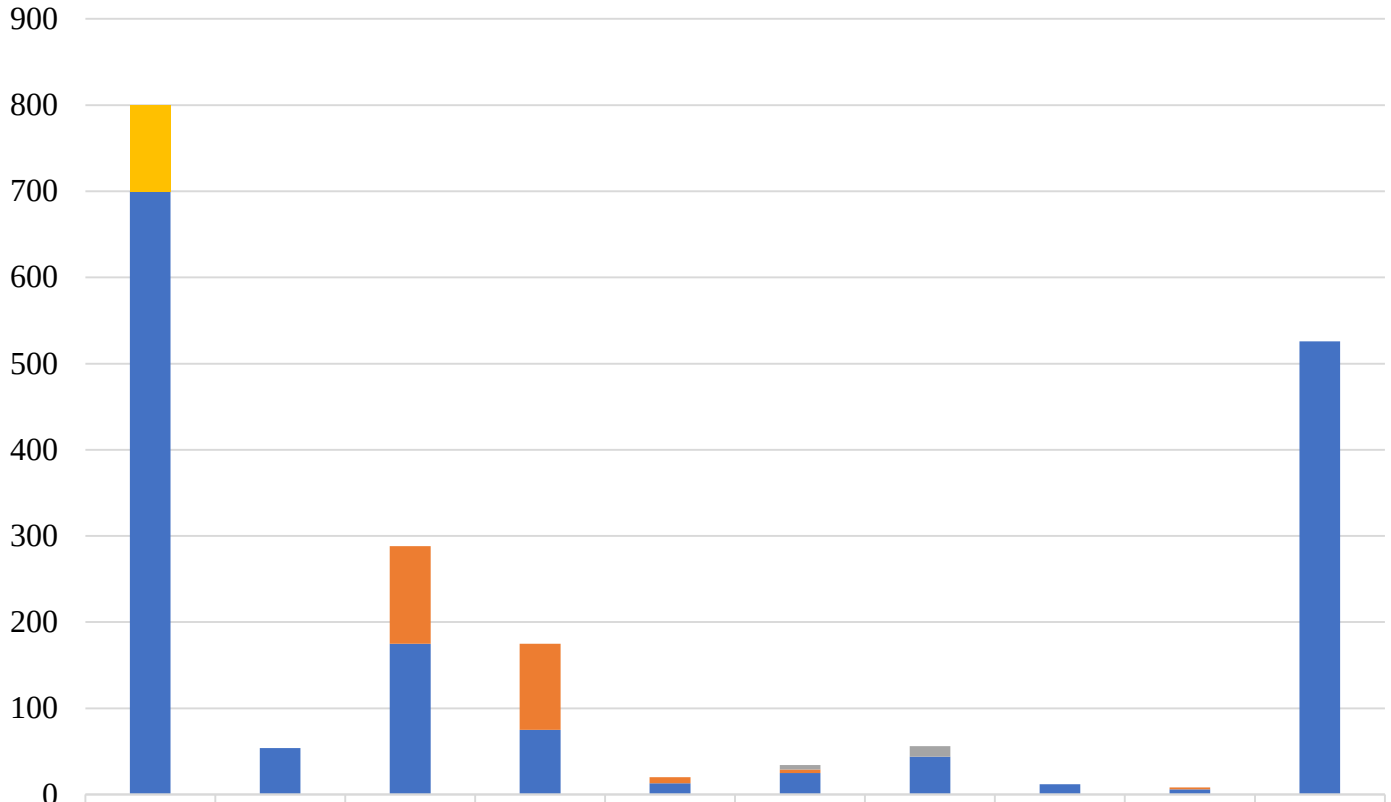
Comparative Army, National Guard, Royal/Presidential Guard, IRGC Military Personnel (thousands)



	Iran	Iraq	GCC	Saudi Arabia	Kuwait	Oman	UAE	Qatar	Bahrain	Israel
IRGC	100	0	0	0	0	0	0	0	0	0
Royal/Presidential Guard	0	0	0	0	0	5	12	0	0	0
National Guard	0	0	113	100	7	4	0	0	2	0
Army	700	54	175	75	13	25	44	12	6	526

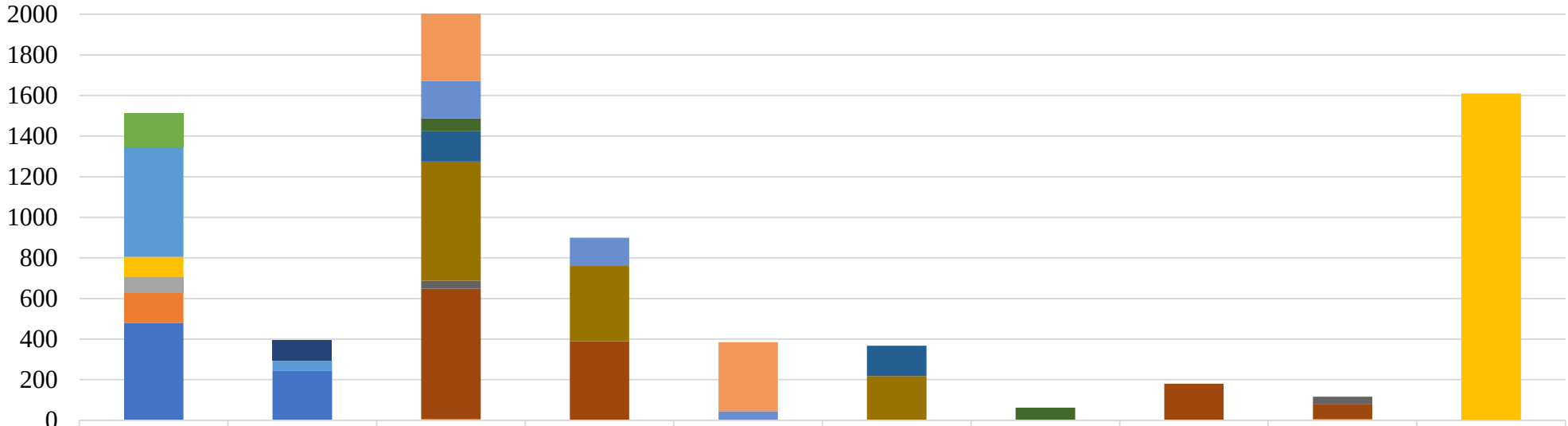
Source: IISS Country Comparison and Defense Data. 2019

Comparative Total Land force Major Weapons Holdings

	Iraq	Iran	GCC	Saudi	UAE	Bahrain	Kuwait	Oman	Qatar
Main Battle Tanks	393	1,513	1,937	900	385	180	293	117	62
AIFVs	240	610	1,766	760	405	67	492	2	40
APCs	2,092	640	3,121	1,340	928	203	260	200	190
Towed Artillery	60	2,030	359	110	93	36	-	108	12
Self-Propelled Artillery	72	292	669	224	181	82	106	24	52
Multiple Rocket Launchers	3	1,476	194	60	88	13	27	-	6
Combat Aircraft	65	336	748	407	156	38	66	63	18
Attack Helicopters	28	-	79	35	-	28	16	-	-
Major SAM Launchers	0	205	296	236	14	6	40	-	-

Source: Adapted from IISS, “Middle East Balance,” *Military Balance 2019*, pp 334-373.

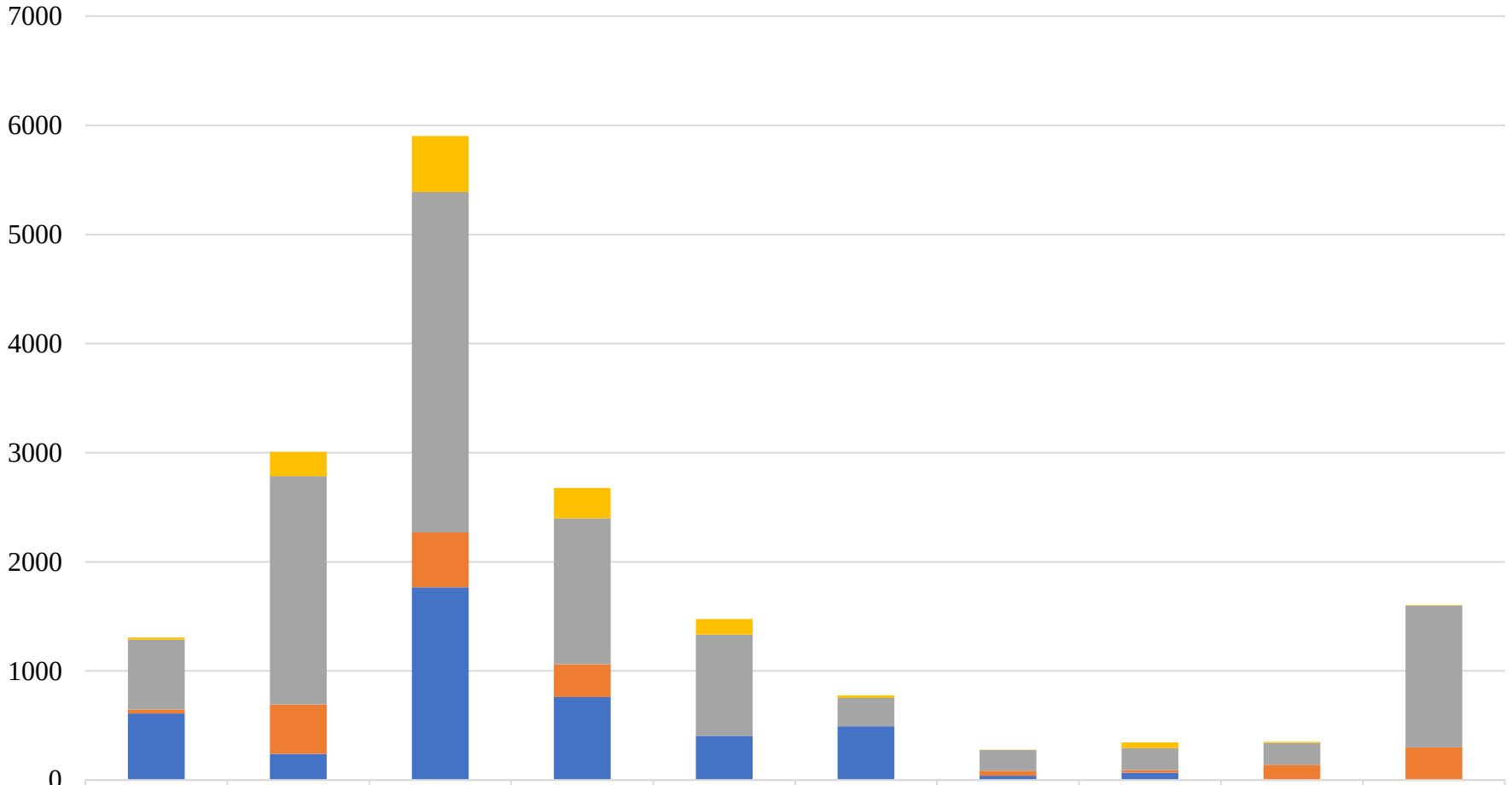
Comparative Main Battle Tank Strength, 2019



	Iran	Iraq	GCC	Saudi Arabia	UAE	Kuwait	Qatar	Bahrain	Oman	Israel
Leclerc	0	0	340	0	340	0	0	0	0	0
AMX-30	0	0	185	140	45	0	0	0	0	0
Leopard 2A7	0	0	62	0	0	0	62	0	0	0
M-84	0	0	150	0	0	150	0	0	0	0
M1A2	0	0	588	370	0	218	0	0	0	0
Challenger 2	0	0	38	0	0	0	0	0	38	0
M60A3	0	0	643	390	0	0	0	180	73	0
M1A1	0	100	0	0	0	0	0	0	0	0
M47/48	168	0	0	0	0	0	0	0	0	0
T-54/55/59	540	50	0	0	0	0	0	0	0	0
MK2/3/4/5	100	0	0	0	0	0	0	0	0	1610
T-62	75	0	0	0	0	0	0	0	0	0
M60A1	150	0	6	0	0	0	0	0	6	0
T-72S	480	243	0	0	0	0	0	0	0	0

Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 334-373.

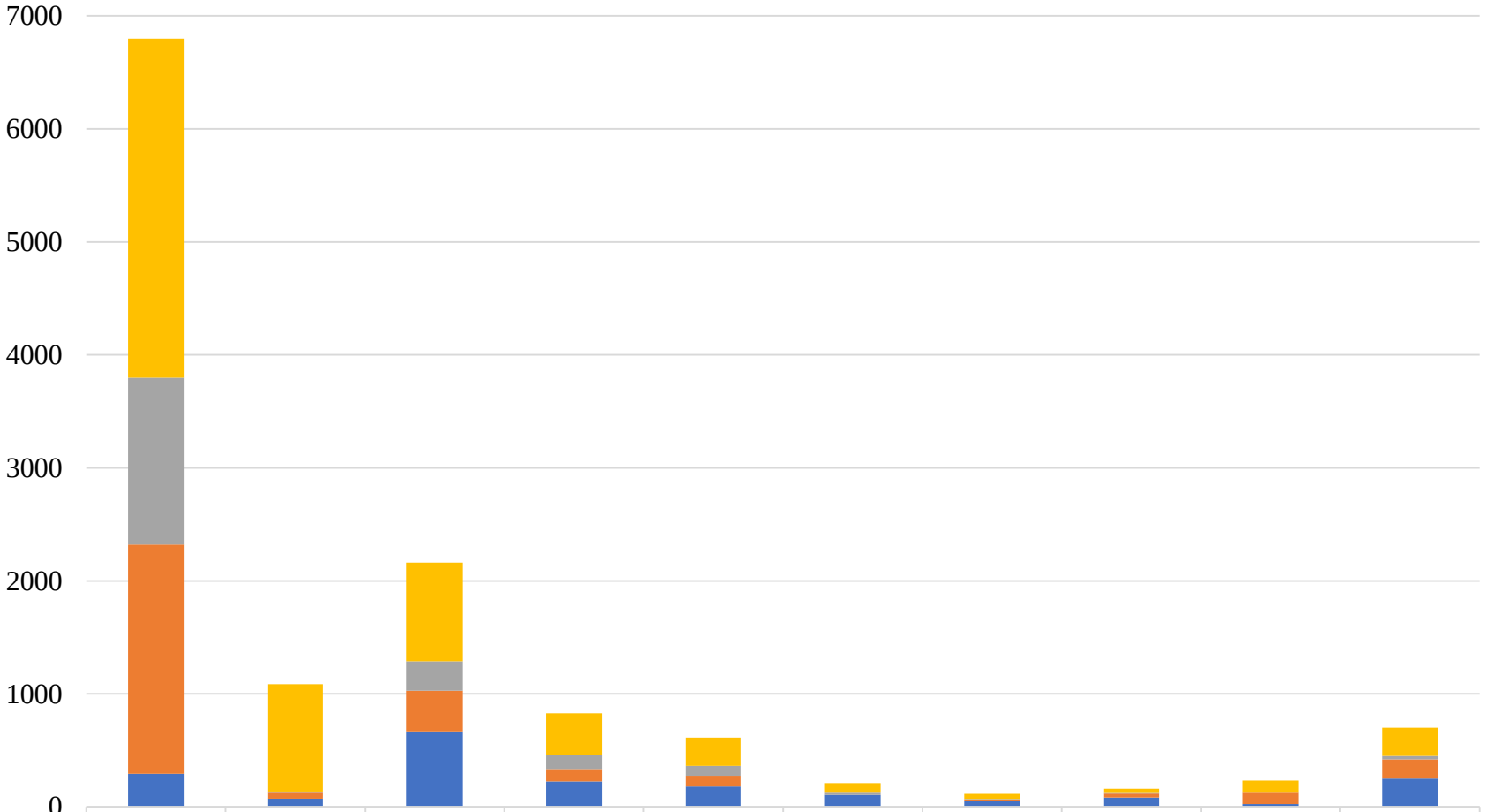
Comparative Other Armored Vehicle Strength by Major Category, 2019



	Iran	Iraq	GCC	Saudi Arabia	UAE	Kuwait	Qatar	Bahrain	Oman	Israel
Armored Recovery	20	222	512	278	143	24	3	53	11	5
APCs	640	2,092	3121	1,340	928	260	190	203	200	1,300
Recce	35	453	503	300	0	0	44	22	137	300
AFVs	610	240	1766	760	405	492	40	67	2	0

Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 334-373.

Comparative Artillery Strength by Major Category, 2019

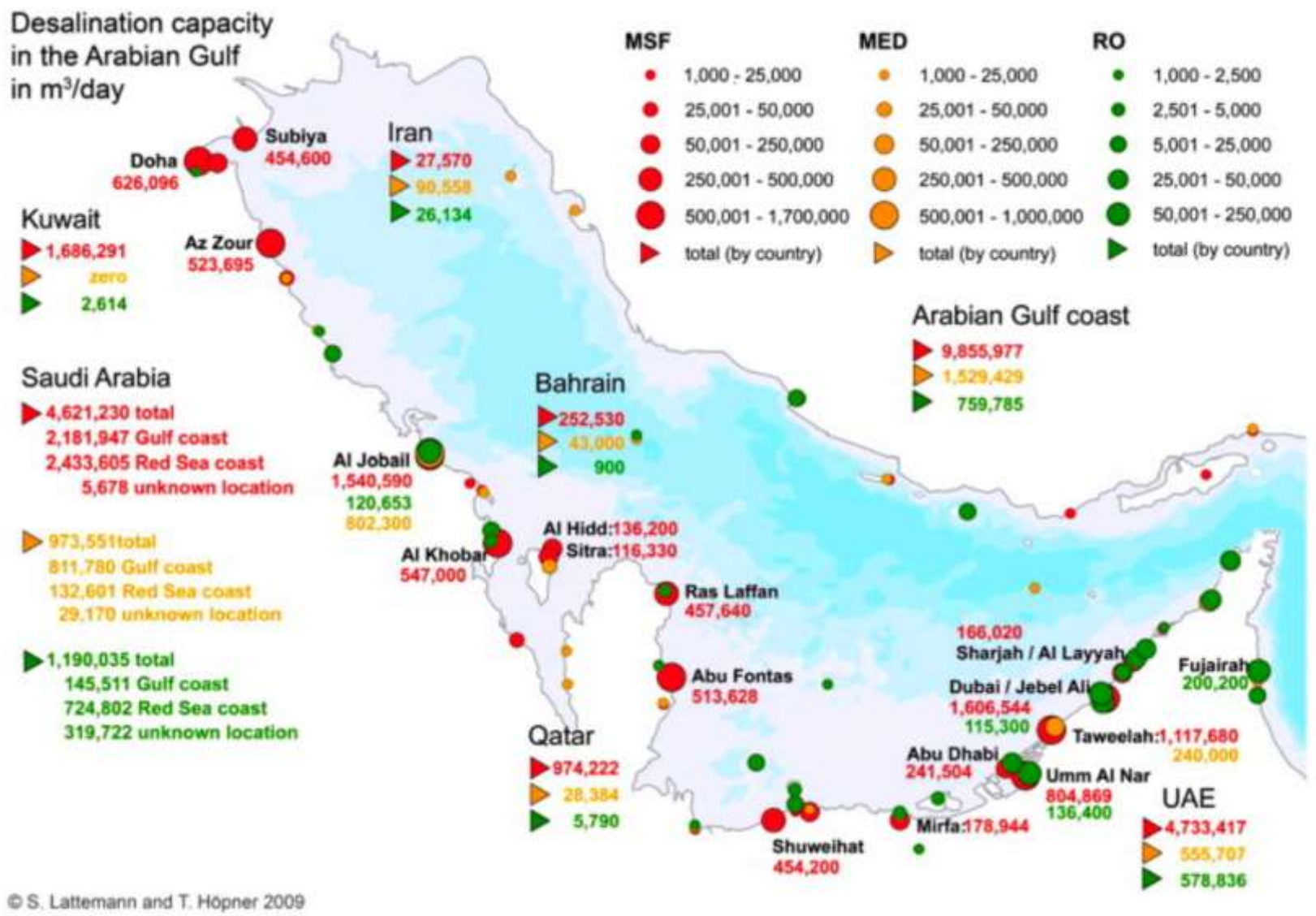


	Iran	Iraq	GCC	Saudi Arabia	UAE	Kuwait	Qatar	Bahrain	Oman	Israel
Mortars	3,000	950	872	367	251	78	45	30	101	250
Multiple Rocket Launchers	1,476	3	261	127	88	27	6	13	0	30
Towed	2,030	60	359	110	93	0	12	36	108	171
Self-Propelled	292	72	669	224	181	106	52	82	24	250

Source: Adapted from IISS, "Middle East Balance," *Military Balance 2019*, pp 334-373.

Attack and Defense Capabilities Are Only Part of the Story.
The Civil and Military Target Base Is Critical on All Sides: Petroleum and Infrastructure Are Key Potential Targets for Precision Strikes

Gulf Desalination facilities



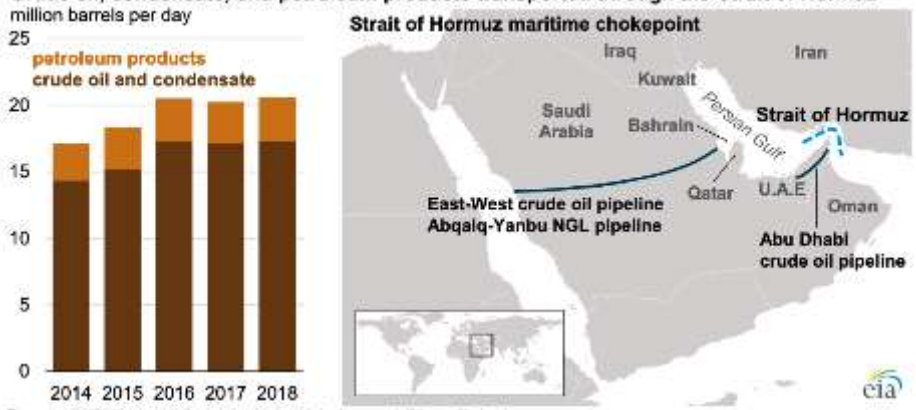
Source: Lewis Talon, **Water Security: The Fragile Desalination Infrastructure of the Arabian Gulf, https://encyclopediageopolitica.com/2018/09/06/water-security-the-fragile-desalination-infrastructure-of-the-arabian-gulf/**

Broader Gulf Energy Infrastructure

Source: https://www.google.com/search?q=map+of+arabian+peninsula+countries&client=firefox-b-1-d&sxsrf=ACYBGNT7I1xWCgfrEtO5Pamkps17xWDnFQ:1572349428627&tbm=isch&source=iu&ictx=1&fir=dJAdsiD9XE8UkM%253A%252CZu4KYmOJXzdRMM%252C_&vet=1&usg=AI4_-kQJFyN_rw_fxWYXM2e8TyWCsRqQEA&sa=X&ved=2ahUKEwixuZ-JssHlAhXypVkKHWBYAOYQ9QEwA3oECAQQBg#imgrc=dJAdsiD9XE8UkM&imgdii=VsHcbY_yEWUVOM

The Strategic Importance of Gulf Exports and the Strait of Hormuz

Crude oil, condensate, and petroleum products transported through the Strait of Hormuz



Source: U.S. Energy Information Administration and ClipperData, Inc.

The Strait of Hormuz, located between Oman and Iran, connects the Persian Gulf with the Gulf of Oman and the Arabian Sea. The Strait of Hormuz is the world's most important oil chokepoint because of the large volumes of oil that flow through the strait. In 2018, its daily oil flow averaged 21 million barrels per day (b/d), or the equivalent of about 21% of global petroleum liquids consumption.

Chokepoints are narrow channels along widely used global sea routes that are critical to global energy security. Th inability of oil to transit a major chokepoint, even temporarily, can lead to substantial supply delays and higher shipping costs, resulting in higher world energy prices. Although most chokepoints can be circumvented by using other routes that add significantly to transit time, some chokepoints have no practical alternatives.

Volumes of crude oil, condensate, and petroleum products transiting the Strait of Hormuz have been fairly stable since 2016, when international sanctions on Iran were lifted and Iran's oil production and exports returned to pre-sanctions levels. Flows through the Strait of Hormuz in 2018 made up about one-third of total global seaborne traded oil. More than one-quarter of global liquefied natural gas trade also transited the Strait of Hormuz in 2018.

Crude oil, condensate, and petroleum products transported through the Strait of Hormuz

million barrels per day

	2014	2015	2016	2017	2018
Total oil flows through Strait of Hormuz	**17.2**	**18.4**	**20.6**	**20.3**	**20.7**
Crude and condensate	14.4	15.2	17.3	17.2	17.3
Petroleum products	2.8	3.2	3.3	3.1	3.3
World maritime oil trade	**56.4**	**58.9**	**61.2**	**62.5**	**N/A**
World total petroleum and other liquids consumption	**93.9**	**95.9**	**96.9**	**98.5**	**99.9**
LNG flows through Strait of Hormuz (Tcf per year)	**4.0**	**4.2**	**4.2**	**4.1**	**4.1**

Source: U.S. Energy Information Administration, based on *Short-Term Energy Outlook* (June 2019), ClipperData, Saudi Aramco bond prospectus, Saudi Aramco annual reports, Saudi Ports Authority, International Group of Liquefied Natural Gas Importers, and U.N. Conference on Trade and Development
Note: LNG is liquefied natural gas; Tcf is trillion cubic feet

There are limited options to bypass the Strait of Hormuz. Only Saudi Arabia and the United Arab Emirates have pipelines that can ship crude oil outside the Persian Gulf and have the additional pipeline capacity to circumvent th Strait of Hormuz. At the end of 2018, the total available crude oil pipeline capacity from the two countries combined was estimated at 6.5 million b/d. In that year, 2.7 million b/d of crude oil moved through the pipelines, leaving about 3.8 million b/d of unused capacity that could have bypassed the strait.

Operating pipelines that bypass the Strait of Hormuz, 2018

million barrels per day

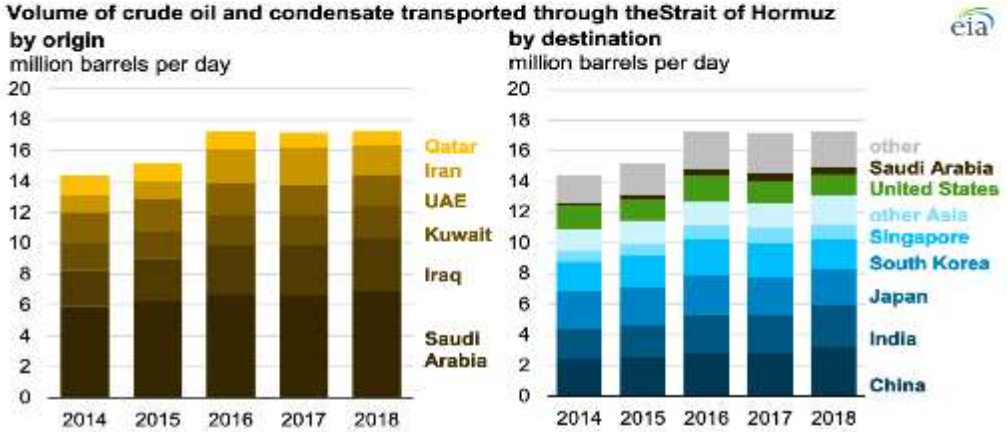
Pipeline name	Country	Capacity	Throughput	Unused capacity
Petroline (East-West Pipeline)	Saudi Arabia	5.0	2.1	2.9
Abu Dhabi Crude Oil Pipeline	United Arab Emirates	1.5	0.6	0.9
Abqaiq-Yanbu Natural Gas Liquids Pipeline	Saudi Arabia	0.3	0.3	0.0
TOTAL		**6.8**	**3.0**	**3.8**

Source: U.S. Energy Information Administration, based on ClipperData, Saudi Aramco bond prospectus (April 2019)
Note: Unused capacity is defined as pipeline capacity that is not currently used but can be readily available.

Based on tanker tracking data published by ClipperData, Saudi Arabia moves the most crude oil and condensate through the Strait of Hormuz, most of which is exported to other countries (less than 0.5 million b/d transited the strait in 2018 from Saudi ports in the Persian Gulf to Saudi ports in the Red Sea).

EIA estimates that 76% of the crude oil and condensate that moved through the Strait of Hormuz went to Asian markets in 2018. China, India, Japan, South Korea, and Singapore were the largest destinations for crude oil moving through the Strait of Hormuz to Asia, accounting for 65% of all Hormuz crude oil and condensate flows in 2018.

Volume of crude oil and condensate transported through theStrait of Hormuz



Source: U.S. Energy Information Administration, based on tanker tracking data published by ClipperData, Inc.

In 2018, the United States imported about 1.4 million b/d of crude oil and condensate from Persian Gulf countries through the Strait of Hormuz, accounting for about 18% of total U.S. crude oil and condensate imports and 7% of total U.S. petroleum liquids consumption.

Source: Adapted from Justine Barden, "The Strait of Hormuz is the world's most important oil transit chokepoint," *Energy Today*, June 20, 2019, https://www.eia.gov/todayinenergy/detail.php?id=39932

The Strategic Importance of the Bab el-Mandeb

Source: U.S. Energy Information Administration

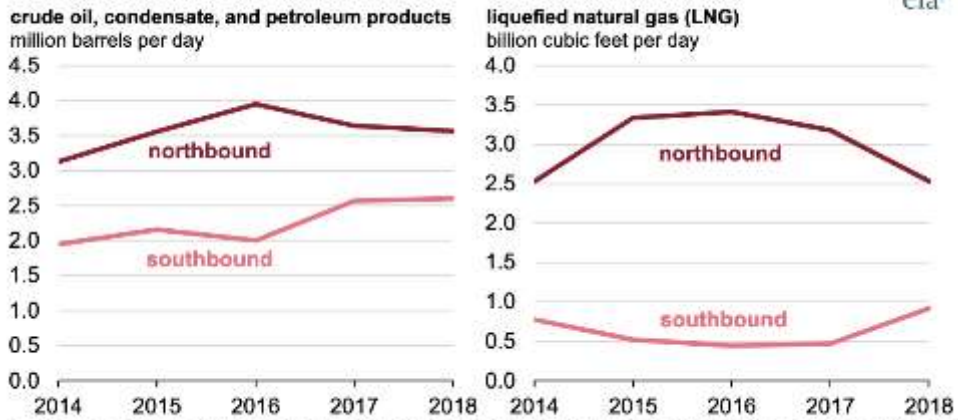
The Bab el-Mandeb Strait is a sea route chokepoint between the Horn of Africa and the Middle East, connecting the Red Sea to the Gulf of Aden and Arabian Sea. Most exports of petroleum and natural gas from the Persian Gulf that transit the Suez Canal or the SUMED Pipeline pass through both the Bab el-Mandeb and the Strait of Hormuz.

Chokepoints are narrow channels along widely used global sea routes that are critical to global energy security. The Bab el-Mandeb Strait is 18 miles wide at its narrowest point, limiting tanker traffic to two 2-mile-wide channels for inbound and outbound shipments.

Closure of the Bab el-Mandeb Strait could keep tankers originating in the Persian Gulf from transiting the Suez Canal or reaching the SUMED Pipeline, forcing them to divert around the southern tip of Africa, which would increase transit time and shipping costs.

In 2018, an estimated 6.2 million barrels per day (b/d) of crude oil, condensate, and refined petroleum products flowed through the Bab el-Mandeb Strait toward Europe, the United States, and Asia, an increase from 5.1 million b/d in 2014. Total petroleum flows through the Bab el-Mandeb Strait accounted for about 9% of total seaborne-traded petroleum (crude oil and refined petroleum products) in 2017. About 3.6 million b/d moved north toward Europe; another 2.6 million b/d flowed in the opposite direction mainly to Asian markets such as Singapore, China, and India.

Total petroleum and LNG flows through the Bab el-Mandeb Strait (2014-2018)



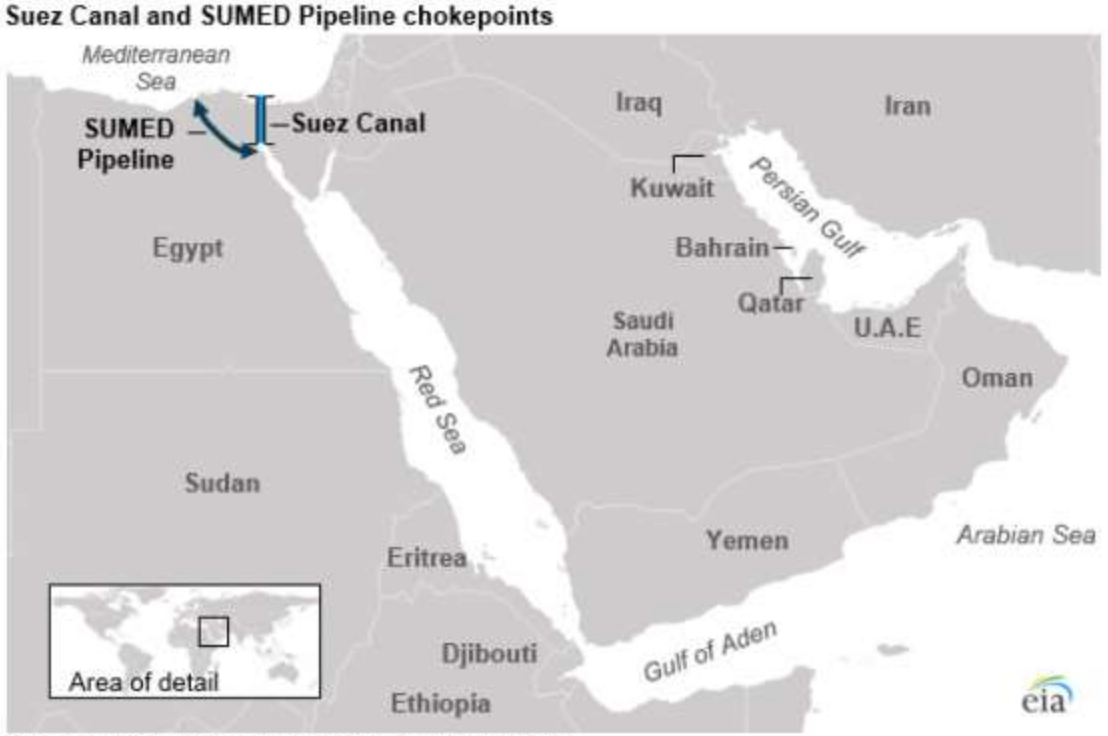
Source: U.S. Energy Information Administration, based on ClipperData, Inc; Suez Canal Authority; and International Group of LNG Importers (GIIGNL) using EIA conversion factors.
Note: CSV data

Before 2015, volumes of liquefied natural gas (LNG) passing through the Bab el-Mandeb Strait matched those passing through the Suez Canal because the Red Sea did not have any LNG infrastructure. In 2015, both Jordan and Egypt began importing small volumes of LNG into Red Sea ports, and these countries' imports of LNG peaked in 2016 at 1.4 billion cubic feet per day, 80% of which was delivered through the Bab el-Mandeb Strait.

More recently, as new natural gas fields in Egypt have come online, the need for Egypt to import LNG has decreased. Like flows to Egypt, total northbound flows of LNG via the Bab el-Mandeb have also decreased since 2016 as northbound flows to other destinations have remained fairly constant.

Source: adapted from Justine Barden, "The Bab el-Mandeb Strait is a strategic route for oil and natural gas shipments," *Energy Today*, August 27, 2019, https://www.eia.gov/todayinenergy/detail.php?id=41073

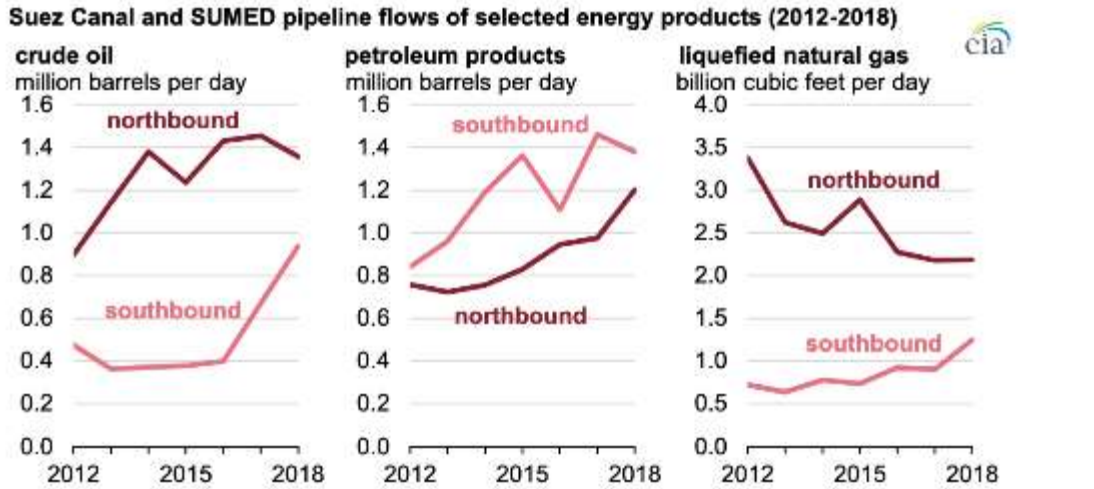
The Strategic Importance of the SUMED Pipeline and Suez Canal - I



Source: U.S. Energy Information Administration

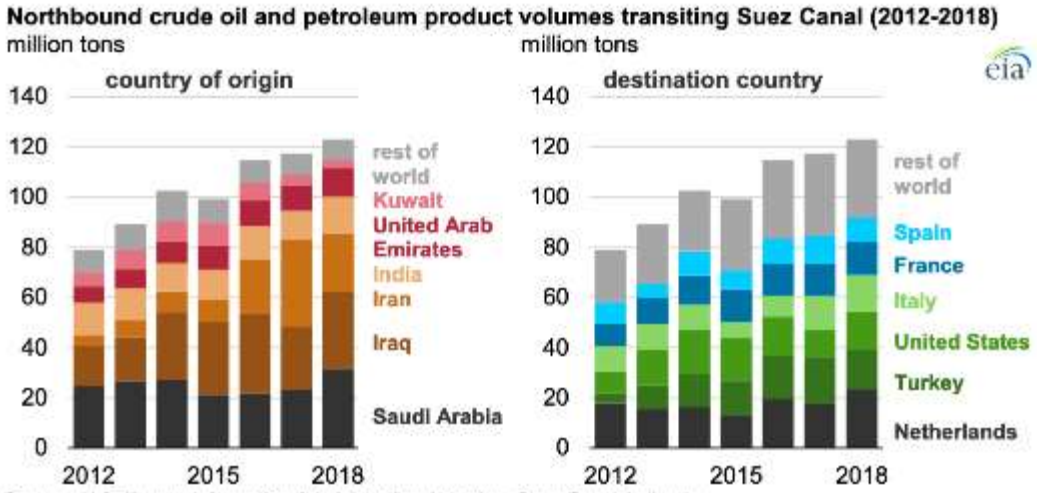
The Suez Canal and the SUMED Pipeline are strategic routes for Persian Gulf crude oil, petroleum products, and liquefied natural gas (LNG) shipments to Europe and North America. Located in Egypt, the Suez Canal connects the Red Sea with the Mediterranean Sea, and it is a critical chokepoint because of the large volumes of energy commodities that flow through it.

Chokepoints are narrow channels along widely used global sea routes that are critical to global energy security. Total oil flows through the Suez Canal and the SUMED pipeline accounted for about 9% of total seaborne traded petroleum (crude oil and refined petroleum products) in 2017, and LNG flows through the Suez Canal and the SUMED pipeline accounted for about 8% of global LNG trade.



Source: U.S. Energy Information Administration, based on Lloyd's List Intelligence, Clipper Data, and Suez Canal Authority (with EIA conversions)

Slightly more than half of total petroleum transiting the Suez Canal in 2018 was sent northbound to destinations in Europe and North America. Petroleum exports from Persian Gulf countries, such as Saudi Arabia, Iraq, and Iran, accounted for 85% of Suez Canal northbound traffic. Northbound flows of petroleum products have risen in recent years, particularly as more ultra-low sulfur diesel fuel has been shipped from Saudi Arabia to European countries.



Source: U.S. Energy Information Administration, based on Suez Canal Authority

Source: adapted from Candace Dunn, Natalie Kempkey , "The Suez Canal and SUMED Pipeline are critical chokepoints for oil a ," *Energy Today*, July 23,, 2019, https://www.eia.gov/todayinenergy/detail.php?id=40152

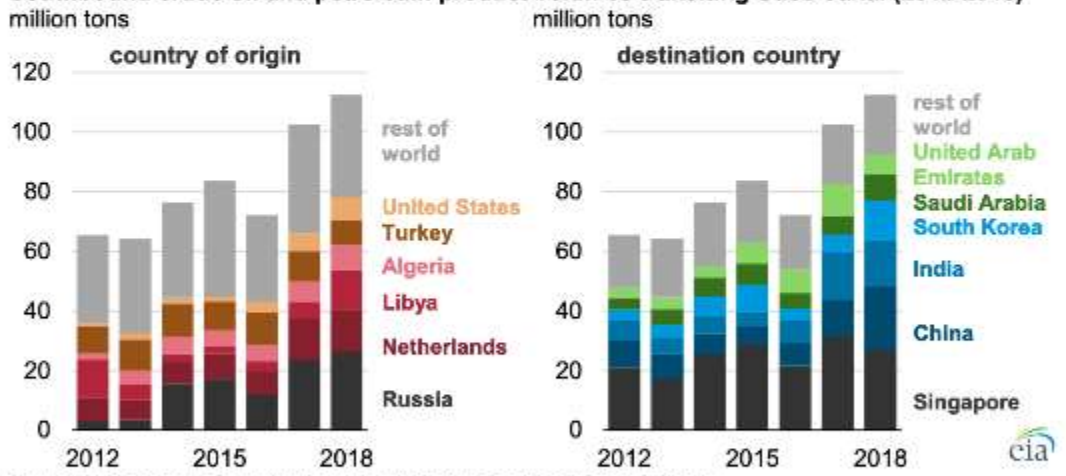
The Strategic Importance of the SUMED Pipeline and Suez Canal - II

Northbound crude oil flows decreased in 2018 for several reasons:

- Higher U.S. crude oil exports displaced Persian Gulf crude oil that had been historically sent to Europe.
- Key Middle East producers, mainly Saudi Arabia and Iraq, have been increasing crude oil exports to China and other growing Asian oil markets using eastbound routes rather than the Suez Canal.
- Renewed U.S. oil sanctions on Iran, imposed in late 2018, contributed to a decrease in Iran's crude oil exports to Europe.

Southbound crude oil shipments, mainly to Asian markets such as Singapore, China, and India, have more than doubled in the past two years. Petroleum exports from Russia accounted for the largest share (24%) of Suez southbound petroleum traffic. Increases in Libya's crude oil production and exports in 2018 also contributed to a rise in southbound shipments. In the past two years, increased production and exports of U.S. crude oil and petroleum products—especially liquefied petroleum gas—have also increased southbound traffic through the canal.

Southbound crude oil and petroleum product volumes transiting Suez Canal (2012-2018)



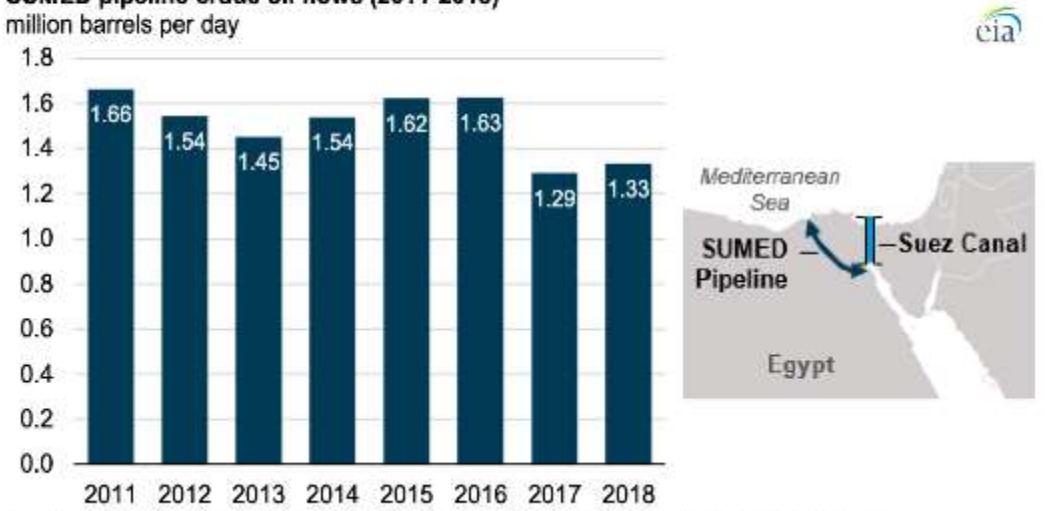
Source: U.S. Energy Information Administration, based on Suez Canal Authority

Overall LNG flows through the Suez Canal have declined in recent years. Nearly all (98%) of the northbound LNG transit is from Qatar and mainly destined for European markets. Although Qatar remains a key exporter of LNG through the canal, it has been diverting more cargoes to Asia in recent years.

Changes in LNG traffic through the Suez Canal also reflect the growth in U.S. shale gas production and LNG exports, falling LNG demand in some European countries, and competition for LNG in the global market, especially in Asia.

The 200-mile long SUMED Pipeline transports crude oil northbound through Egypt from the Red Sea to the Mediterranean Sea. Crude oil flows through two parallel pipelines that have a total maximum flow capacity of 2.8 million barrels per day. The SUMED Pipeline is the only alternative route to transport crude oil from the Red Sea to the Mediterranean Sea if ships cannot navigate through the Suez Canal. Crude oil flows through the SUMED Pipeline have declined since 2016 as a result of the shifting oil trade patterns and a widening of the Suez Canal.

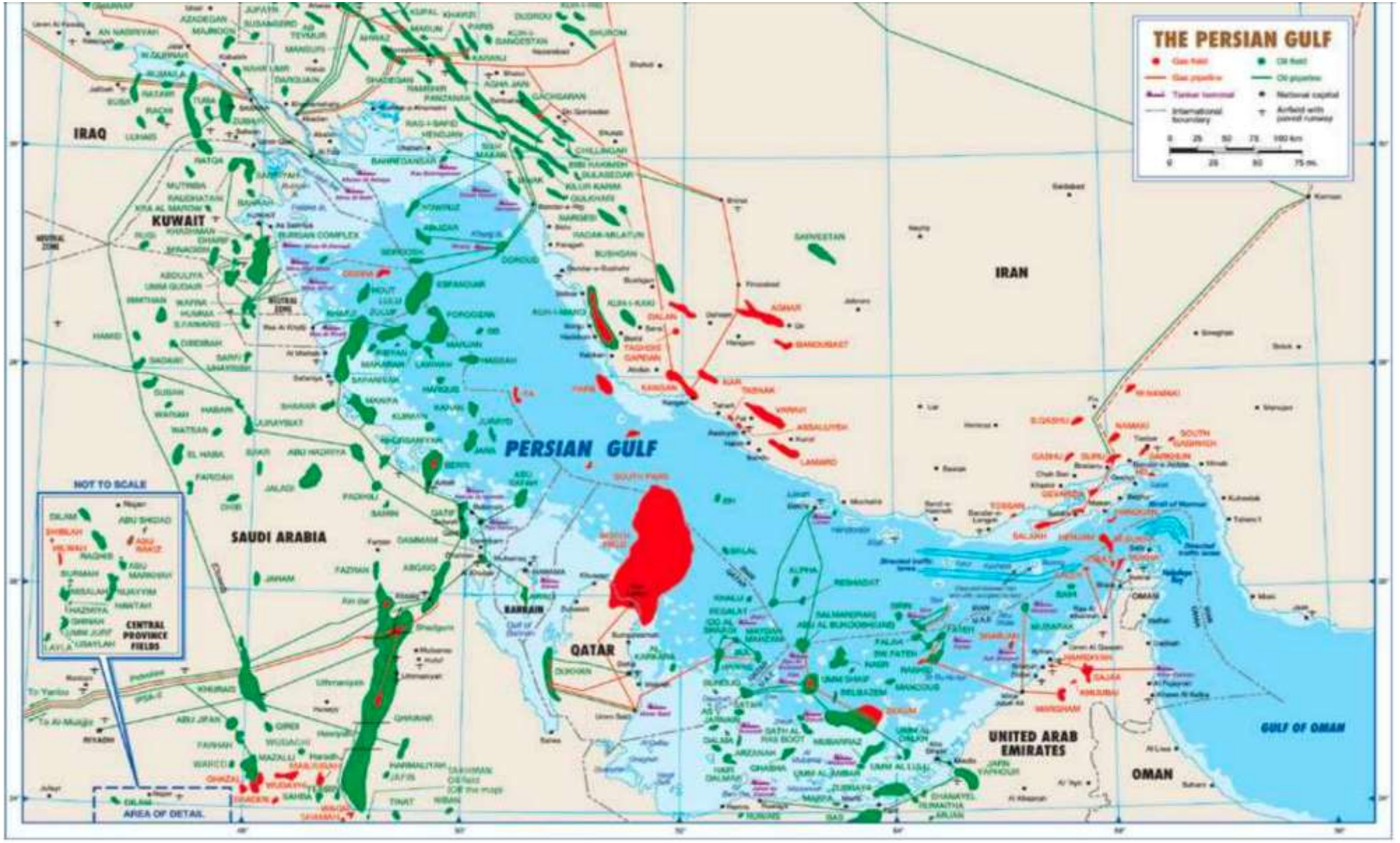
SUMED pipeline crude oil flows (2011-2018)



Source: U.S. Energy Information Administration, based on Lloyd's List Intelligence and Clipper Data

Source: adapted from Candace Dunn, Natalie Kempkey , "The Suez Canal and SUMED Pipeline are critical chokepoints for oil and natural gas trade ," *Energy Today*, July 23,, 2019, https://www.eia.gov/todayinenergy/detail.php?id=40152

Major Gulf-Wide Petroleum Targets

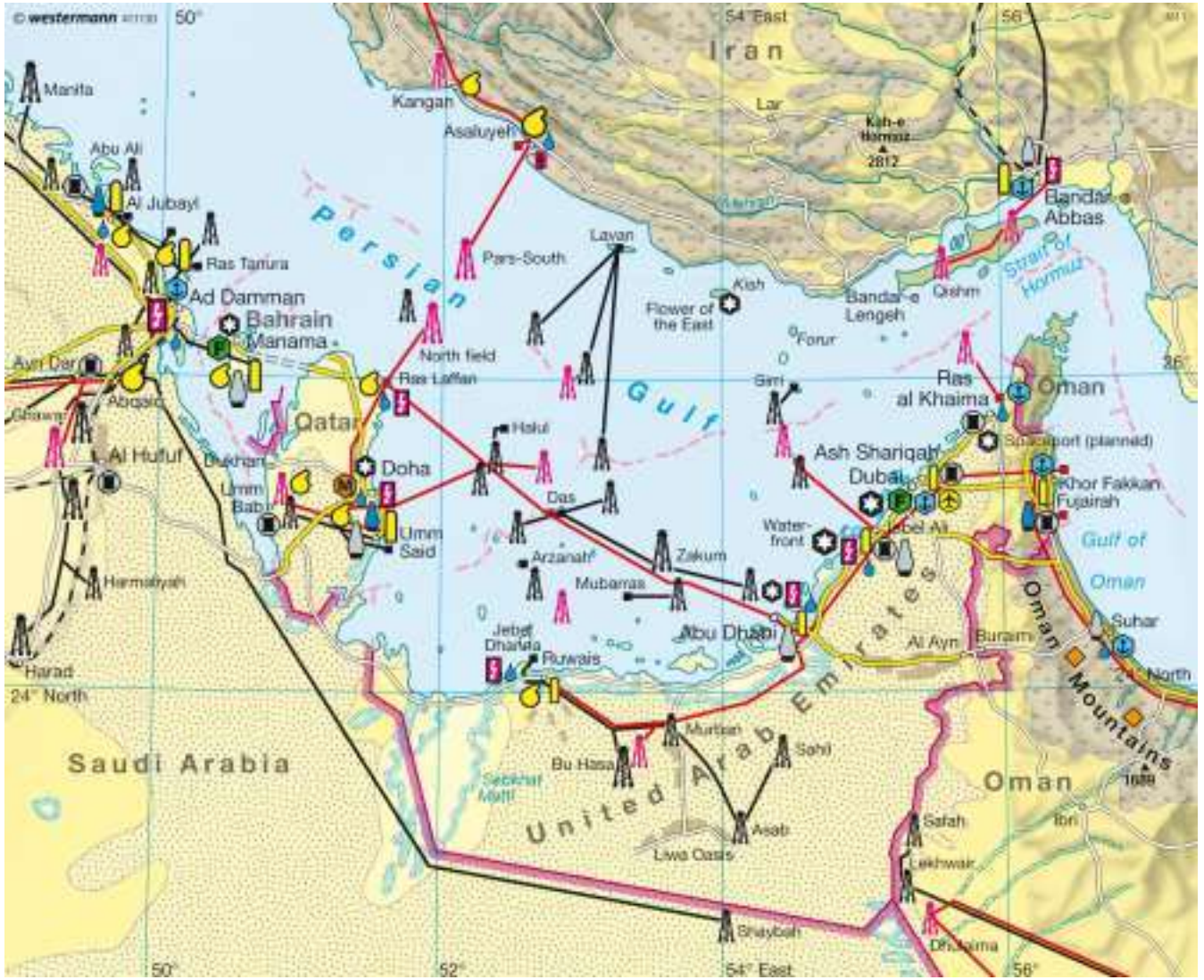


Source: https://www.un.org/depts/los/nippon/unnff_programme_home/alumni/tokyo_alumni_presents_files/alum_tokyo_dehghani.pdf

Major Gulf-Wide Urban Targets

Source: http://ontheworldmap.com/oceans-and-seas/persian-gulf/large-detailed-map-of-persian-gulf-with-cities-and-towns.html

Petroleum Targets Near strait of Hormuz



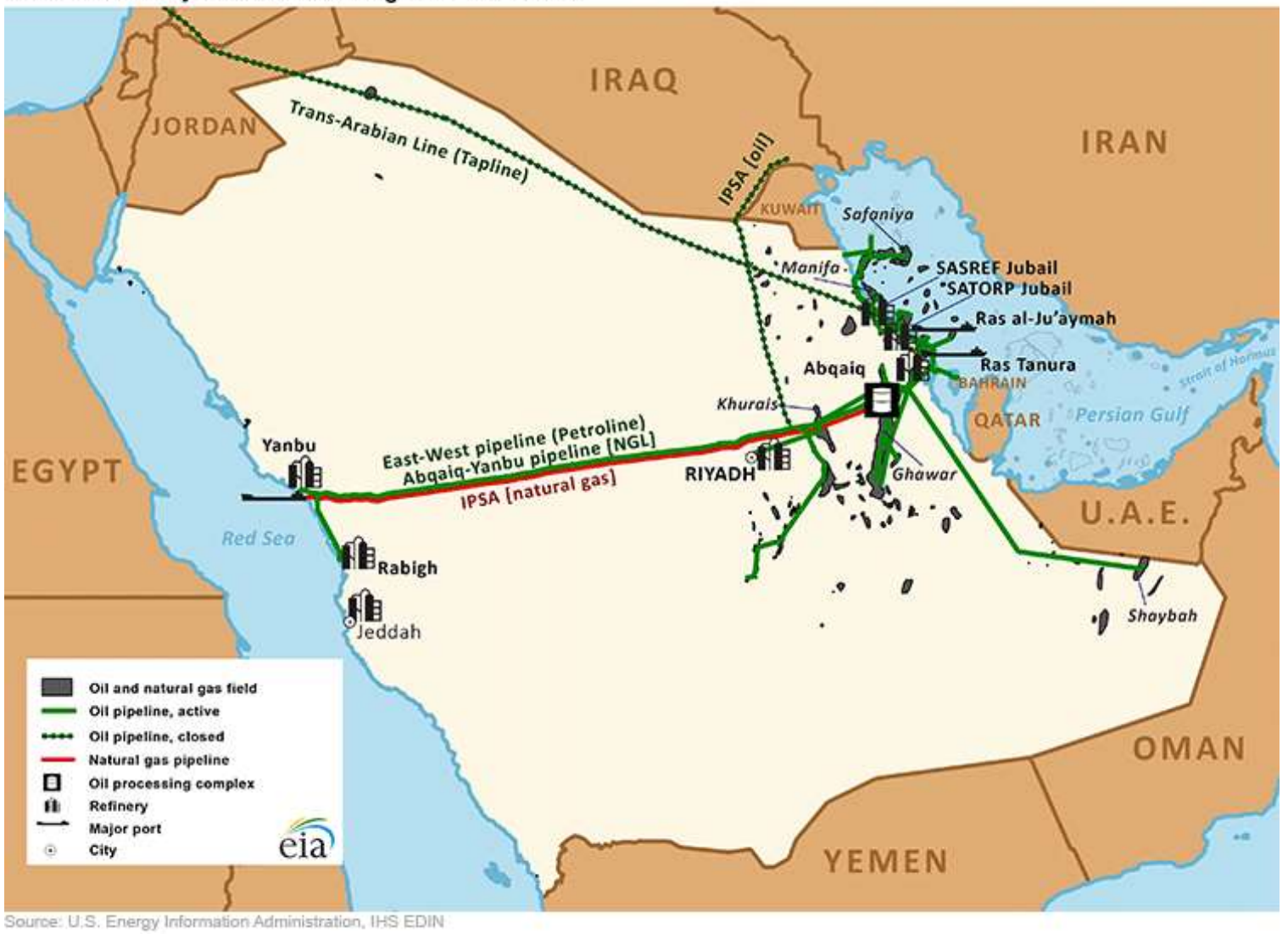
Source: https://www.google.com/search?q=map+of+Persian+Gulf+waters&client=firefox-b-1-d&sxsrf=ACYBGNT3Bz3Uu1RaeIjNzbJkUQKLzV6GVw:1572347568274&tbm=isch&source=iu&ictx=1&fir=O-nfGXNHw9FVZM%253A%252CFC7tYQ2qnrdrUM%252C_&vet=1&usg=AI4_-kSA50tRuvtbIFksgDc9uPoVX0WMCg&sa=X&ved=2ahUKEwiOvpSSq8HlAhUDqlkKHcn3D_sQ9QEwBXoECAYQDw#imgrc=O-nfGXNHw9FVZM

Major Iranian Petroleum Targets

Source:
https://www.google.com/search?q=map+of+Persian+Gulf+oil+facilities&client=firefox-b-1-d&sxsrf=ACYBGNRIqmEJarwlgK8IzAbMHOhCbh1wDQ:1572347309115&tbm=isch&source=iu&ictx=1&fir=4_00APtkIVoMwM%253A%252CyIawVXsbiLuKcM%252C_&vet=1&usg=AI4_-kR-QK0qcIHI8Xa4hVSUbByJG4I-4g&sa=X&ved=2ahUKEwjR5cqWqsHlAhWhuVkKHbo4AOUQ9QEwA3oECAYQDw#imgrc=4_00APtkIVoMwM:

Nationwide Saudi Petroleum Targets

Figure 6. Saudi Arabia major oil and natural gas infrastructure

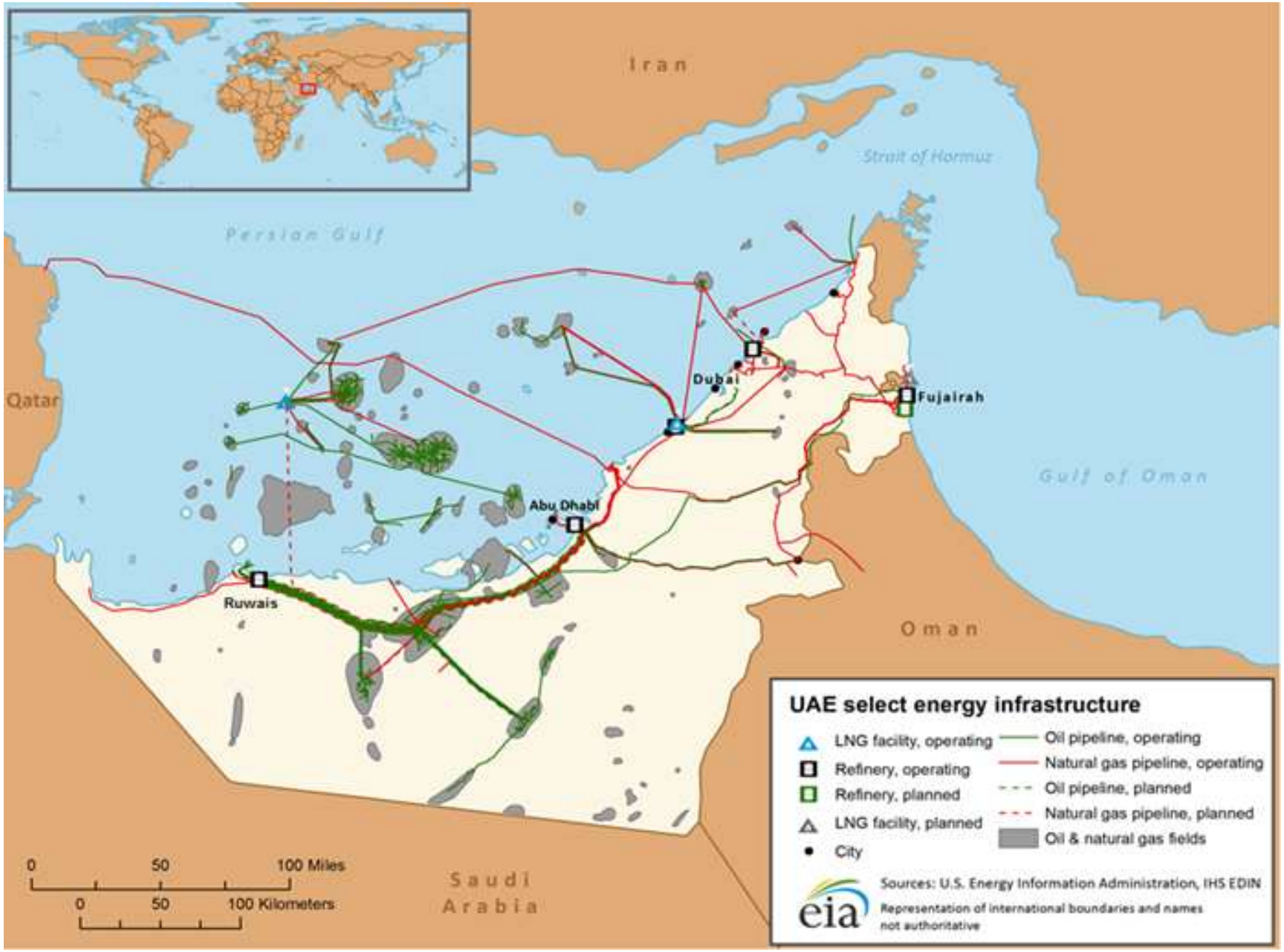


Source: EIA https://www.eia.gov/beta/international/analysis.php?iso=SAU

Oil Tank Farm at Ras Tanura

Source: https://www.nytimes.com/2018/07/04/business/energy-environment/oil-prices-opec.html

Nationwide UAE Petroleum Targets



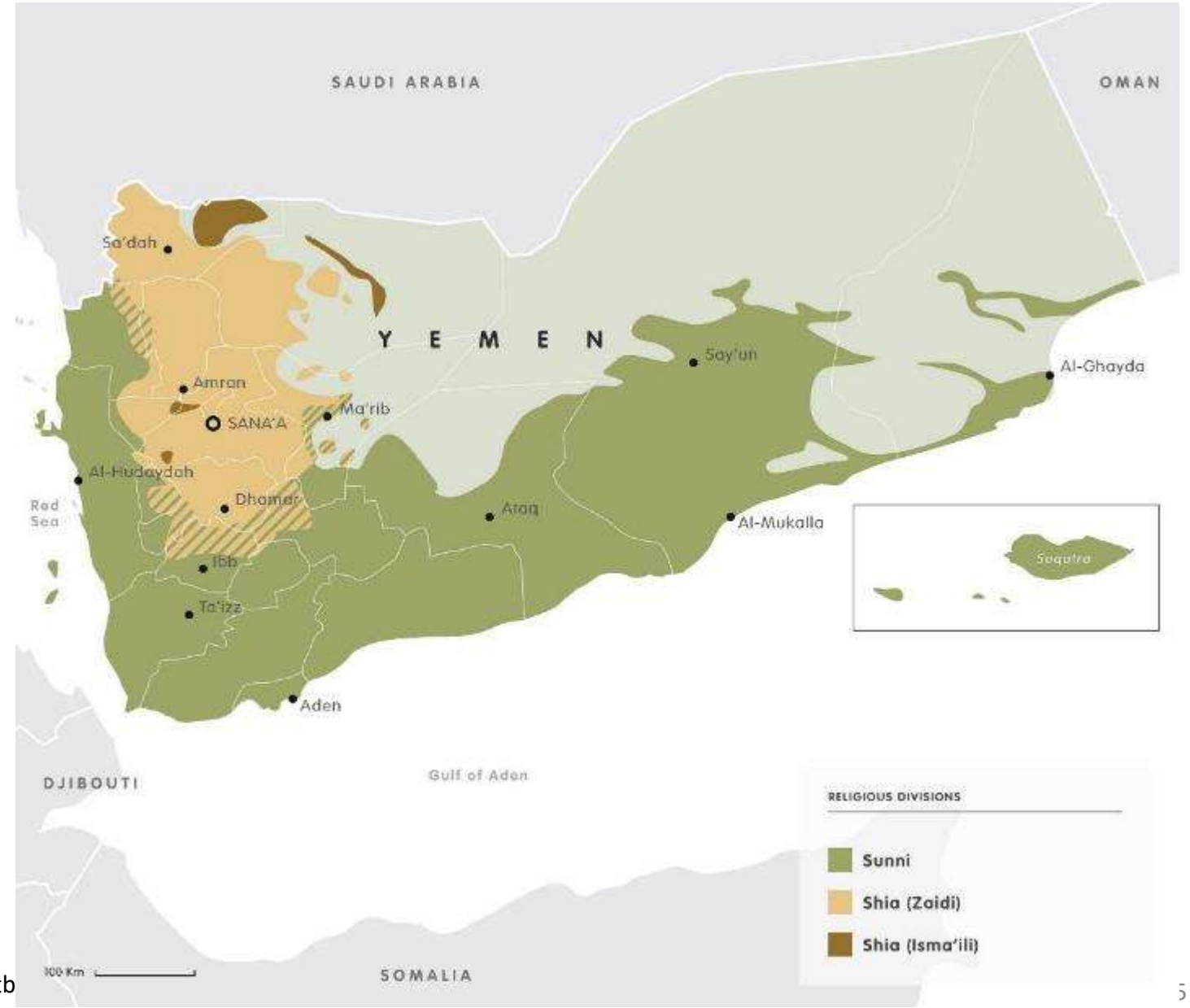
Sourcehttps://www.eia.gov/beta/international/analysis.php?iso=ARE

The Yemen War Is Also a Major Iranian-Influenced Asymmetric Conflict

Yemen and the Gate of Tears

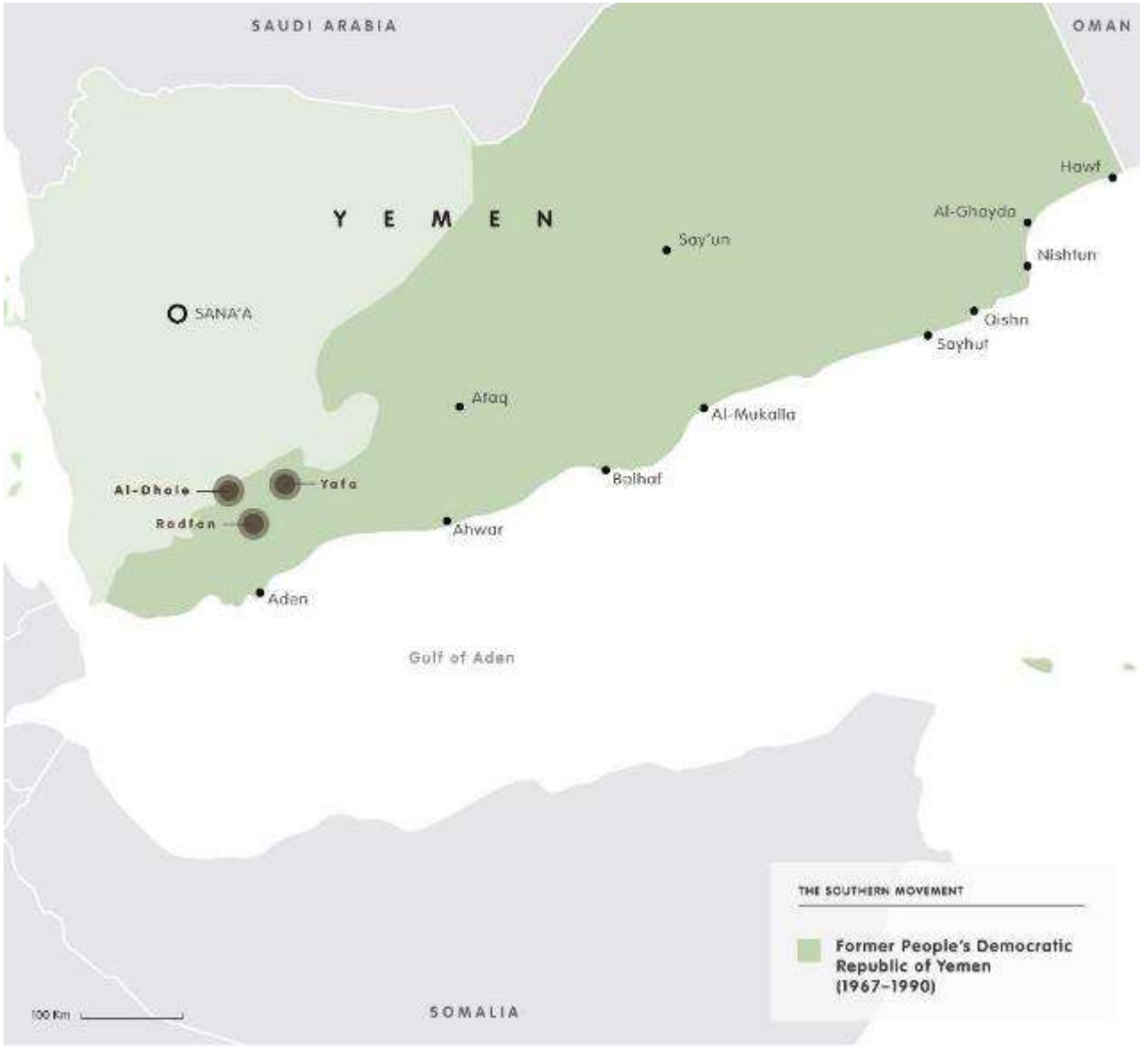
Source: EIA, https://www.eia.gov/beta/international/regions-topics.cfm?RegionTopicID=WOTC

Yemen: Sectarian Divisions



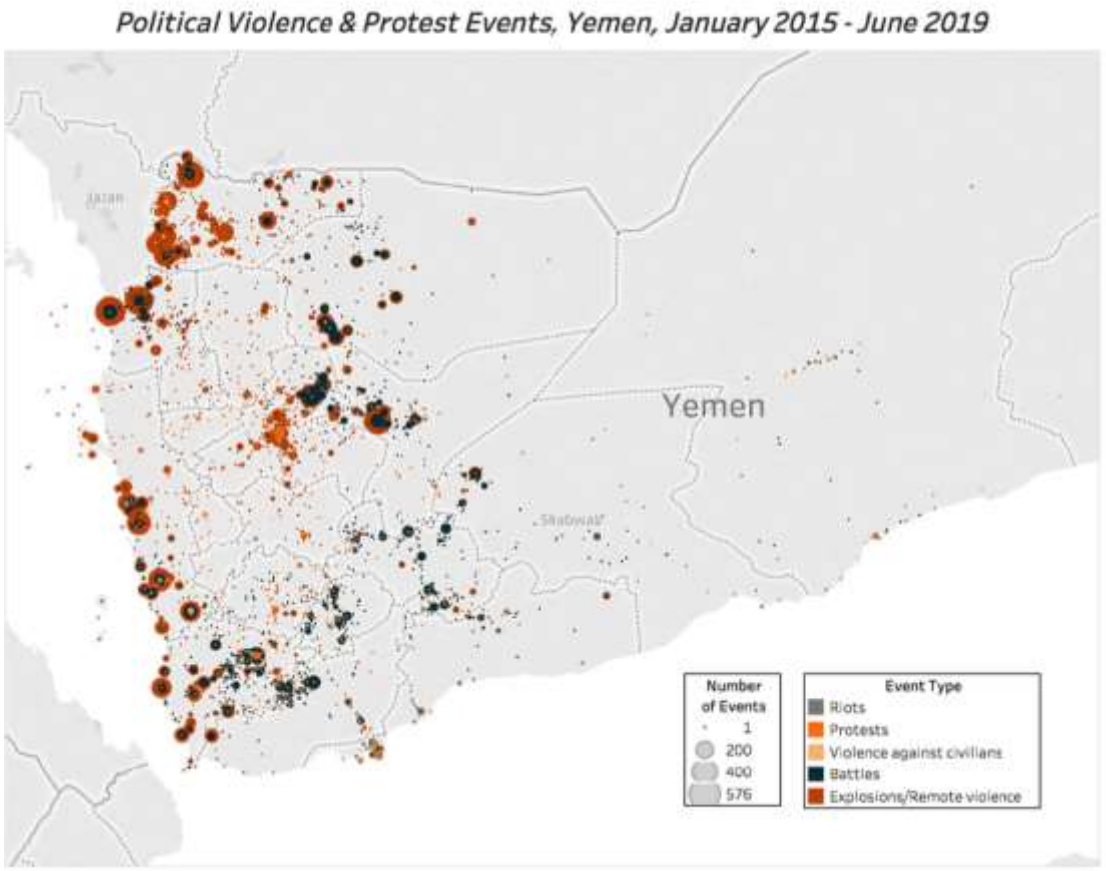
Source: CIA Factb

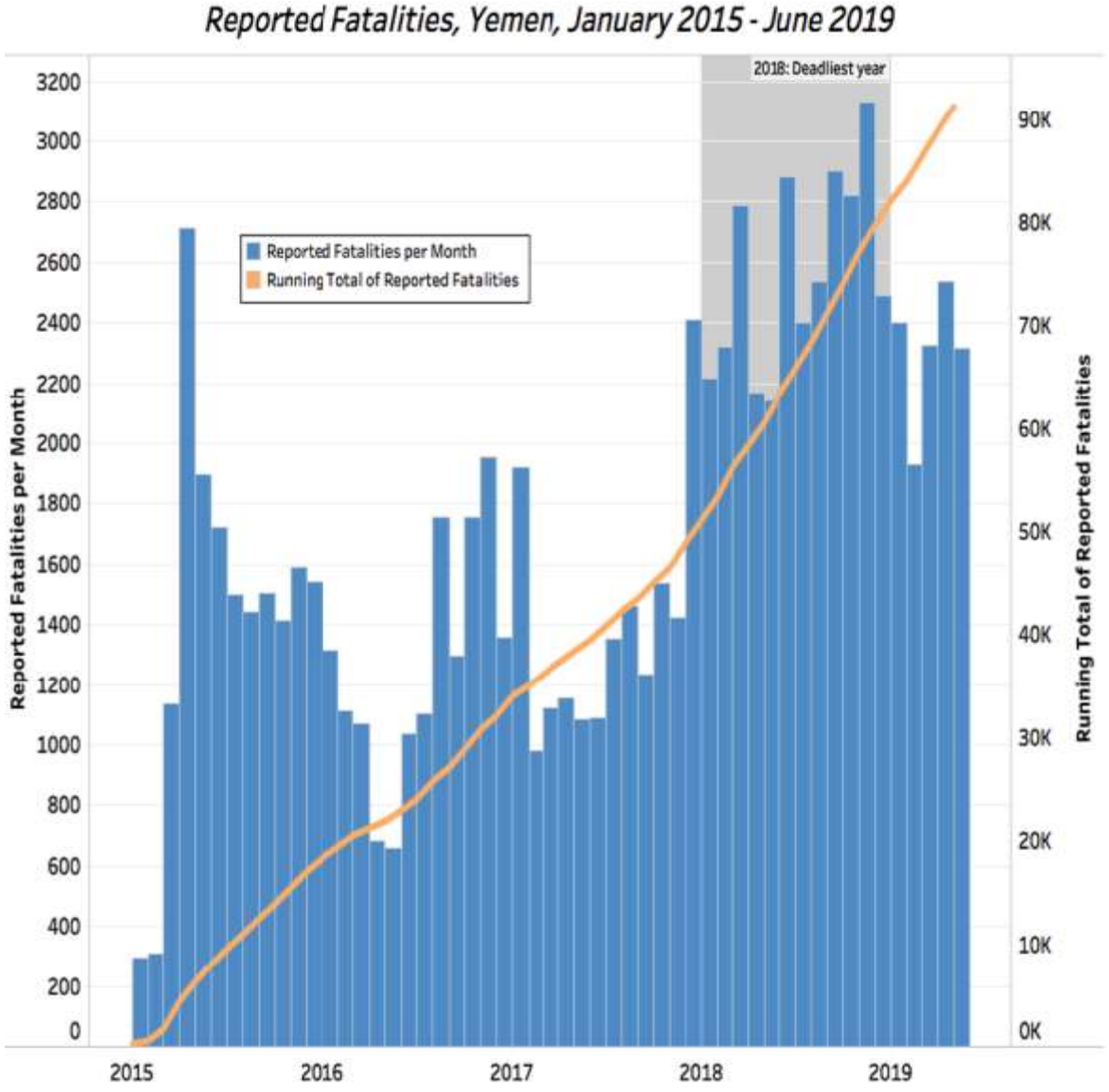
Yemen: The Southern Movement



Source: ECFR.EU, Mapping the Yemen Conflict
https://www.ecfr.eu/mena/yemen

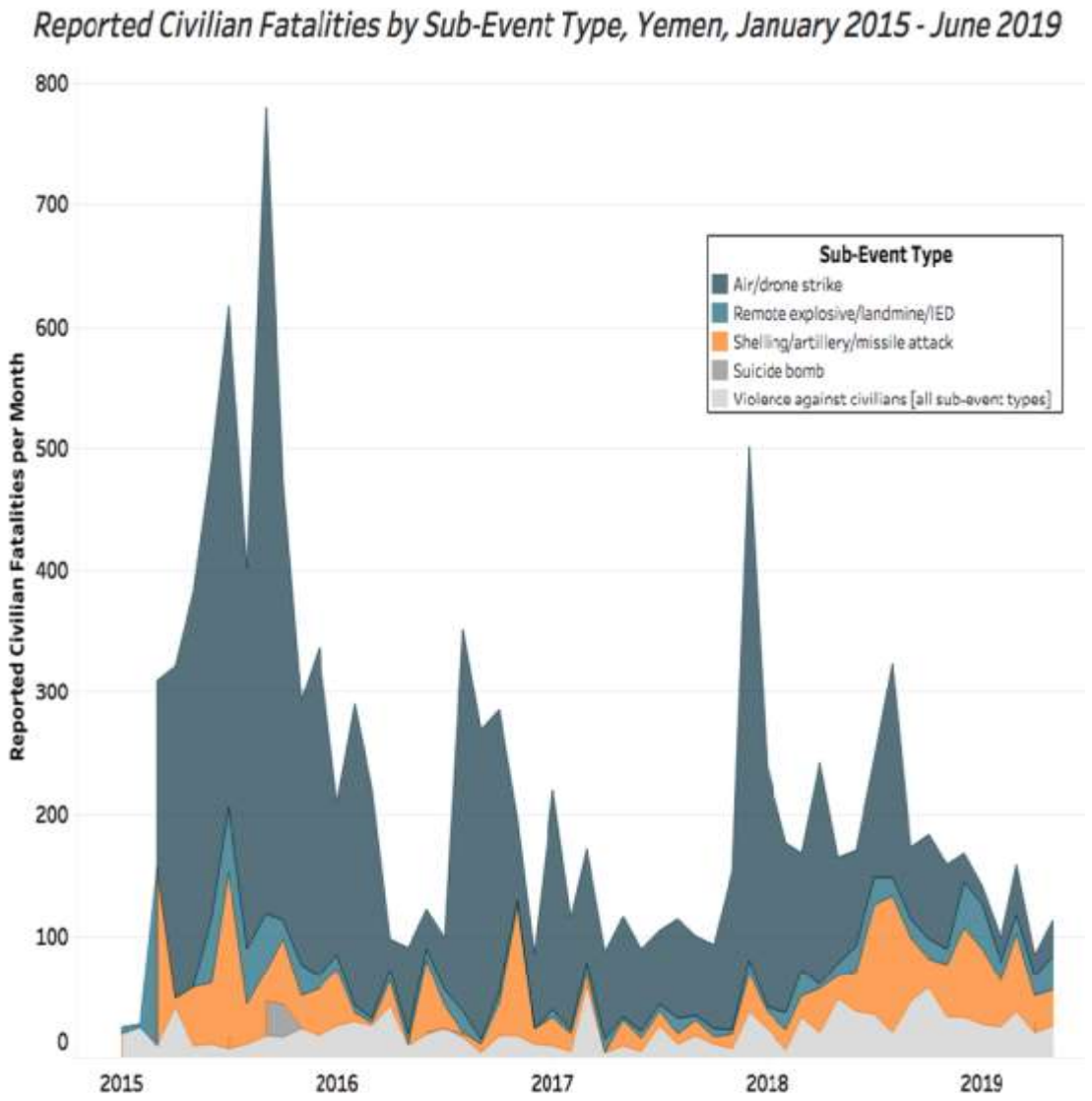
ACLED: Yemen Snap Shots: 2015-2019 - I

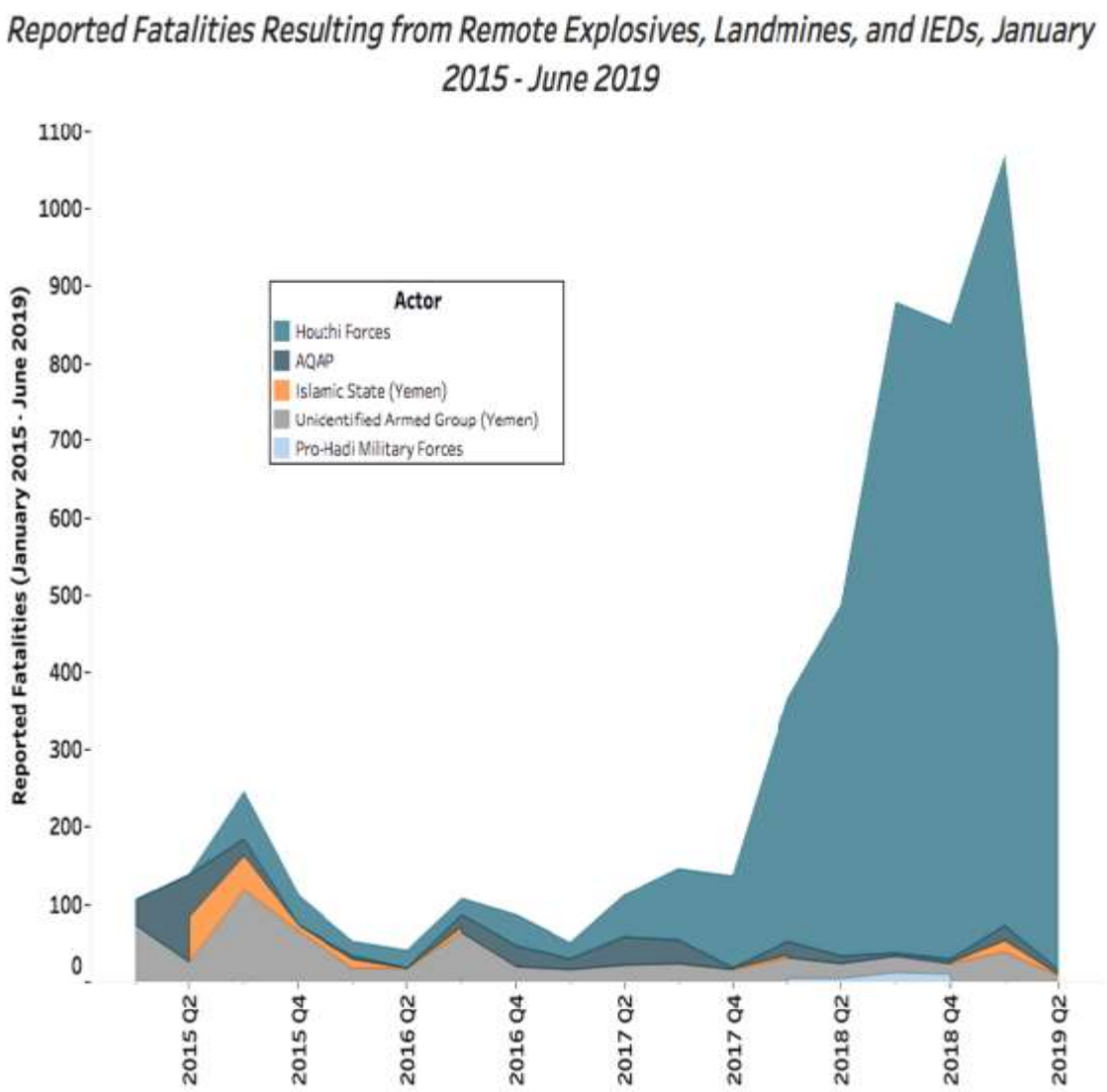




Source: ACLED: https://www.acleddata.com/2019/06/18/yemen-snapshots-2015-2019/?utm_source=Armed+Conflict+Location+%26+Event+Data+Project&utm_campaign=fa7c63c523-EMAIL_CAMPAIGN_2018_09_21_06_50_COPY_01&utm_medium=email&utm_term=0_26a454684a-fa7c63c523-98383603

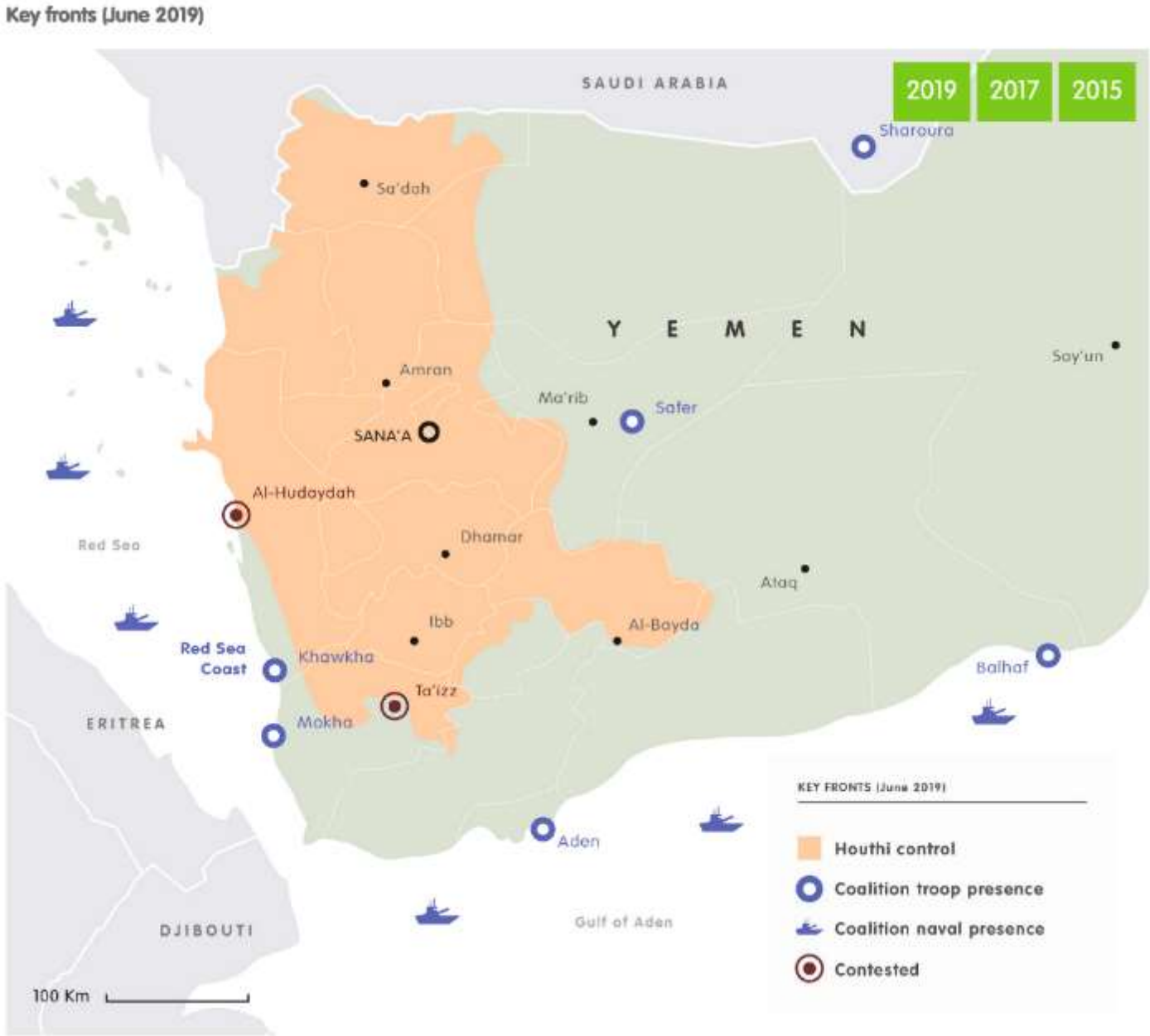
ACLED: Yemen Snap Shots: 2015-2019 - II



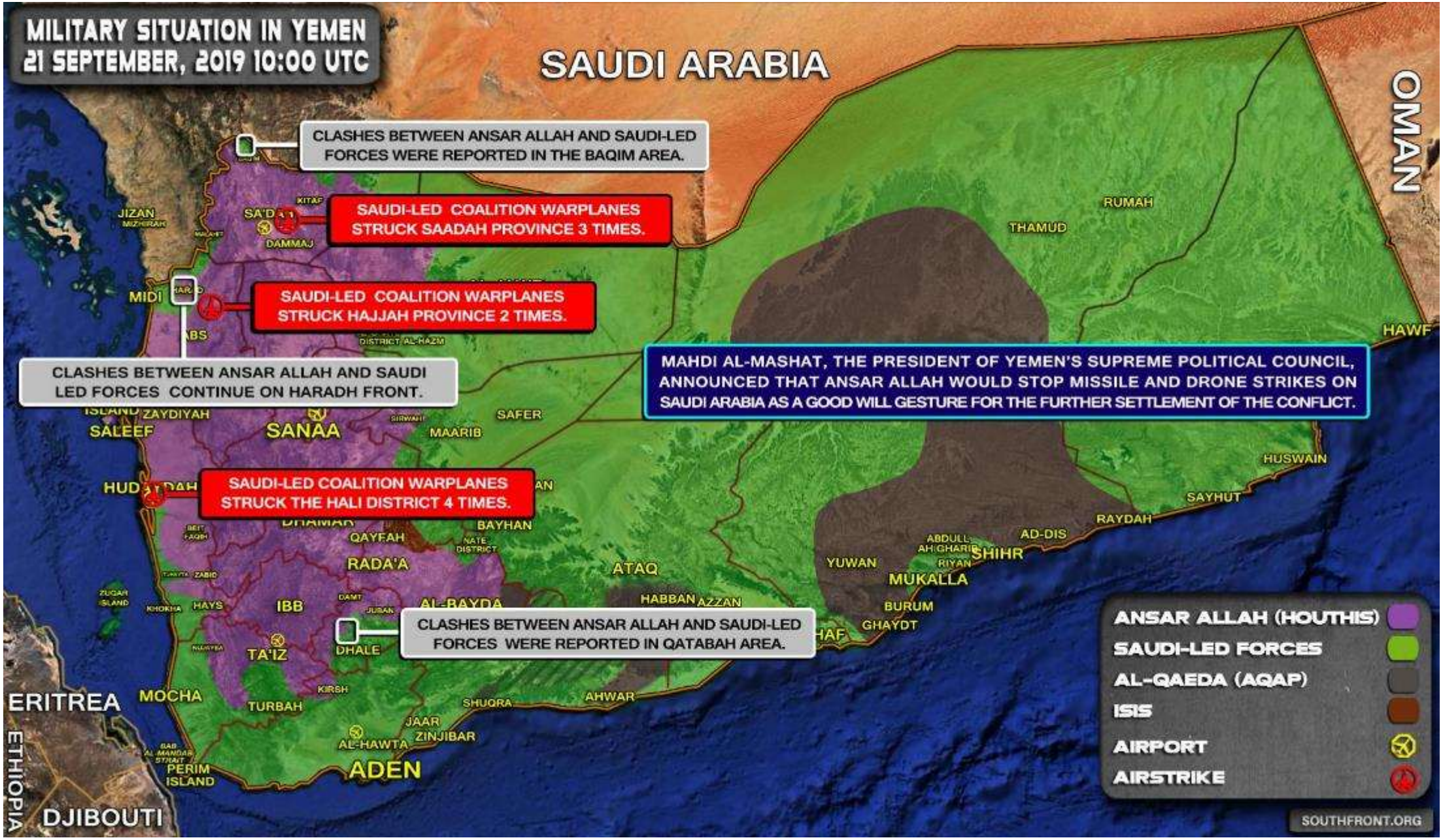


Source: ACLED: https://www.acleddata.com/2019/06/18/yemen-snapshots-2015-2019/?utm_source=Armed+Conflict+Location+%26+Event+Data+Project&utm_campaign=fa7c63c523-EMAIL_CAMPAIGN_2018_09_21_06_50_COPY_01&utm_medium=email&utm_term=0_26a454684a-fa7c63c523-98383603

Yemen: Front in June 2019



Source: ECFR.EU, Mapping the Yemen Conflict
https://www.ecfr.eu/mena/yemen



Source: southfront.org/wp-content/uploads/2019/09/21sep_Yemen_war_map.jpg

ACLED: Yemen: as of October 2019

The Conflict in 2019:

- ACLED records over 100,000 total reported fatalities from 2015 to the present[1]
  - Approximately 20,000 have been reported so far in 2019, making it the second most lethal year after 2018
- More than 40,000 conflict events have been reported since the start of 2015
  - Approximately 8,000 have occurred so far in 2019
  - The monthly number of conflict events has declined since March
    - This trend is primarily driven by a drop in explosions/remote violence events, such as shelling and airstrikes, while the number of battles has not decreased
- Deadly violence in 2019 is trending downward overall
  - April was the most lethal month so far this year, with over 2,500 reported fatalities, compared to approximately 1,700 in September
  - The third quarter of 2019 has seen the lowest number of reported fatalities since the end of 2017, largely due to a decline in battle intensity
- The number of coalition airstrikes declined over the past year, while Houthi attacks on Saudi Arabia increased until the group declared a unilateral ceasefire against targets inside Saudi territory in September
  - Saudi Arabia only partially accepted the ceasefire proposal, and has continued to conduct attacks in Yemen
  - In regions under Houthi control, ACLED has recorded an uptick in infighting between opposing Houthi factions

Impact on Civilians:

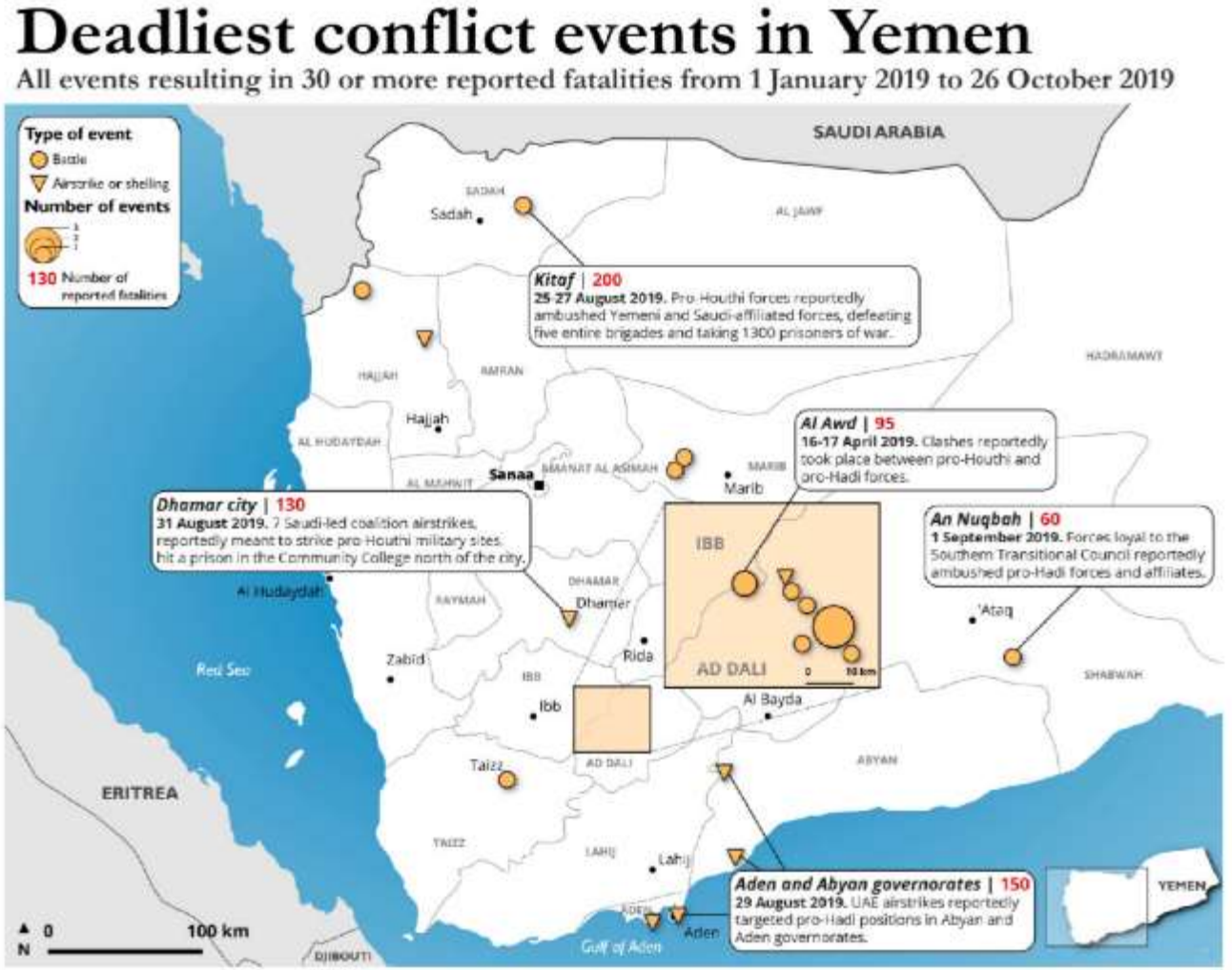
- ACLED records nearly 4,900 direct civilian targeting events resulting in more than 12,000 reported civilian fatalities since 2015[2]
  - Approximately 1,100 civilian fatalities have been reported so far in 2019
  - The third quarter of 2019 registered the first month-to-month increase in reported civilian fatalities since the third quarter of 2018, rising 25% over the second quarter
- The Saudi-led coalition and its allies remain responsible for the highest number of reported civilian fatalities from direct targeting, with over 8,000 since 2015
  - Around 67% of all reported civilian fatalities during this period have been caused by coalition airstrikes
  - Though the number of coalition airstrikes is at an all-time low, civilian fatalities from air raids have risen for the first time since the end of 2017, more than doubling in the third quarter of 2019 compared to the previous quarter, primarily due to a strike on a prison facility in Dhamar that killed at least 130 detainees
- The Houthis and their allies are responsible for over 2,000 reported civilian fatalities from direct targeting since 2015

Geographic Focus:

- Taiz consistently registers as the deadliest governorate in Yemen, largely due to a four-year siege laid by Houthi forces, although violence has declined in 2019
  - Over 19,000 reported fatalities have been recorded in total in the governorate since 2015 and more than 2,300 reported fatalities stem from direct civilian targeting
- Hodeidah and Al Jawf follow Taiz, with more than 10,000 total fatalities reported in each region since 2015
- Though deadly violence has decreased in Hodeidah and Taiz this year, other fronts in Ad Dali, Al Jawf, and Hajjah have registered heavy clashes: for these governorates, 2019 is the deadliest year since ACLED began tracking the conflict
  - Lethal fighting has particularly escalated in Ad Dali in 2019 due to clashes over the strategic town of Qaatabah and its outskirts: more than 60% of the 5,500 total fatalities reported in the governorate since 2015 have occurred this year
- Targeted anti-civilian violence in 2019 is concentrated in Ad Dali, Hodeidah, Hajjah, and Taiz: the governorates account for more than half of all reported fatalities from direct civilian targeting recorded so far this year
  - In Ad Dali, reported civilian fatalities have tripled compared to 2018

31 October 2019: The Armed Conflict Location & Event Data Project (ACLED) currently records more than 100,000 reported fatalities in Yemen since 2015, including over 12,000 civilians killed in direct attacks. These findings are consistent with recent projections drawing on ACLED data issued by the United Nations Development Programme (UNDP) and the Frederick S. Pardee Center for International Futures, which estimate that approximately 102,000 people will be killed in direct violence by the end of 2019.[1]

ACLED's Yemen data are collected in partnership with the Yemen Data Project.



Source: ACLED: https://www.acleddata.com/2019/10/31/press-release-over-100000-reported-killed-in-yemen-war/