



# **Yemen: War Amongst Divided Alliances**

February 2018



# Houthi controlled areas in Yemen

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# Executive Summary

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Over the months of December 2017 and January 2018, both the Houthi Movement and the internationally recognized government of Yemen under President Hadi have gone through unprecedented challenges to the cohesion of their respective alliances within the Yemen conflict. In Sanaa, the Houthi Movement did see a definitive break with loyalists of former President Saleh, though was also able to retain significant support from military units, tribal elements and political factions. As such, the crisis in the Houthi alliance led to a temporary disruption of Houthi capabilities, but has not caused a general collapse.

Just less than two months later, the city of Aden witnessed intense fighting between the Southern Resistance and troops loyal to the government of President Hadi. While fighting between these groups has occurred before in Aden, the recent fighting witnessed an aggressive and successful conquest of Aden by the Southern Resistance. The reliance of both these actors on external support, however, keeps Saudi Arabia and the United Arab Emirates in a position to mitigate the effects of this internal conflict. The inherent conflict between the Southern Movement and the government of President Hadi continues to be a source of friction within the coalition ranks, and is likely to re-emerge.

After nearly three years of foreign intervention in Yemen, Houthi rebels continue to control a significant portion of the country, and military offensives against them have largely been ground to a halt. The overall directionality of the conflict still points towards an eventual success for the internationally recognized government and the Saudi led coalition, though movement towards this point is extremely slow. Only localized and temporary offensive successes are witnessed despite years of persistent high intensity conflict.

These factors will contribute to the continuation of high intensity conflict in Yemen, with no option for a military victory in the near future. The consolidation of control over Sanaa by the Houthi Movement also weakened the ability of the coalition to exploit rifts within the Houthi alliance. A negotiated outcome, even with individual elements of this alliance, now seems less likely than it was before.

Despite the lack of notable progress in the war effort against the Houthi rebels, some progress has been made against violent extremist organizations operating in areas under the control of the Hadi government. The deployment of local security forces, trained and equipped by the United Arab Emirates, appears to be imposing effective geographic constraints on the activities of al Qaeda in the Arabian Peninsula (AQAP). The Islamic State affiliate operating in Yemen has also displayed only a limited ability to conduct high level attacks, and remains active mostly in limited areas under the control of the Houthi rebels.

# Divisions on Each Side

The current conflict in Yemen, which was initiated by the Houthi capture of Sanaa in 2014, which prompted a regional intervention in 2015, has stagnated over the past two years. Even though gains have been made on the ground, no decisive ground movements towards the capital Sanaa, or towards breaking the back of the Houthi militancy have materialized. A perpetual air campaign has been striking Houthi rebels and their allies on a daily basis since the start of the intervention, but still only limited progress is made.

The main events in Yemen over the past year have perhaps not been of a military nature, but instead the evolution of the shaky alliances on both sides of the conflict. At the end of January 2018, fighting broke out again in the temporary capital of Aden, between the supporters of the internationally recognized government of President Abdrabbuh Mansur Hadi and fighters loyal to the Southern Transitional Council. This conflict has been present within the pro-government side of the Yemen conflict since its early days, though the occasional escalations between the two sides have become more violent and threatening over time.

Just two months prior, early in December 2017, a similar conflict broke out between the partners in the opposing alliance. The Houthi Movement had cooperated closely with the followers of former president Ali Abdullah Saleh and his General People's Congress party. This alliance had enabled the Houthis, initially, to expand their control from Sanaa into South Yemen. Saleh brought with him the support of defecting units of the Yemeni armed forces, and tribal alliances. The relationship between the Houthis and Saleh had suffered persistent frictions, however, and they as well suffered occasional fighting in their capital. On those early days of December, however, the conflict escalated to unprecedented levels, and eventually Saleh himself was killed just outside Sanaa.

These hostilities within the main alliances that make up the competing forces in Yemen, together with a number of additional pragmatic and conditional alliances, are a major disrupting factor to the main military efforts by these forces. The persistence of internal disputes on both sides of the conflict has perhaps served as a mitigating factor for the other, but as these disputes emerge in more devastating manners, the effects will effectively have to flow into the battlefield itself. Following the escalation of the dispute between the Houthi and Saleh followers, government forces and their allies were already able to break through on several fronts. The effective gains from these breakthroughs have remained limited in scope, but they project potential in the midst of a stagnated conflict.

Even the more recent fighting in Aden has already caused shifts in the disposition of government and allied forces, and while Houthi fighters have not been able to capitalize on this as of yet, the big question that raises itself is what risks this opens up on the frontlines and for the continuation of operations throughout Yemen. Both indigenous forces, and external actors, are doing their best to shape the situation in their favor, both on the battlefield and in the palaces. The coalition operations in Yemen have seen some significant developments over the past months after long periods of stagnation, but the persistent political pitfalls continue to dominate the overall context of the war in Yemen.



## Coalition woes in Aden

The composition of the pro-government camp in Yemen, which consists of the government led by President Hadi and his military, but also a significant number of separate armed groups that support the war effort against the Houthis, and a coalition of external actors led by Saudi Arabia, has frequently led to destabilizing political disputes. At the end of January 2018, however, these disputes escalated into widespread fighting in the city of Aden, and have put the coalition efforts at risk. The main opponent to the Hadi government within this alliance is the Southern Transitional Council, which represents a collection of stakeholders seeking an independent South Yemen.

The more immediate concern at this point is not separatism itself, though the council has been attempting to leverage its role in the conflict to increase its political representation and power. President Hadi has consistently removed politicians with ties to the Southern Transitional Council from his government or from provincial governing positions. The growing resistance against these moves, which had previously already led to limited skirmishing and posturing, have now culminated into more significant fighting that saw armed groups loyal to the Southern Transitional Council take control of large parts of Aden.

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**While Saudi Arabia and the United Arab Emirates are seemingly able to minimize open hostilities between the two sides, frictions between them persist and are bound to re-emerge later on during the conflict.**

Ahead of the escalation, the Southern Transitional Council had issued an ultimatum to the Hadi government, demanding the disbanding of Prime Minister Bin Dhager's cabinet. The threat perceived by the STC in Bin Dhager's cabinet is not only their own exclusion from the cabinet, but also the fact that Bin Dhager himself is a notable politician from South Yemen. As such, the move is considered by some to be an attempt by Aidarus al Zoubaidi, the president of the Southern Transitional Council, to consolidate his own role as political representative of southern stakeholders in Yemen. This ultimatum expired on January 28, 2018, but the government did not concede to the demands.

On Sunday, January 28, large protests were organized in the city of Aden. As usual, many supporters of the Southern Transitional Council, and its armed counterpart the Southern Resistance, traveled down to Aden and caused these protests to swell. In the midst of an already tense atmosphere in the city, soldiers of the Presidential Protection Brigade loyal to Hadi allegedly opened fire at demonstrators, setting off a chain of violent events. Armed members of the Southern Resistance immediately started securing areas within the city of Aden, and by the end of the day had taken control over the airport and the adjacent Khormaksar district in the city where most government buildings are located. Fighting occurred in the western and northern areas of the city, while members of the Presidential Guard were arrested in areas under Southern Resistance control.

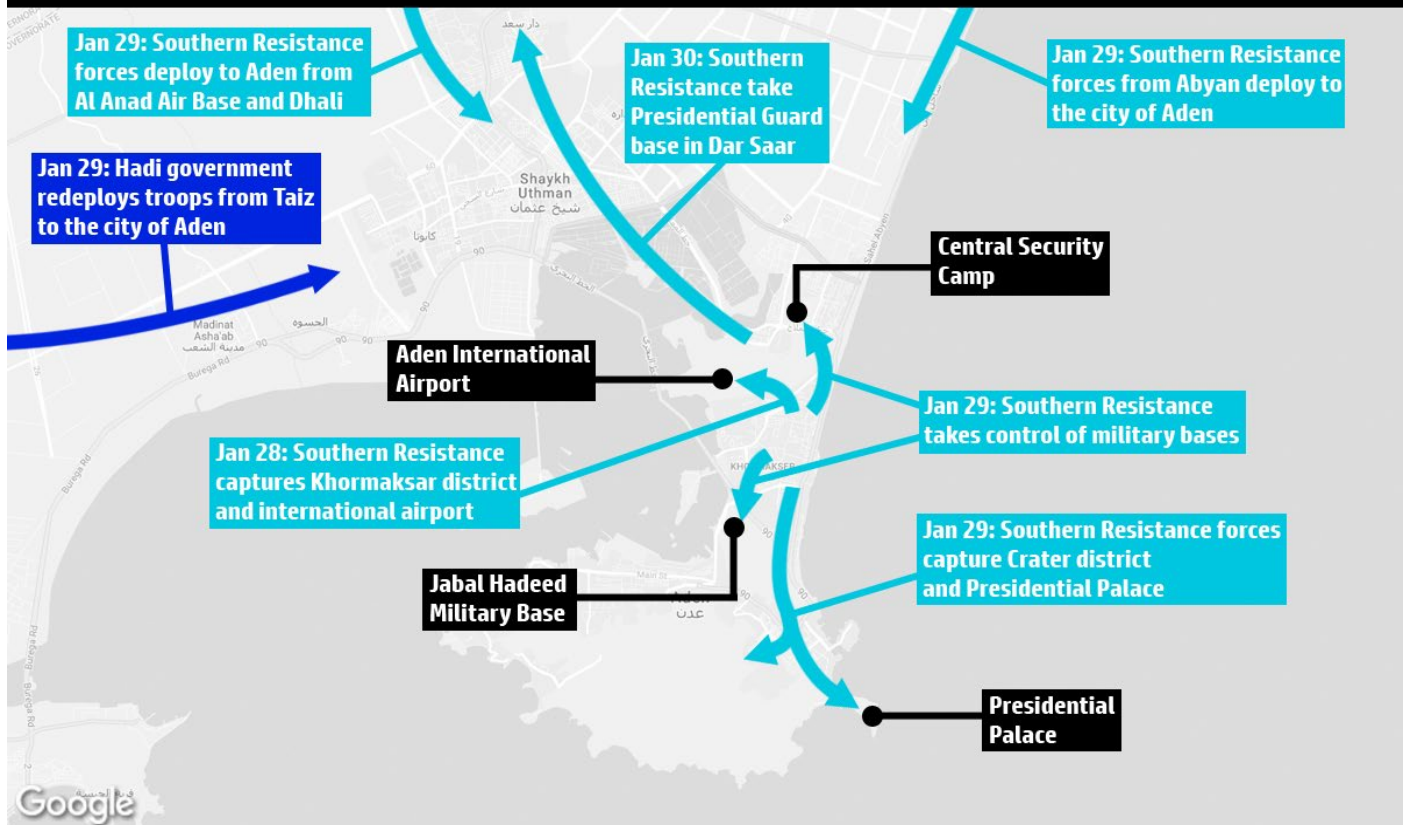
By nightfall, the situation appeared to have stabilized, as President Hadi instructed a unilateral ceasefire. No additional fighting was reported through the night, though in the morning Southern Resistance fighters continued their advances into additional districts of Aden. The southern forces entered the Crater and Mashiq districts of the city, and by the afternoon they had taken control of several military bases and the presidential palace. At this point, of course, Hadi was located in Riyadh, where he has been residing under the protection of his close Saudi allies. Fighting continued to occur in the Mansoura and Dar Saad districts of Aden, as additional forces arrived in the city to reinforce their respective allies.

The government withdrew some of its forces from the Mokha front in Taiz province to reinforce their troops in Aden. Mokha is located at one of the few frontlines where coalition forces had actually managed to make limited gains following the breakup of the Houthi-Saleh alliance two months prior. The government forces were also assisted in fighting by al Islah related forces. Al Islah is the Yemeni branch of the Muslim Brotherhood and has formed a pragmatic alliance with the Hadi government during the conflict in Yemen. The Southern Resistance itself also pulled forces in from several areas such as the al Anad air base to the north of Aden, as well as from positions in Abyan and Dhale provinces.

The next day, on Tuesday, fighting continued as Southern Resistance fighters took control of the military base belonging to the 4th Presidential Protection Brigade, but eventually fighting died

# Southern Resistance offensive in Aden

January 28 - 30, 2018



down after both Saudi Arabia and the United Arab Emirates called for a ceasefire. Saudi Arabia and the United Arab Emirates are the most significant military actors within the broader Saudi Coalition, and while they both support the war effort against the Houthi rebels, their relationships on the ground in Yemen diverge significantly. Saudi Arabia has been a close ally of President Hadi personally, while the United Arab Emirates has worked more closely with the Southern Resistance groups in the country. Part of the reason for this is Saudi Arabia's willingness to work with the Muslim Brotherhood affiliated al Islah party, something that concerns the United Arab Emirates. The United Arab Emirates have a more pronounced stance against collaboration with radical religious elements, and this also ties into one of their main objectives within Yemen, which is suppressing the activity of violent extremist organizations such as al Qaeda in the Arabian Peninsula and Islamic State affiliates.

This uneasy alliance has at times pitted the coalition partners against each other, but overall Saudi Arabia and the United Arab Emirates have combined their influence to maintain a minimum required level of cohesion within the anti-Houthi camp. Following the three days of fighting in Aden, the two countries also

deployed military delegations to Aden to oversee and support negotiations between the competing factions. The initial effects of this direct engagement have been positive, and the situation in Aden has at least been stabilized, though there has not been a long term solution to the competing interests of the Hadi government and the Southern Transitional Council. While Saudi Arabia and the United Arab Emirates are seemingly able to minimize open hostilities between the two sides, frictions between them persist and are bound to re-emerge later on during the conflict.

Beyond the political crisis that is brewing in Aden, the occasional escalations of this dispute into fighting has potentially significant consequences for the war effort against the Houthi rebels. As forces converge on Aden during these escalations, the overall coalition dispositions at the frontlines are weakened. This has not yet led to the collapse of any particular front, but considering the fact that coalition forces are already stretched and generally fail to conduct successful offensive operations against the Houthis, this poses a risk of Houthi recovery.



## Collapse of the Houthi-Saleh alliance

The political dispute and fighting in Aden is but one side of the troubled alliances in Yemen. On December 2nd 2017, former president Ali Abdullah Saleh announced the end of his alliance with the al Houthi movement, with whom he had been fighting the recognized Yemeni government of President Hadi and a coalition of foreign actors backing him. Following several days of firefights between his own forces and those loyal to the Houthi movement in the capital of Sanaa, Saleh declared he would seek dialogue with the Saudi Arabia led coalition. Several days later, on December 4, Saleh was killed outside Sanaa before he could engage in such dialogue, or ensure the full defection of his former loyalists from the Houthi alliance. The announcement by Saleh, as well as his death, did reverberate throughout the conflict in Yemen and have resulted in serious consequences on the frontlines.

The alliance between the al Houthi movement and former president Saleh has been a critical element during the conflict in Yemen. While the al Houthi movement was able to capture Sanaa in September 2014, it was the support of Saleh and especially the units within the Yemen armed forces still loyal to him, that allowed the Houthi rebellion to spread further south into the country. With the support of these better armed forces under Saleh's command, the Houthi rebellion posed a more significant threat to the remaining forces under President Hadi's control. In fact many of the territorial gains made during 2015 were the direct result of defections by army units garrisoned across Yemen. During the rest of the conflict, since the start of the Saudi led intervention into the country, these Saleh loyalists have also been instrumental in reinforcing the major frontlines along which coalition forces have tried to advance towards Sanaa and other cities.

This relationship had of course been showing cracks beforehand, and an eventual collapse of the alliance between the Houthi movement and Saleh loyalists had been anticipated. Due to the occurrence of previous spats between the two sides, which have at times ranged anywhere from exchanges of accusations to actual fighting in Sanaa, the exact timing of this eventual collapse had been difficult to ascertain, though its effects are showing clearly.

Even though former president Saleh himself, prior to his death, announced an end to his collaboration with the al Houthi movement, the split did not result in a complete defection of Saleh loyalists. The Houthi rebels also succeeded in retaining the support of tribal militia in the Sanaa area that were initially expected to hold more loyalties towards Saleh. Despite the ability of the Houthi loyalists to salvage critical parts of the alliance, the final collapse of the alliance between former president Saleh and the al Houthi movement proved disruptive enough to weaken the rebel frontlines in several different areas at least temporarily.

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### **The final collapse of the alliance between former president Saleh and the al Houthi movement proved disruptive enough to weaken the rebel frontlines in several different areas at least temporarily.**

Due to the limited defections of forces loyal to Saleh, as well as an escalation in distrust between al Houthi fighters and the former units of the Yemen army that had previously fought on their side, the Houthi rebels have been forced into a disadvantageous distribution of forces across different frontlines within Yemen. Many different frontlines across the country had become entirely stagnated over time, despite the relentless air campaign and operations by ground forces of the Saudi led coalition. In several areas, such as the coastal road between Taiz and Hodeidah, this adjustment of forces has led to at least initial opportunities for coalition forces to drive their offensives forward. While progress along these different frontlines is still difficult, and any gains require great effort, the collapse of the alliance between the al Houthi movement and the loyalists of former president Saleh have effectively transformed the stagnated frontlines into multiple ongoing offensives.

# A Lasting Siege

## The Nihm offensive towards Sanaa

One of the main frontlines that could have been affected by the infighting in Yemen's competing alliances is the Nihm front. The Nihm district is located within Sanaa province and represents the closest government positions to the capital, and the most likely route of advance towards it. This front has, however, long been stagnated as competing forces fight over control of the many mountain ranges that line the road towards Sanaa. The limited ability to maneuver in this area, and the heavily entrenched positions in the mountains have made for exceptionally hard fighting. Government forces have been able to make progress in this sector, and particularly following the breakout of fighting between Houthi and Saleh loyalists in the capital Sanaa, but these gains have been extremely limited and the operational pace on this front continues to be low.

Following the hostilities between Houthi and Saleh loyalists in Sanaa, and the resulting adjustments of forces allocated to the defense of Sanaa, the government of Yemen reinforced its troops in Nihm to a total of seven brigades. The arrival of these additional forces allowed the government troops to advance on December 18 and 19, forcing the Houthi rebels back and establishing control over the dominant al Salta mountain. The government forces failed to pursue the withdrawing rebels and instead conducted a five day long siege of bypassed positions, effectively allowing the rebels to entrench themselves and causing the stalemate to settle in again. Since December 23, government forces have not made further territorial gains in Nihm, while frequent skirmishes, airstrikes and artillery shelling have been unable to re-introduce movement into the front.

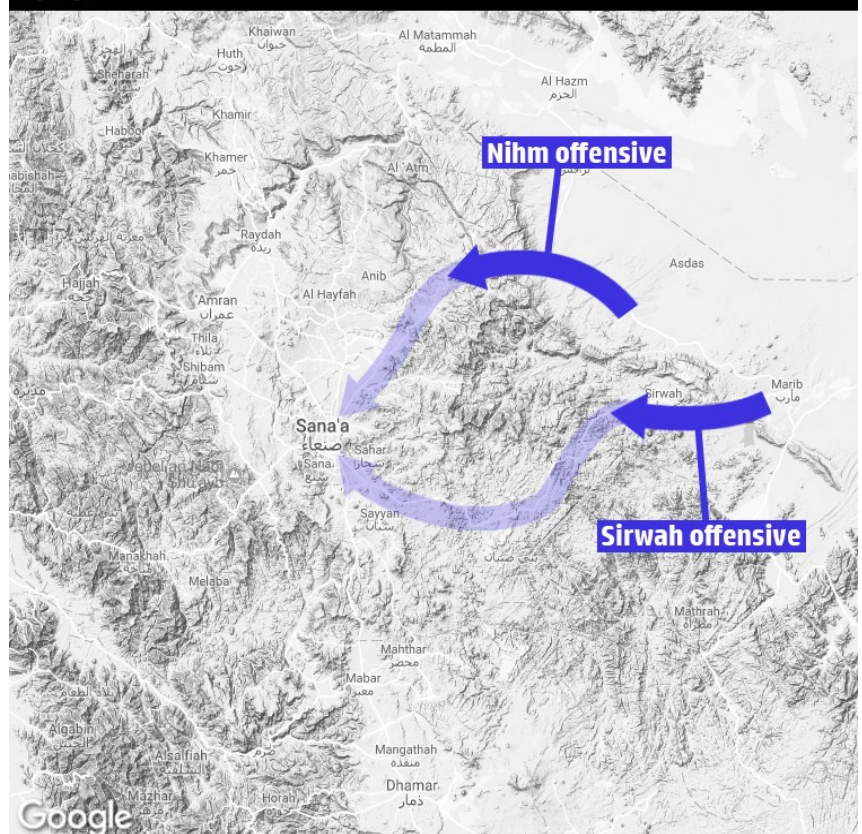
Houthi rebels, desperate to maintain the stalemate, have depended heavily on the use of theater ballistic missiles and heavy rocket artillery to disrupt

government operations within the Nihm district. A heavy concentration of missile and rocket launches was witnessed in Nihm during the period following the rift between Houthi and Saleh loyalists and the successful advances by government forces. These standoff strikes have mainly targeted troop concentrations and support bases in the Nihm area, and while their accuracy and effects could not be verified, the constant threat imposed by these standoff weapons limits the effectiveness of the government forces and their allies in the area.

The January clashes between the government forces and units of the Southern Resistance have not had an observable effect in Nihm. The Nihm front is predominantly manned by Yemeni government forces, with no Southern Resistance forces present, and the distance from Aden has ruled it out as a location from which to draw forces to assist in fighting in Aden itself. The proximity of these forces to Sanaa, and the importance of the offensive towards the capital also makes it unlikely that this front would be a candidate for significant withdrawals if hostilities in Aden or other southern locations continue.

## Coalition Advances Towards Sanaa

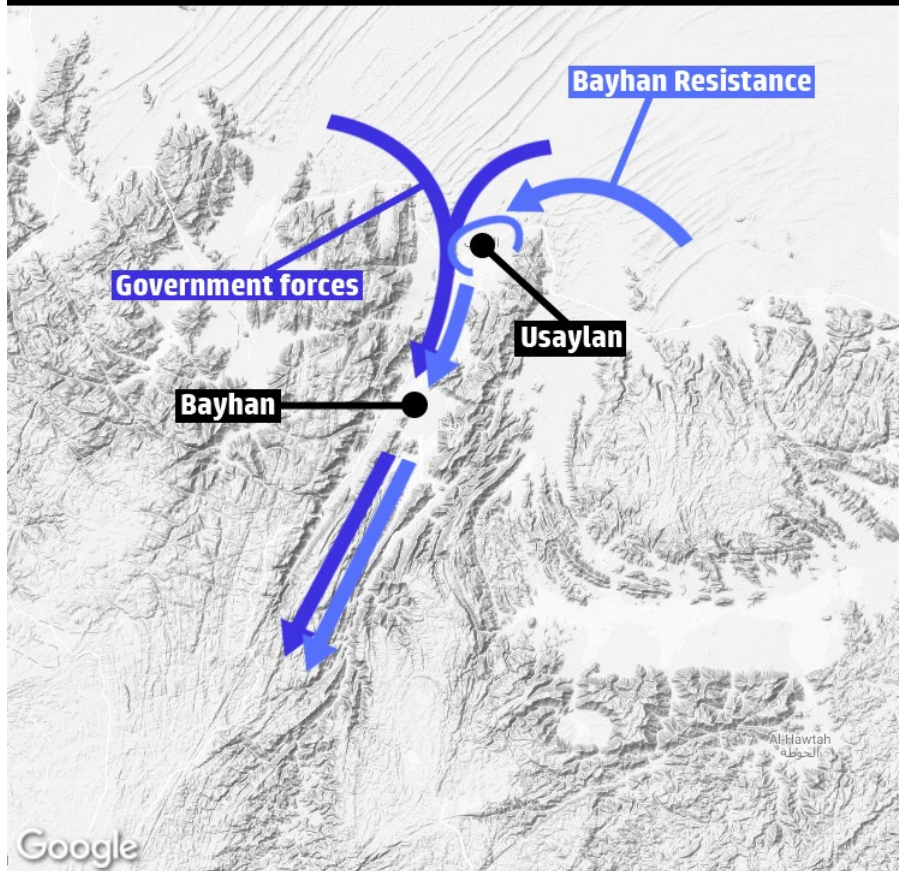
Yemen





### Coalition Offensive on Bayhan

December 2017



The Bayhan area of Yemen saw significant offensive activity following the violence between Houthi and Saleh loyalists in Sanaa as government forces achieved a rapid advance from Bayhan into al Baidha province. The rapid advance was made possible by bypassing Houthi positions in the Usaylan district. This allowed coalition forces to maintain their momentum and sustain rapid gains against a weak point in the Houthi defenses. The apparent lack in depth of Houthi defenses at Bayhan allowed government forces to capture Bayhan within several days. The temporary concentration of air power at the Bayhan front following initial gains on the ground also put additional pressure on the Houthi rebels and generated space for additional gains through the targeting of, among other things, Houthi attempts to reinforce this front.

The effective use of momentum following operations in Usaylan and Bayhan led to a coalition offensive deep into the al Baidha province. The lack of Houthi defenses at Bayhan allowed coalition forces to advance into the mountainous areas of the Nati district. After making significant advances in this

complex mountainous terrain, the coalition offensive in al Baidha is now on the verge of reaching more conducive terrain for offensive operations and interdiction of Houthi mobility through air power, which could allow for even more significant breakthroughs to follow. The ability to continue forward momentum on this front, rather than halting offensive operations and digging in, has so far kept Houthi forces on the back foot and has allowed for greater gains than are typically achieved in similar operations on other fronts. Local resistance organizations have provided additional capacity to offensive operations by engaging Houthi rebels in other regions of al Baidha province, though questions remain as to how far these resistance forces will be willing to carry out offensive operations into the core area of Yemen. The immediate interests of such localized resistance groups are often limited to their

home areas and rarely do they deploy outside of those areas to continue operations against Houthi rebels.

The offensive into the al Baidha province has opened opportunities for the isolation of Baidha city, and further advances into the core area of Yemen. By moving south into al Baidha province, the coalition could eventually cut the Houthi line of communications between Dhamar and al Baidha. Additional operations towards the city of Raada and eventually Dhamar could heavily disrupt Houthi mobility and logistics throughout the core mountainous areas of Yemen. At the same time, such an offensive put coalition forces in a position to isolate the Taiz and Ibb theaters, while opening up an additional axis of advance towards Sanaa. Such operations would span over a significant amount of time, however, and based on current performance in similar theaters, success is far from guaranteed. Despite the great successes achieved around Bayhan, this offensive has not yet brought the coalition to the point of mounting a decisive blow to the Houthi rebellion.

## Operation Golden Spear

Much of the southern frontline in Hodeida province was shaped by the prior offensive action as part of Operation Golden Spear. While Operation Golden Spear succeeded in achieving an initial breakthrough, the extended fight to secure the Khalid military base just south of Hodeida province resulted in a stagnation of the frontline. Offensive operations were resumed on December 6, following the outbreak of fighting between Houthi and Saleh loyalists in Sanaa and only after the arrival of reinforcements from the Southern Resistance, the United Arab Emirates and the Thamina Resistance, a UAE trained military unit. The offensive coincided with the surrender of Saleh-loyal Republican Guard units stationed in this area. Coalition forces succeeded at an initial breakthrough along the coastline following the defection of these Republican Guard units but failed to accomplish any territorial gains against the Houthi rebels still positioned at the road between al Hamili and Hays. From their positions in Al Hamili, Houthi rebels were able to strike against the elongated flank of the coalition offensive, hampering the deployment of additional forces towards the spearhead of the offensive.

The forward elements of the coalition offensive struggled to maintain their momentum and were unable to translate their initial advance into wider gains. While the balance of forces was initially tipped in favor of the coalition by the arrival of reinforcements from outside this theater, and the defection of Saleh loyalists, the coalition forces found themselves unable to capitalize on this opportunity. The absence of coalition air power in this area during the first week of these offensive operations also deprived the ground units of much needed close air support. The delayed arrival and further intensification of air operations in the area, once the offensive operations had already come to a halt, were not sufficient to regain the momentum of offensive movements. On December 26 and 27, a total of 70 targets were struck by coalition aircraft in the forward positions at al Khawkah, the largest concentration of airstrike observed in this sector since Operation Golden Spear.

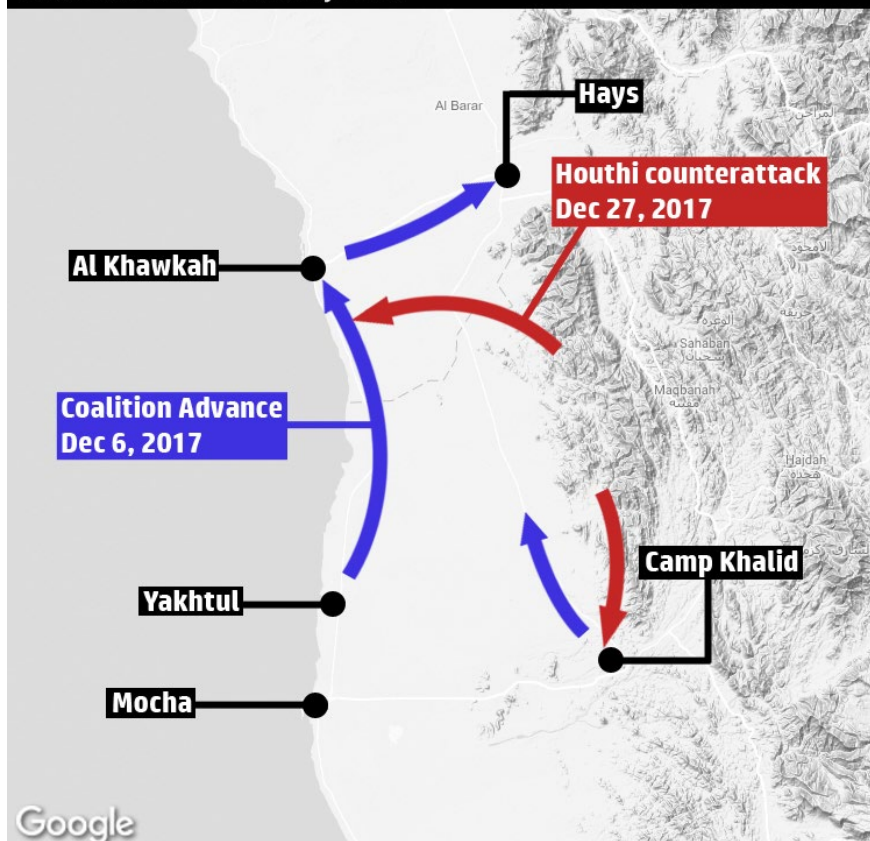
When Houthi elements launched their counterattack against the flank of the coalition offensive at al Khawkah, the coalition deployed two additional brigades of UAE trained Security Belt forces that arrived on December 14. These units were immediately

deployed in a defensive role to secure the coalition flank, which at the time was of more concern than attempting to restart offensive operations. While the Houthi counterattack did not succeed at encircling the spearhead of the coalition offensive, it did manage to bring the offensive operations to a complete stop as air power and reinforcements were all redirected to address the threat against the flank of the offensive operation rather than supporting continued advances.

Eventually, by January 26, coalition forces succeeded in taking control of al Hamili located along the eastern road towards Hays on the coastal plain, and by February 5 they captured Hays itself. The road between Hamili and Hays, however, has not been brought under direct coalition control, and the coalition positions remain limited to their presence along the coastal road between Mocha and Hays. This

### Coalition Offensive into Hodeidah

December 2017 - February 2018





weak position leaves the coalition open to Houthi counterattacks from the nearby mountainous regions, and especially so following the withdrawal of government forces from this area to reinforce positions in Aden. The escalation of fighting in Aden also presents a direct risk for operations on this front, as government forces and Southern Resistance units operate in close proximity of each other. So far, fighting has not spread outside of Aden during such escalations, but the possibility of infighting in frontline areas or further withdrawal of forces by either faction poses a serious concern.

## Stalemate in Midi

Another important frontline in the coalition efforts against the Houthi rebels is the Midi front, located at the Saudi border with Hodeida province. Coalition forces, consisting of Yemeni, Sudanese and Saudi forces have consistently tried to break through and capture the town of Midi in order to open a northern axis of advance towards the port city of Hodeida. Numerous failed attempts, and high casualty rates, have turned Midi into a stagnated offensive.

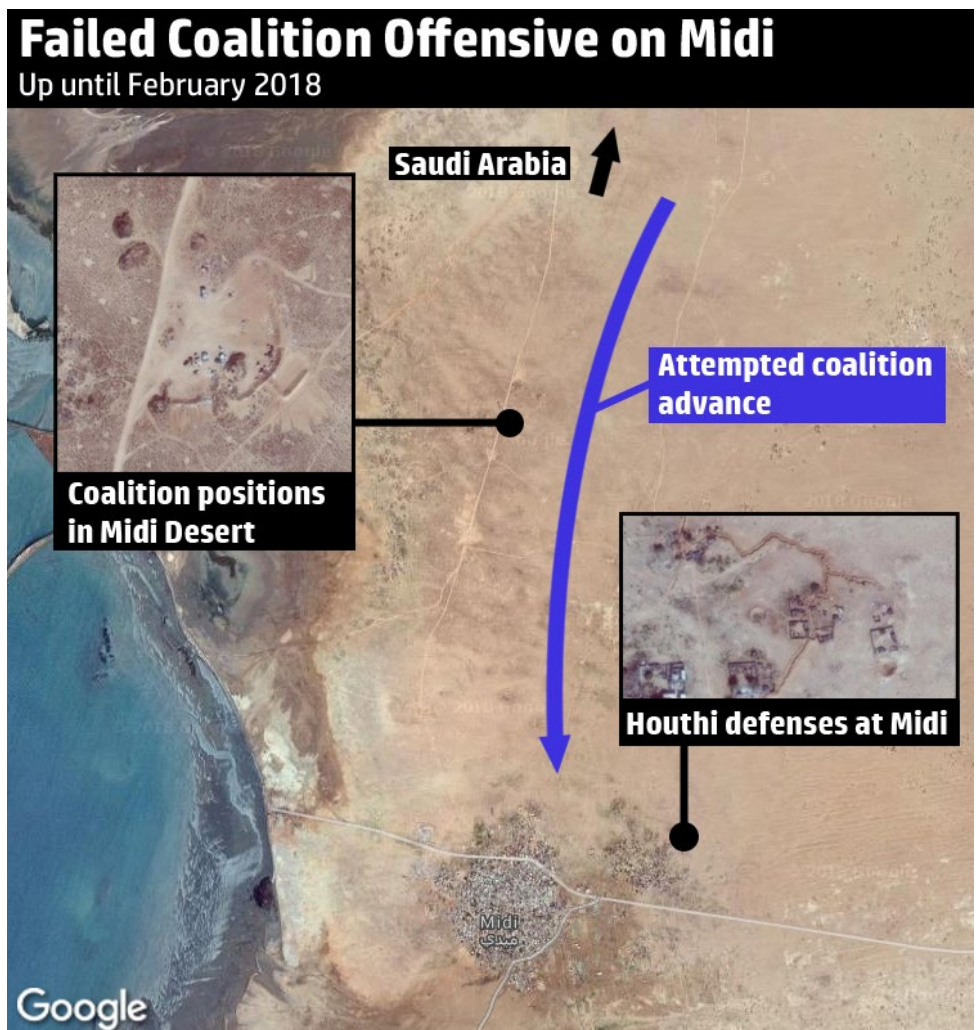
Little combat activity has taken place in this district over the past months and on those rare occasions when coalition forces to attempt to advance, their attempts have been reduced to frontal attacks against the entrenched positions the Houthi rebels in the town of Midi. The predictable frontal attacks in this sector, and the lack of protective terrain in the Midi desert, have allowed Houthi forces to concentrate their defensive capabilities and artillery fires to repel even the most determined coalition offensives.

Coalition forces in this sector lack the capacity, both in terms of sheer numbers and support arms, required to sufficiently pressure the Houthi defenses to allow for a breakthrough. Houthi rebels also conduct

daily cross border attacks in the nearby mountainous border regions of the Saudi province of Jizan. These attacks force the coalition to divide its assets within this particular border area, limiting their ability to concentrate forces against the defensive positions at Midi. Houthi rebels also consistently target coalition positions and military camps in both the Midi desert and on the Saudi side of the border with heavy artillery rockets, tube artillery and ballistic missiles. This suppression of coalition activity further limits the potential to preposition assets for a successful offensive against Midi. The Saudi led coalition does conduct nearly daily airstrikes in and around Midi, though these strikes have not been effective at weakening the Houthi defensive or offensive capabilities in this area.

## Progress in Jawf

Since the December hostilities between Houthi and Saleh loyalists, al Jawf province saw renewed activity as offensive operations against Houthi rebels were conducted. The front at al Jawf leads directly towards the Saada province and the city of Saada itself.



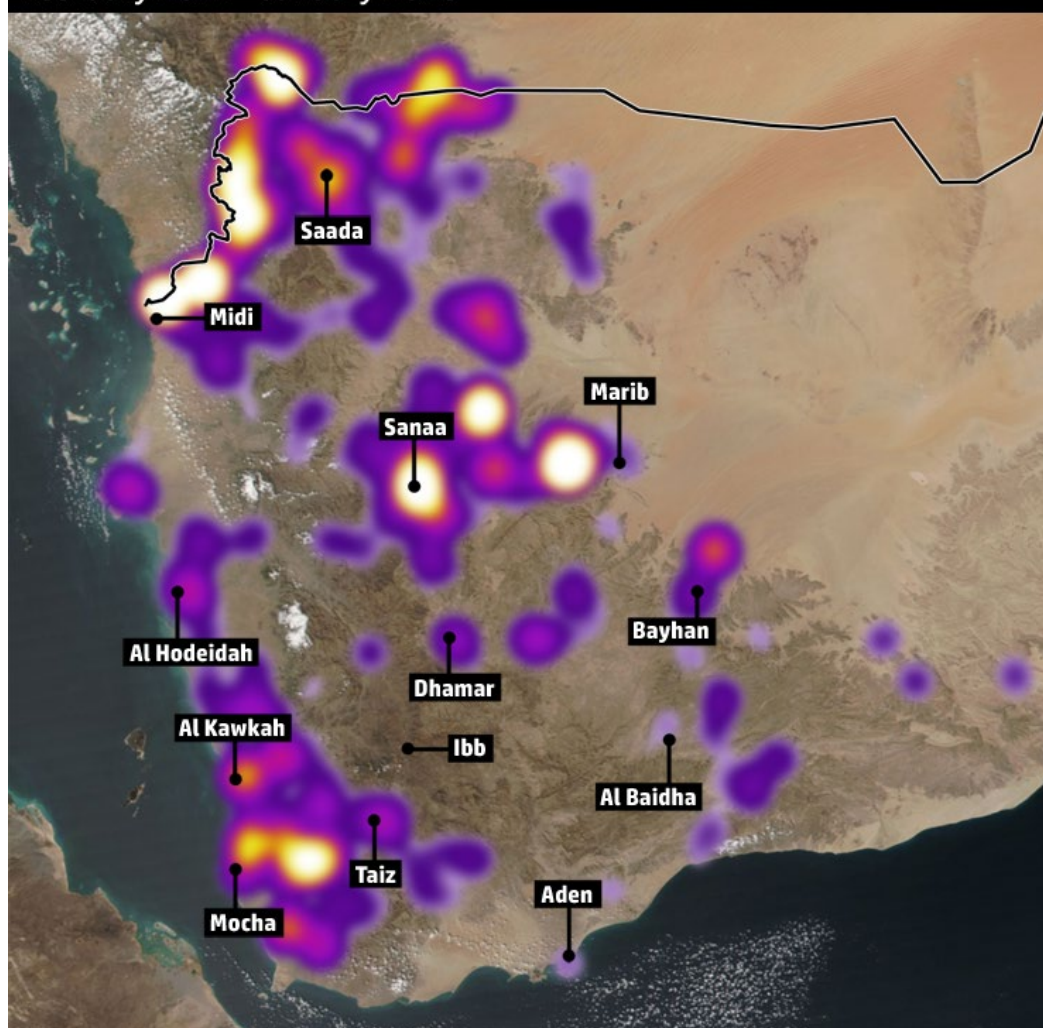
This region is the true heartland of the Houthi Movement, and one of their main strongholds within Yemen. From their positions in al Jawf, government and coalition troops hope to enter the province either from the south at Al Matammah or through the Kitaf Region at Al Buqa. A successful advance from the area of Al Matammah also offers the prospect of threatening the lines of communication between the city of Saada and the capital Sanaa.

Following the December hostilities in Sanaa, government forces made significant gains within al Jawf. The government advance in the direction of the Saudi border has extended the front in this province and has forced Houthi rebels to spread out in order to defend a wider position. The advances made by the government forces also threatened the rear areas of the Houthi rebels. By striking against the Houthi supply lines, government forces were able to force the rebels to withdraw from the town of Afi on December 31.

Even though government forces have continued to make advances within al Jawf, they have yet to advance into the mountainous area between their current positions and the city of Saada. The mountainous terrain through which next the phases of an advance would be conducted heavily favors the Houthi rebels. All recent gains by government forces in al Jawf were conducted over largely open terrain as government forces advanced along the road between al Hazm and al Buqa. The road itself, however, continues to be contested by Houthi rebels positioned at nearby mountainous locations such as at Mashna and Yatmah.

## Concentration of Airstrikes in Yemen

February 2017 - January 2018



### The Coalition Air Campaign

Despite the fact that the Saudi led coalition has conducted a very intensive air campaign since the beginning of its intervention in 2015, the persistent airstrikes have not reduced Houthi combat capabilities to a level where coalition ground forces can mount effective counter offensives. Some problems associated with the effectiveness of the air campaign have been the misidentification of targets and inaccurate strikes by coalition pilots. Some indications point this is mostly due to the capabilities of the Saudi Air Force, which carries out the bulk of coalition air operations at this point.

On a strategic level, the air campaign also emphasises strikes against transport infrastructure, such as roads and bridges, which do limit Houthi mobility but don't result in direct attrition of Houthi forces and take away capacity for close air support of coalition ground forces. The concentrations of air power within the



theater of operations also rarely aligns with offensive activity on the ground. Overall, the coalition air campaign focuses on static targets throughout Yemen, rather than assuming a responsive close air support role to effectively degrade Houthi combat effectiveness.

## The coalition air campaign focuses on static targets throughout Yemen, rather than assuming a responsive close air support role to effectively degrade Houthi combat effectiveness.

The air operations by the coalition have also suffered a direct, yet limited, threat from the Houthi rebels. The limited air defense capabilities of the Houthis have at times temporarily disrupted the continuity of air operations over Yemen. On January 9, 2018, barely any air operations occurred over Yemen after Houthi rebels fired a missile at a Saudi F-15 over Sanaa, appearing to strike the aircraft although it was never confirmed to have crashed as a result. The type of weapon used by the Houthi rebels, however, indicates the limited nature of this threat. Assessments have suggested Houthis fire a modified

R-27 air-to-air missile, adjusted to be launched from the ground, to target the aircraft. Houthi rebels are suspected of having used a similar method to shoot down a United States MQ-9 unmanned aerial vehicle over Sanaa before as well. While this weapon does demonstrate a clear lethality, the improvised nature of it, and the rare occurrences situated only at Sanaa, suggests not many such systems are in use and they have not been proliferated throughout areas under Houthi control. In addition to this, Houthi forces do not have reliable radar coverage to monitor their airspace, and have had to resort to improvised methods of detection using a improvised thermal systems to detect and track aircraft over Aden.

## Houthi Missile Capabilities

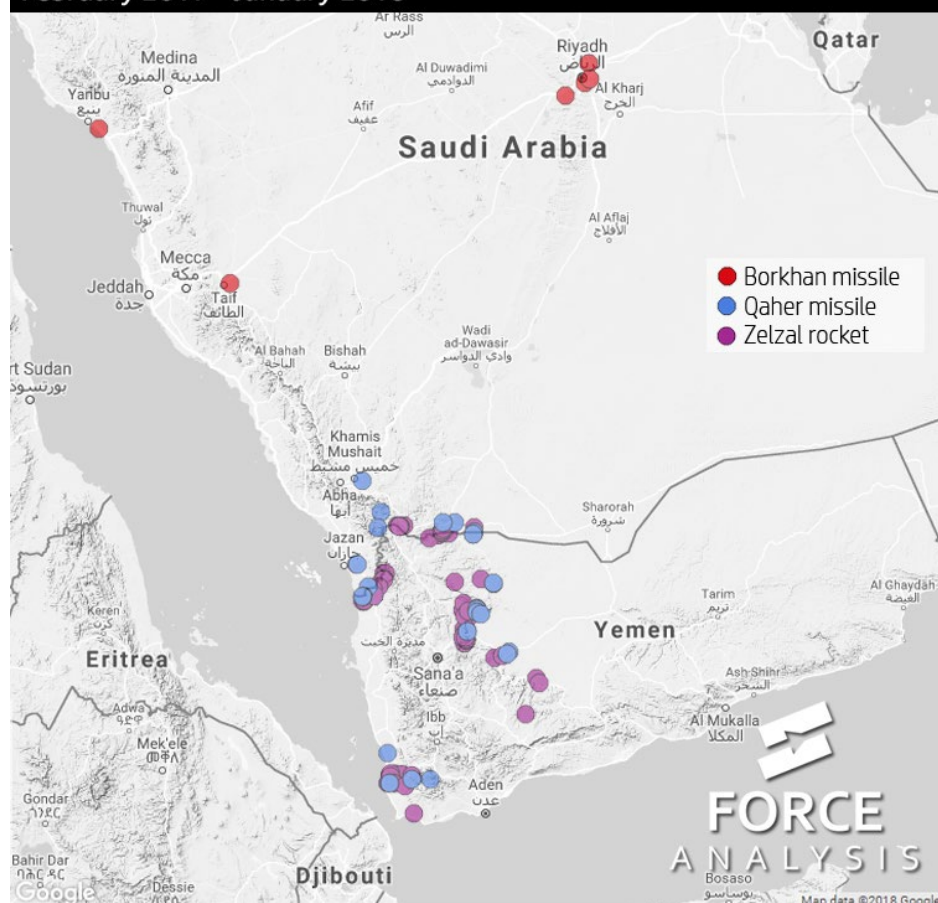
Over the course of the current conflict in Yemen, Houthi loyalists have adopted an intensive use of what is generally referred to as ballistic missiles. Most notable have been the missile launches deep into Saudi territory, reaching as far as Riyadh and Mecca. Houthis have also used ballistic missiles to strike at Saudi forces and their allies in the border

regions of Saudi Arabia, as well as on Yemen's many frontlines. For the Houthi rebels, the use of these ballistic missiles, as well as several types of heavier artillery rockets, is an important tool that can hurt its opponents beyond the reach of its ground forces.

Houthi forces apply these standoff weapons in different ways, and have typically also used different types of missiles or rockets for these different applications. On a tactical level, heavy artillery rockets with large payloads have been used primarily as an instrument to disrupt coalition logistics and force attrition of forces near the frontlines. Such strikes typically target forward operating bases or logistical nodes within Yemen, and in certain confirmed cases have caused significant materiel and personnel losses. In addition to this, the weapon systems are

## Ballistic Missile and Rocket Strikes

February 2017 - January 2018



also used in a more strategic manner by targeting cities within Saudi Arabia. There is a distinction here between the longer range Scud variants that are used against cities like Riyadh and Mecca, and shorter range missiles and artillery rockets that are used to target cities near the border with Yemen.

Overall, the bulk of these missiles is applied towards the former of these objectives. The vast majority of large artillery rockets and ballistic missiles is used against positions of the coalition forces that are engaged in the fight against the Houthi rebels. The targeting of Saudi cities has recently been reserved for a smaller number of more advanced ballistic missiles, and predominantly targets those key cities, primarily Riyadh, deeper within Saudi Arabia. Houthis have in the past used rocket artillery to target the cities of Jizan and Najran, but in the more recent history of the conflict such attacks no longer occur. Priority for the use of such rocket and missile systems has likely been shifted towards achieving battlefield effects rather than symbolic attacks against the Saudi cities and population.

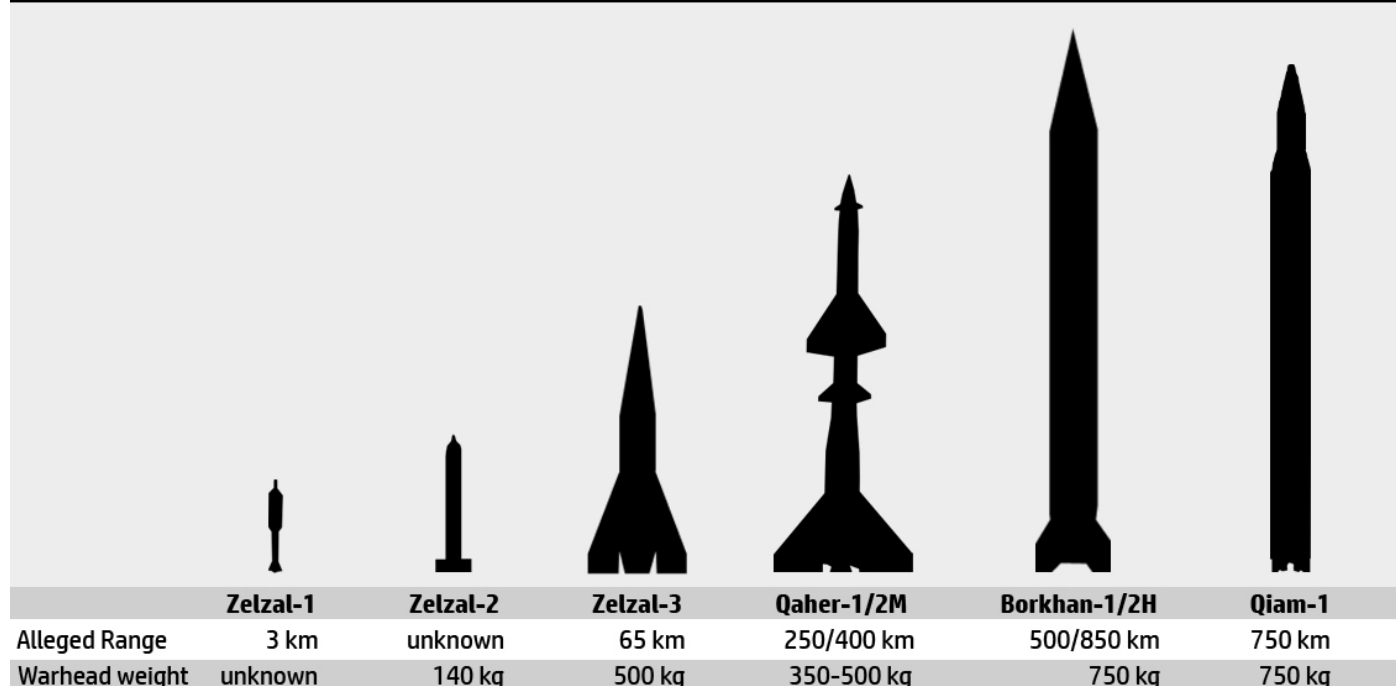
There is an important distinction to make between the weapon systems used by the Houthi rebels, which are typically all described by the Houthi forces as ballistic missiles. In reality, only a minority of the “ballistic missiles” launched by the Houthis truly are ballistic missiles. The majority of these are in fact

unguided artillery rockets with heavy payloads. This does not make these weapon systems less effective on the battlefield, though it raises an important insight into the true capabilities of the Houthi forces. This misconception is fueled by the Houthi nomenclature, not only by referring to a whole class of different types of artillery rockets as ballistic missiles, but also by naming them after the Iranian class of Zelzal ballistic missiles. Within Yemen, there has been no confirmed use of actual Iranian Zelzal missiles by the Houthis. The weapon systems they describe as such are in fact different types of indigenously designed artillery rockets confusingly named the Zelzal-1, 2 and 3. Not only do these rockets lack the guidance systems of the Iranian Zelzal missiles, which makes them inherently less accurate, the rockets also have a substantially shorter range than their Iranian namesakes. Where the Iranian Zelzal missiles, depending on the type, have a range allegedly of up to 250 kilometers, the longest quoted range of these Yemeni indigenously designed rockets is 65 kilometers. These rockets still represent a significant risk to coalition forces both within Yemen and in Saudi Arabia’s border areas, but their lethality or strategic threat is not as great as may be suggested by Houthi rhetoric.

The only true classes of ballistic missiles used by the Houthi forces are the Qaher and Borkhan series of missiles. The former being a reverse engineered SA-2 (S-75 Dvina) surface to air missile that has been

## Ballistic missiles and artillery rockets in Houthi arsenal

The missiles and rockets illustrated below represent a selection of the most prominent systems used by the Houthi Movement against coalition forces within Yemen and against Saudi Arabia





modified into a surface to surface missile, and the latter being a collection of several different types of Scud variants. Out of these two types of missiles, the Qaher series is still predominantly used to target military assets. The missile is used regularly against coalition positions within Yemen, but also against Saudi military facilities in the border provinces of Jizan and Najran. The Borkhan on the other hand, which are the longest range missiles in the Houthi arsenal, have never been used within Yemen itself and are strictly reserved for strategic strikes against cities and facilities deep within Saudi Arabia. The Houthi movement has also threatened to fire these missiles at the United Arab Emirates, though the missiles likely lack the range to do this.

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### **The overall missile threat emanating from Yemen has proven to be quite persistent, albeit limited to military assets located in theater.**

The Qaher series of missiles, consisting of both the Qaher-1 and 2, managed to significantly increase the number of true ballistic missiles available to the Houthi forces. The modification into a surface to surface missile grants the missile an alleged range as high as 400 kilometers, which is most likely exaggerated and the furthest documented launch of a Qaher-2 only measured slightly over 100 kilometers. Considering the fact that the two-stage SA-2, in its surface to air function, can travel approximately 45 kilometers, this is not surprising. After all, in its surface to air role, the two stages of the missile provide propulsion for the entire duration of flight towards the target. In its surface to surface role, the missile continues to coast beyond the point at which all fuel has been depleted. The classification as a true ballistic missile, with an effective guidance system, depends on the exact details of the modifications made by Yemeni engineers. The original SA-2 missiles, however, have external control surfaces that could be used to guide the missile towards its target even in the later stages of flight.

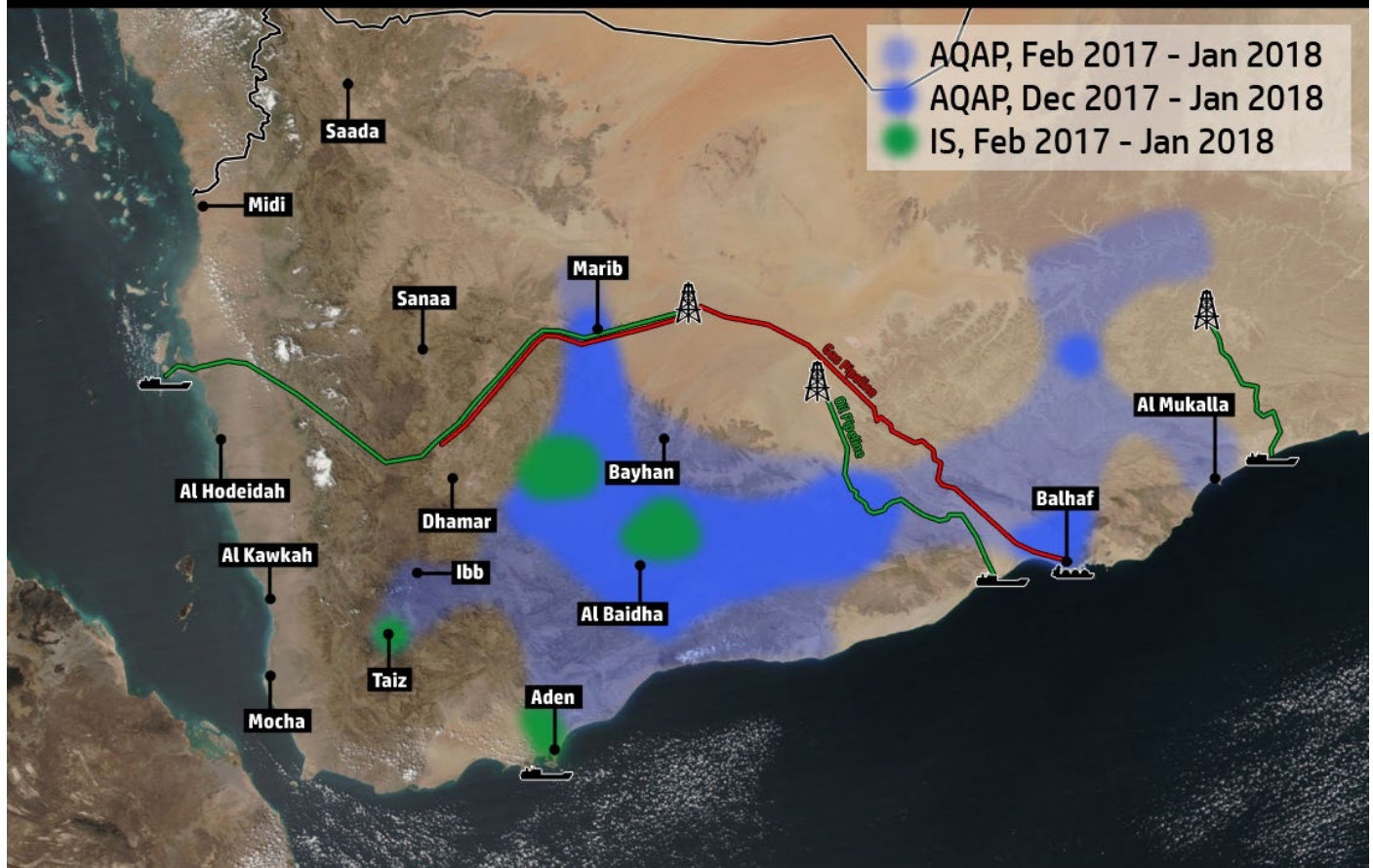
The Borkhan series of missiles present more of a mystery, and likely exist out of various different lineages of Scud variants. The range boasted by the Borkhan missiles supersedes that of the original Scud systems that Yemen had in its possession. This implies that the Borkhan series of missiles exists from either Scud missiles that have been modified in Yemen, or

more capable Scud variants that have been smuggled into the country, or both. Earlier Borkhan footage had suggested the former. Much like the Iraqi missile experts that at one point used multiple Scud missiles to produce longer range variants, Yemeni engineers could have been responsible for these initial modifications. It is also likely, however, that external assistance would have been required for this and due to the Iranian experience in modifying Scud variants, and its relationship with the Houthi Movement, they make for an extremely likely candidate. In addition to this, at least one of the alleged Borkhan launches, has been found to be an Iranian made Qiam missile. The Qiam is a very distinctive Scud variant, and the missile is unlikely to have been manufactured within Yemen. It is unclear at this point whether only the July 2017 launch was in fact a Qiam missile, or whether the Houthis have a larger stockpile of Qiam missiles that remains. Either way, the Borkhan type of missiles is used very sparsely, and typically launches of these missiles only occur every 6 to 8 weeks. This indicates either a rationing policy, or could reflect the time required for Yemeni engineers and foreign experts to modify or assemble the missiles. Because of this, the Borkhan boasts mostly a symbolic value in the fight against the Saudi led coalition rather than a persistent threat. Most Borkhan missiles have also been intercepted by Saudi Patriot missile defense systems, limiting the actual effects of the few missile launches the Houthis are capable of staging.

The overall missile threat emanating from Yemen has proven to be quite persistent, albeit limited to military assets located in theater. Even though many missiles and rockets have already been fired, and a constant coalition air campaign continues to hunt down remaining missile stockpiles, there is no clear trend that shows a slowdown in the use of these types of weaponry. Even the split between Houthi and Saleh loyalists did not cause a significant disruption in missile capabilities. It had initially been anticipated, based on the assumption that the missile forces in the Houthi-Saleh alliance were more loyal to Saleh than to the Houthi Movement, that such a split could cause the Houthis to lose control over missile stockpiles and expertise. One of the potential reasons that may have mitigated this anticipated effect is the role of Iran in supporting the missile forces. This could have been a consequence of the level of collaboration between Yemen's missile forces and Iranian experts having evolved to a point where dependence on Iranian know-how

# Al Qaeda in the Arabian Peninsula and Islamic State Presence

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and supplies effectively ties the missile forces to the more important Iranian ally, the Houthi Movement.

## Al Qaeda and the Islamic State

In addition to the conflict between the Yemeni government and the Houthi Movement, Yemen is also still home to jihadist militants affiliated with al Qaeda and the Islamic State. These extremist organizations have had less of an impact on the overall course of the conflict in its more recent history, though their presence continues to pose severe threats and shapes some of the posture of the fighting parties.

Al Qaeda in the Arabian Peninsula, which has been the more prominent and active of the two main jihadist factions in Yemen, has seen its activity curbed significantly throughout the conflict. Though, this did not happen without a notable allocation of resources by the coalition effort in Yemen. Initially, when the Houthi Movement and the Yemeni government went to war, AQAP saw great benefits and expanded its reach in South Yemen. Eventually this did expose al Qaeda, as it had started operating more in the

open and in conjunction with local tribal forces. An intensification of the United States drone campaign against AQAP, as well as dedicated emphasis on counterterrorism operation by the United Arab Emirates and its allies within Yemen has caused noticeable damage to the organization.

One of the most critical elements in this effort has been the establishment of local security forces that specifically target al Qaeda. Rather than focusing all of its resources and effort towards the frontline, the United Arab Emirates have been training and equipping forces that have effectively displaced AQAP from large territories. These units, known under their names that refer to the province where they are active such as the Hadrami Elite and the Shabwani Elite, are composed mainly of tribal militia and new recruits. By establishing roadblocks and clearing one community at a time, these forces have had a more significant effect on al Qaeda presence than the Yemen military was able to prior to the current crisis.

Since the deployment of the Shabwani Elite forces in July 2017, al Qaeda has effectively seen itself displaced towards the west, where it is now finding



itself more active in al Baidha province and even more frequently turning against Houthi militants. Over that same period of time, al Qaeda has also been hit particularly heavy by the United States airstrikes. Particularly the media wing of AQAP has been hit hard, as has also been visible through the drop in publications and timeliness of claims of attacks. While the group is not completely destroyed or eradicated, the strategy of deploying local well-equipped forces against AQAP has been very effective at disrupting the terrorist group's activities, and has made it an easier target for other efforts against them at the same time. Al Qaeda still maintains some significant levels of activity near the frontlines as well, where it is more difficult to operate against them. In the Qayfah region in al Baidha province, much AQAP activity is reported against Houthi fighters. This same area is also a hotbed for Islamic State activity and also hosts a significant contingent of Popular Resistance forces fighting the Houthis in support of Hadi's government. Much like in the city of Taiz in the past, the links between these groups along tribal lines and their shared objectives in fighting the Houthi militants likely cause individuals to overlap in membership between Popular Resistance and AQAP.

The Islamic State in Yemen continues to be a smaller threat. Even though the group has conducted several high profile attacks and a couple of assassinations in the city of Aden during November 2017, it was unable to sustain this activity and doesn't really present a strategic threat to those in control of Aden. Outside of Aden, the main IS activity is located in areas still under Houthi control, particularly the Qayfah region

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**One of the most critical elements in the effort against violent extremist organizations has been the establishment of local security forces that specifically target al Qaeda.**

of al Baidah. At this point this presence does not worry the Hadi government, and the United States has occasionally targeted the militants there. Once offensive operations against the Houthis reach this area, however, a heightened focus will be required to curb Islamic State and al Qaeda activity there.



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