Wars and Command of the Skies

In this appendix we provide narratives collected from a wide variety of sources that we have consulted in developing our coding of Realized Air Superiority. As is common in the writings of air power practitioners, such as John Warden (1989), we distinguish between two degrees of command of the skies: air superiority, and air parity. We use NATO definitions of these terms in guiding our coding decisions regarding possession of air superiority or lack thereof. All definitions are taken from the document "AAP-6(2018) NATO Glossary of Terms and Definitions of Military Significance for Use in NATO".

Air Superiority: "That degree of dominance in the air battle of one force over another which permits the conduct of operations by the former and its related land, sea and air forces at a given time and place without prohibitive interference by the opposing force."

Air Parity: Air parity is present when neither side can achieve air superiority.

Case Selection:
We take a list of wars from the replication data provided by Grauer and Horowitz (2012) –cited below –as the universe of cases to be assessed. However, wars prior to 1932 are not included in this assessment due to a general lack of effective air power.

We also take Grauer & Horowitz's coding of the principal combatants involved in each war and assess levels of air superiority achieved for each combatant, where possible, and for each side in the conflict otherwise.

Grauer, R., & Horowitz, M. C. (2012). What determines military victory? Testing the modern system. *Security Studies*, *21*(1), 83-112.

Air Superiority in War –Expert Coding:

War Name: Chaco War
Decisive Battle: Canada El Carmen, Nov 1934
Years of Conflict: 1932-1935
Combatants: Bolivia, Paraguay
COW War ID: 124

Coding Decision: Air Parity

Narrative:
Both sides used aircraft in the war but air power played a very limited role. Each side shot down or destroyed some of the other side's aircraft and neither achieved air superiority. Bolivia had a larger air force, but its air bases were farther from the conflict zone and its logistics and training were not as good as the logistics and training for the Paraguayan air force (Hughes, 2005). Clodfelter (2005: 384) summarizes it well: "It had been an infantryman's war; the terrain, the distances, the climate, and the limited wealth of the combatants had made large commitments of tanks and airplanes and of even artillery impossible."

Clodfelter says Bolivia began the conflict with 80 aircraft while Paraguay had 27. (page 383) On page 385, Clodfelter says that Paraguay lost 24 aircraft while Bolivia lost 34.

Sources: Clodfelter (2005); Hughes (2005)

War Name: Italian Conquest of Ethiopian
Decisive Battle: Battle of Ogaden, April 1936
Years of Conflict: 1935-36
Combatants: Italy, Ethiopia
COW War ID: 127

Coding Decision: Air Superiority - Italy

Narrative:
Italy had a robust air force while Ethiopia had almost no air force, making it impossible for Ethiopia to establish air superiority. Regarding operations, Willoughby (1939: 276) writes: " Since the threat of counter-battery and hostile air attacks was absent the Italian artillerists had freedom in the selection of positions…"

Sources: Clodfelter (2005); Willoughby (1990)

War Name: Changkufeng or Lake Khasan
Decisive Battle: Changkufeng Hill
Years of Conflict: 1938
Combatants: U.S.S.R., Japan
COW War ID: 98

Coding Decision: Air Superiority – U.S.S.R.

Narrative:
Japan did not employ aircraft to any significant extent, while the Soviets did. Coox (1973: 59) writes: "Japanese interviewees remain impressed by the scale of employment of Soviet aircraft and by the commitment—the first recorded—of Russian four-engine bombers in combat." Whiting notes that Soviet Airmen faced light opposition from Japanese forces, and were able to penetrate enemy lines in significant depth and demonstrated great effectiveness. However, he notes that well dug-in Japanese fortifications limited the damage that Soviet air power could deal to ground forces (Whiting, 1976 p. 75).

Sources: Coax (1973); Whiting (1976); Clodfelter (2005)

War Name: Nomohan War
Decisive Battle: Khalkin Gol
Years of Conflict: 1939
Combatants: U.S.S.R., Japan, Mongolia
COW War ID: 136

Coding Decision: Air Superiority – U.S.S.R.

Narrative:
Coox (1990: 672) argues that in the eyes of the Japanese army by August 20 1939 "the Russians had wrested air supremacy from the Japanese at Nomonhan." Similarly, Clodfelter (2005: 368) contends that the Russians "managed to win control of the air" by the end of June 1939. Whiting suggests that the air battle was relatively intense, with both sides committing upward of 100 aircraft to some individual engagements and suggests that Soviet air forces were instrumental in interdicting Japanese troop movements (Whiting, 1979 p. 77).

Source: Coox (1990); Clodfelter (2005); Whiting (1976)

War Name: Russo-Finnish War
Decisive Battle: Soviet February Offensive (Summa)
Years of Conflict: 1939-40
Combatants: U.S.S.R., Finland
COW War ID: 142

Coding Decision: Air Superiority – U.S.S.R.

Narrative:
Based on Glantz and House (2015: 18-23) and Clodfelter we conclude that the Soviets had air superiority. First, the Finnish had a very minimal air force. Second, Soviets dropped a significant number of bombs on Finland.

Clodfelter (2005: 435) notes that the Finnish shot down a large number of Soviet aircraft, but he also notes that the Soviets dropped 150,000 bombs on Finland. There is no clear evidence of Finland dropping any bombs on the Soviets. While the Soviet air force may have performed poorly, they did have command of the skies.

Black also notes that the Soviets had control of the air but notes that they suffered disproportionate losses due to poor training and the use of older aircraft in this conflict (p. 93).

Sources: Glantz and House (2015); Clodfelter (2005); Black (2016)

War Name: Turko-Cypriot War
Decisive Battle: July 20-22 Turkish Offensive
Years of Conflict: 1974
Combatants: Cyprus, Turkey
COW War ID: 184

Coding Decision: Air Superiority - Turkey

Narrative:
Clodfelter states that Cyprus did not have a significant air force, which explains a lack of air-to-air combat. Turkey did drop bombs on Cyprus. Fouskas (2005) also notes that Greek Cypriot soldiers during the July 20-22 battles advanced without air-cover and were easy prey for the Turkish air force (p. 59) 18 Greek warplanes based on nearby islands were in place for the defense of Cyprus, but received no orders to engage and instead remained at their bases (Fouskas; 2005 p. 60).

Sources: Clodfelter (2005); Fouskas (2005)

War Name: Ogaden War
Decisive Battle: Second Battle of Jijiga
Years of Conflict: 1977-78
Combatants: Ethiopia, Somalia, Cuba
COW War ID: 187

Coding Decision: Air Superiority - Ethiopia

Narrative:
Tareke (2000: 646, 652) contends that Ethiopia established air superiority. At the second battle of Jijiga, Tareke credits Ethiopian air power with achieving total control of the air and with breaking the Somali resolve by destroying a large portion of the Somali armored force. Clodfelter's narrative points to the same conclusion. Clodfelter notes that the initial Somali attack achieved impressive gains, but then the Soviet Union sent massive amounts of military aid to Ethiopia as well as advisers and Cuban troops. With Soviet and Cuban support Ethiopia had control of the skies and won back its territory. While the final result was only the restoration of Ethiopian territory, this would not have happened without Soviet aid and control of the skies.

Sources: Tareke (2000); Clodfelter (2005)

World War II

War Name: World War II – Greco-Italian War
Decisive Battle: Greek Counteroffensive (Albanian Front, Nov 18-23, 1940)
Years of Conflict: 1940-1941
Combatants: Italy, Greece
COW War ID: 139

Coding Decision: Air Superiority - Italy

Narrative:
Clodfelter: "The Italians easily established air superiority…" (page 442). Clodfelter also notes that the Royal Air Force assisted the Greeks and that their assistance greatly aided the Greeks.

Weinberg (page 217) writes: "the British only sent some air force units to Greece to assist the Greek forces fighting on the Albanian front. In the face of initial Italian domination of the air, this was of considerable help, even though numerically the British forces were never large."

Footnote: Downes codes this war as a Greek victory. In the end, the Italians swept into Greece so this does not seem correct. To be sure, the Italians were only able to do that because the Germans opened a second front in Greece. The larger issue is whether this should even be coded as a bilateral war. The British were clearly aiding Greece from early on (see Weinberg page 210).

Sources: Weinberg (1994); Clodfelter (2005)

War Name: World War II – Eastern Front
Decisive Battle: Winter Counteroffensive, Dec 1941 - Jan 1942
Years of Conflict: 1941-1945
Combatants: Germany, U.S.S.R.
COW War ID: 139

Coding Decision: Air Superiority -Germany
Secondary Coding: Air Parity

Narrative:
Overy (The Air War): "By the end of 1941 the Luftwaffe was actually being held before Moscow as were the German armies…" (page 49). In the next paragraph Overy writes that Germany "failed to achieve decisive air supremacy in 1941." (page 50) Further, on page 52 Overy writes that "neither side could achieve mastery over the battlefront." "During the course of 1942 Russian control of the air was achieved over the Leningrad-Bryansk front…" (page 55, Overy). Note that this is after the Winter Counteroffensive.
Overy notes that the Red Air Force "overwhelmed" the Luftwaffe throughout 1943.
In the battle of Stalingrad, the Germans had air superiority until the Soviet counter-attack in November 1942 (see Overy, 'Why the allies won' and 'A history of war in 100 battles').
It is noteworthy that Germany's advances in World War II occurred when it achieved command of the skies, specifically air supremacy over France in 1940 and over Russia in 1941. Within a couple of years of the entry of the United States, however, the Allies had achieved air superiority over Germany.
Clodfelter (2005: 450): At the beginning of Barbarrosa, "Germany quickly established air superiority and held it".
By the end of the winter of 1942, Germany had approximately 2000 airplanes on the Eastern front compared to 10,000 for the Russians (Clodfelter, page 452, top of column 3). On the other hand, during the Winter Counteroffensive the Luftwaffe was able to resupply some surrounded German army units.
Regarding the 'failed' effort of the Luftwaffe to fully supply the surrounded Sixth Army, Clodfelter says the plan was "hampered by weather, the Red Air Force, Russian flak, and a job simply too big for its capabilities." (page 455, column 1 top). This underscores that they did not have air superiority at the end of 1942.
By the end of 1943 it seems the Russians had air superiority. Clodfelter, for example, notes that "the Red Air Force dumped 2000 tons of bombs on Sevastopol" in April 1944 (page 459). Further the Russians started Operation Bagration in June 1944 "with massive air and artillery bombardments" (page 460).

Sources: Clodfelter (2005); Overy (2010)

War Name: World War II – Franco-Thai War
Decisive Battle: January Thai Offensive
Years of Conflict: 1940
Combatants: France, Thailand
COW War ID: 145

Coding Decision: Air Superiority - Thailand

Narrative:
Thai Air Superiority is likely. Very little information is available on this conflict, though what exists suggests that by the January offensive, the Vichy forces in Indochina had exhausted their air power, while Thai fighters still continued to operate (Stone 1998)

Sources: Stone (1998)

War Name: World War II – Invasion of Belgium
Decisive Battle: Eben-Emael
Years of Conflict: 1940
Combatants: Belgium, Germany
COW War ID: 139

Coding Decision: Air Superiority - Germany

Narrative:
Van Crefeld notes that the Luftwaffe controlled the skies over Belgium, dropping 97 tons of explosives on the fortress at Eben-Emael which largely demolished the fortification (p. 47). Black states that the Germans quickly gained, and used air superiority (p.94).

Sources: Black (2016); Van Crefeld (2015)

War Name: World War II – Invasion of Denmark
Decisive Battle: April 9 Landings
Years of Conflict: 1940
Combatants: Denmark, Germany
COW War ID: 139

Coding Decision: Air Superiority - Germany

Narrative:
Corum (1998) says that on April 9, the Luftwaffe held decisive air superiority over Denmark and Southern Norway which was invaded the same day (p. 67). in this battle, preserving the German landing force against a sortie of the Royal Navy. (p.67) He notes this as the first case in which air superiority nullified an enemy advantage in naval superiority, and that the Luftwaffe "ruled the waves" (p. 67). Black agrees that Germany held air superiority (p.93).

Sources: Corum (1998)

War Name: World War II – Invasion of France
Decisive Battle: Battle for France, June 5 - 22, 1940
Years of Conflict: 1939
Combatants: France, Germany
COW War ID: 139

Coding Decision: Air Superiority - Germany

Narrative:
By mid-June of 1940, allied are forces had largely been withdrawn from France and were instead being saved for the expected German attack on Britain (Alexander, 1990 p.12). Stoll (1994) indicates that the Luftwaffe has a decided advantage in the battle for air superiority from the first day (May 10) onward (1-15). Black states that the German doctrine of concentrating air-power at critical points (the Schwerpunkt) allowed them to quickly gain air superiority over France (p.95).

Sources: Alexander (1990); Stoll (1994); Black (2016)

War Name: World War II – Invasion of Greece
Decisive Battle: April 6-9 Offensive, Metaxas Line
Years of Conflict: 1940
Combatants: Germany, Greece
COW War ID: 139

Coding Decision: Air Superiority - Germany

Narrative:
Stockings and Hancock (2013) state that there can be "no doubt whatsoever" regarding the fact of German air superiority over Greece (p.529), and describe constant Luftwaffa airstrikes against Greek positions from April 6 onward (see p.149-206 for discussion of the April 6-9 offensive into Northern Greece).

Sources: Stockings & Hancock (2013)

War Name: World War II – Invasion of Holland
Decisive Battle: Battle of the Netherlands
Years of Conflict: 1940
Combatants: Germany, Netherlands
COW War ID: 139

Coding Decision: Air Superiority - Germany

Narrative:
Stoll (1994) indicates that the Germany had established air superiority over the Netherlands by the end of the first day of fighting (p. 14-15).

Sources: Stoll (1994)

War Name: World War II – Invasion of Norway
Decisive Battle: Battle of Trondheim
Years of Conflict: 1940
Combatants: Germany, Norway
COW War ID: 139

Coding Decision: Air Superiority - Germany

Narrative:
Corum states that allied forces had no air support at the Trondheim landing and that the Luftwaffe carried out constant bombardment. Air power was decisive in the battle, disrupting a sortie of the Royal Navy and isolating allied forces from resupply. He notes this as the first case in which air superiority nullified an enemy advantage in naval superiority, and that the Luftwaffe "ruled the waves" (p. 67). Black agrees that Germany held air superiority, noting that a lack of British and French air cover allowed Germany to seize and maintain the initiative against allied forces in Norway (p.93-94).

Sources: Corum (1998)

War Name: World War II – Invasion of Poland
Decisive Battle: September Campaign, Silesian Breakthrough
Years of Conflict: 1939
Combatants: Germany, Norway
COW War ID: 139

Coding Decision: Air Superiority - Germany

Narrative:
By September 6, half of the Polish air force had been destroyed or rendered unserviceable, and by the middle of the month Polish aircraft are said to have been nearly absent from the skies with 100 aircraft fleeing across the border into Romania. Three out of every four Polish aircraft to take to the air was shot down (Hargreaves, 2010 p. 182). Black (p. 92-93) notes that the Polish air force was rapidly destroyed.

Sources: Hargreaves (2010); Black (2016)

War Name: World War II – Pacific Theater of Operations
Decisive Battle: Guadalcanal (Henderson Field Oct 23-6)
Years of Conflict: 1941-1945
Combatants: Japan, United States
COW War ID: 139

Coding Decision: Air Parity
Secondary Coding: Air Superiority -United States

Narrative:
While American forces held air superiority over Guadalcanal for parts of the fighting, the Japanese attack on Henderson Field in October was made possible by a Japanese naval bombardment that destroyed many of the U.S. aircraft. Rein (2018) states that during this period of the fighting (Oct. 23-26), both sides effectively employed land and carrier-based aircraft (p. 7).

Sources: Rein (2018)

War Name: World War II – Western Front I
Decisive Battle: Operation Diadem (Gustav Line Breakout, May 11-18 1944)
Years of Conflict: 1941-1945
Combatants: Germany, Italy, United States, U.K.
COW War ID: 139

Coding Decision: Air Superiority - Allies

Narrative:
According to Clodfelter, Germany held air superiority over Europe until late 1942, however, by 1943 the air battle was well matched, and by 1944-1945, allied bombing had decimated German supply lines, reducing the Luftwaffe's effectiveness to the point of inconsequentiality. By 1944, the allies enjoyed near supremacy over Europe, however, Germany fighters continued to put up resistance by massing their remaining forces for localized engagements.

Sources: Clodfelter (2005)

War Name: World War II – Western Front II
Decisive Battle: Operation Cobra (Saint-Lo, Normandy, 25–31 July 1944)
Years of Conflict: 1941-1945
Combatants: Germany, Italy, United States, U.K.
COW War ID: 139

Coding Decision: Air Superiority - Allies

Narrative:
According to Clodfelter, Germany held air superiority over Europe until late 1942, however, by 1943 the air battle was well matched, and by 1944-1945, allied bombing had decimated German supply lines, reducing the Luftwaffe's effectiveness to the point of inconsequentiality. By 1944, the allies enjoyed near supremacy over Europe, however, Germany fighters continued to put up resistance by massing their remaining forces for localized engagements.

Sources: Clodfelter (2005)

War Name: Arab-Israeli War I
Decisive Battle: Operation Horev (Late December)
Years of Conflict: 1948-1949
Combatants: Israel, Syria
COW War ID: 148

Coding Decision: Air superiority for Israel
Secondary Coding Air Parity

Narrative:
Air power played a minor role in this conflict. Nevertheless, it seems Israel achieved air superiority. Clodfelter (page 571) indicates that in July 1948 Israeli B-17s attacked Egypt. He does not report similar attacks against Israel. Pollack (2002: 21) suggests that by October 1948 Israel had local air superiority for Operation Horev. Morris (2008) indicates that despite the similar size of their air forces in terms of aircraft, Israel held air superiority during Operation Horev owing to a major advantage in air and ground crews and due to an Egyptian shortage of munitions and spare parts. However, given that both air forces were very small in size, air power had a minor effect on the fighting (page 325).

Sources: Pollack (2002), Clodfelter (2005), Morris (1999)

War Name: Arab-Israeli War II
Decisive Battle: Operation Hiram (Oct 20-31)
Years of Conflict: 1948-1949
Combatants: Egypt, Israel, Syria
COW War ID: 148

Coding Decision: Air Parity

Narrative:
Morris notes that the use of Israeli air power in operation Hiram was light and ineffectual (p.341). Clodfelter concurs that airpower played a very minor role.

Sources: Clodfelter (2005), Morris (2008)

War Name: Arab-Israeli War III
Decisive Battle: Jerusalem Corridor (The Ten Days)
Years of Conflict: 1948-1949
Combatants: Israel, Iraq, Jordan
COW War ID: 148

Coding Decision: Air Parity

Narrative:
Morris (2008) notes "During the Ten Days, as in previous bouts of the war, air operations had little impact on the battles, chiefly because all the air forces were extremely small and weak." Further, it appears that the most useful Israeli air-assets (3 B-17's and a number of Messerschmidt and Spitfire fighters) were focused against Egypt, especially in striking at Cairo, behind the lines. (294-295)

Sources: Morris (2008)

War Name: Korean War I
Decisive Battle: Invasion over 38th Parallel
Years of Conflict: 1950-1953
Combatants: Democratic Peoples Republic of Korea, Republic of Korea
COW War ID: 151

Coding Decision: Air Superiority – North Korea

Narrative:
When the North invaded in June 1950, they had control of the skies. Clodfelter reports that North Korea had 162 combat aircraft while South Korea only had 22. For the initial invasion, North Korea achieved air superiority. Shortly after the US intervened, "the North Korean air force was effectively destroyed…" (Clodfelter, page 654). Futrell (1983) supports this interpretation, stating that South Korea begged for U.S. air force assistance and doubted its ability to contain North Korea without it, though his book focuses primarily on U.S. air forces in Korea (p. 11-12). U.S. support was forthcoming but limited in the early stages of the war, with much effort spent on providing air cover to evacuation and supply operations rather than directly engaging communist forces, and poor weather further limited the ability of U.S. forces to operate from Japan. According to Futrell, while American air forces were engaged in these "moral operations", North Korean fighters were having a "field day" (p.26-27). Another Futrell quote from this period of the war "As an experienced air commander General Stratemeyer knew quite well that the first task of tactical airpower is to destroy the enemy air force and attain friendly air superiority, but his orders had not permitted him to deal effectively with the North Korean Air Force (p.31)." While there appears to be parity for a short time toward the end of the first week, North Korean forces reach Suwon airfield by July 2 (1 week into the fighting) and put it out of commission along with several U.S. Aircraft. U.S. air forces were force to regroup in Pusan (p. 35). The situation in the air appears not to be reversed until well after the initial offensive once significant American air forces were moved into the area (p. 42). Though the U.S. air forces appear to do a poor job of it during the opening period of the war, they do continue operating in at least a harassing capacity, but appear largely ineffective while North Korean air forces do significant damage to air fields and ground forces during the opening offensive.

Sources: Clodfelter (2005), Futrell (1983)

War Name: Korean War II
Decisive Battle: Incheon – Seoul Campaign
Years of Conflict: 1950-1953
Combatants: Democratic Peoples Republic of Korea, Republic of Korea, United States
COW War ID: 151

Coding Decision: Air Superiority – United States/South Korea

Narrative:
By the time of the Incheon landing, U.S. air forces appear to hold clear air superiority. According to Clodfelter, shortly after the US intervened, "the North Korean air force was effectively destroyed…" (Clodfelter, page 654). Futrell indicates that American bomber forces operated with impunity in softening targets ahead of the Incheon landing. Fighter groups swept North Korean airfields and encountered little resistance and few remaining targets (p. 157-158). Close air support and air-interdiction missions were constant on the part of U.S. forces and Futrell doesn't note any North Korean air operations or American aircraft lost to enemy fighters during the push on Seoul (p. 165).

Sources: Clodfelter (2005)

War Name: Korean War III
Decisive Battle: Punchbowl Battles (Sept. - Oct. 1951)
Years of Conflict: 1950-1953
Combatants: China, DPRK, ROK, United States
COW War ID: 151

Coding Decision: Air Superiority – United States/South Korea

Narrative:
Clodfelter (page 661) notes that "The 19 U.S. air groups (wings)…dominated the Korean skies." (page 661). While this particular statement refers to June 1952, a few months after the battle of the Punchbowl, it applies to the whole war. Futrell notes that 2 months of indecisive air combat followed China's entry into the war during January and February of 1951 and that during this time Chinese forces held local air superiority in the far North of the Korean Peninsula in the area that came to be called "MIG Alley." (p. 287-289). However, this time span includes neither the Incheon-Seoul Campaign (Sept. 1950) nor the Punchbowl battles (Sep.-Oct. 1951). By April 1951, U.S. F-86's operated throughout MIG alley, and prevented Chinese fighters from engaging in battles further South (p. 302). During the punchbowl battles, U.S. forces flew 2,451 close air support missions, no mention is made of Chinese fighters operating in the area (Futrell 1983, p. 466).

Sources: Clodfelter (2005), Futrell (1983)

War Name: Soviet Invasion of Hungary
Decisive Battle: Budapest Nov 4-10
Years of Conflict: 1956
Combatants: Hungary, Russia
COW War ID: 156

Coding Decision: Air Superiority – U.S.S.R.

Narrative:
Clodfelter's narrative makes it clear that the USSR had complete control of the skies. For example, the main Soviet offensive included the use of "159 fighter jets." (page 540)

Sources: Clodfelter (2005)

War Name: Sinai War I (Suez War)
Decisive Battle: Operation Musketeer (Anglo-French campaign)
Years of Conflict: 1956
Combatants: Egypt, France, U.K.
COW War ID: 155

Coding Decision: Air Superiority – France and U.K.

Narrative:
Coles (2006) notes that as the Anglo-French air attacks began in support of Operation Musketeer, the "Egyptian air force began evacuating its bomber force to airfields in the south of Egypt or to friendly Arab countries. Egyptian antiaircraft fire was light and inaccurate, and the few fighters that got off the ground avoided combat". By November 2, the Egyptian air force had been neutralized (p.109).

Sources: Clodfelter (2005), Coles (2006)

War Name: Suez War II
Decisive Battle: Sinai Campagin
Years of Conflict: 1956
Combatants: Egypt, Israel
COW War ID: 155

Coding Decision: Air Superiority – Israel

Narrative:
At the beginning of the 1956 war, the Egyptians should have had air superiority. "the EAF had 120 MiG-15s, 50 Il-28s and 84 Vampires and Meteors on hand to deal with the Israelis' 60 jet-powered Ourangons, and Mysteres and 50 propeller-driven Mustangs and Mosquitos." (Pollack, 2004 p. 31) However, the IAF outperformed the EAF (see pages 39-40). And then on October 31st, the British and French aircraft destroyed most of the Egyptian air force (Pollack page 36). Coles (2006) notes that as the Anglo-French air attacks began in support of Operation Musketeer, the "Egyptian air force began evacuating its bomber force to airfields in the south of Egypt or to friendly Arab countries. Egyptian antiaircraft fire was light and inaccurate, and the few fighters that got off the ground avoided combat". By November 2, the Egyptian air force had been neutralized (p.109). Given that the Sinai Campaign commenced only a day prior to the beginning of Anglo-French airstrikes, Israel gains air superiority as a bi-product.

Sources: Clodfelter (2005), Coles (2006), Pollack (2004)

War Name: Second Sino-Vietnamese
Decisive Battle: None
Years of Conflict: 1985-1987
Combatants: China, Vietnam
COW War ID: 208

Coding Decision: Air Parity

Narrative:
Aircraft were not used in combat. This war consisted of sporadic artillery fire and infantry raids. It has even been called a 'phony war' (Clodfelter, 2005 p. 627).

Sources: Clodfelter (2005)

War Name: Six Day War I, II, III
Decisive Battle: Golan Heights (Israel-Syria), Samaria (Isreal-Jordan), Sinai (Israel-Egypt)
Years of Conflict: 1967
Combatants: Egypt, Jordan, Israel, Syria
COW War ID: 169

Coding Decision: Air Superiority – Israel

Narrative:
Pollack (2005) notes that in the first day of the war, Israeli airstrikes eliminated nearly ¾ of Egyptian aircraft before turning to destroy roughly half of the Syrian air force –including nearly all of its most advanced fighters –and 18 of Jordan's 24 Hawker Hunters. This effectively gave Israel control of the skies over all three fronts by the end of the first day's fighting (p.474). Pollack (2004) notes that though Egyptian air force continued to operate throughout the war, they suffered heavy losses (42 aircraft) in areal engagements while downing only 6 Israeli fighters and did little to hamper Israeli ground or air operations (74-75). Pollack (2005), however, suggests that Israeli air-superiority played a limited role in deciding the outcome of the crucial ground operations, which occurred while the IAF was busy eliminating air opposition.

Sources: Pollack (2005), Pollack (2004),

War Name: War of Attrition
Decisive Battle: Various Raids (Assume entire span)
Years of Conflict: 1969-1970
Combatants: Egypt, Israel
COW War ID: 172

Coding Decision: Air Superiority – Israel

Narrative:
Khalidi (1973) notes that within six weeks of the outset, Egyptian positions along the Suez canal had been stripped of any air defense by the activities of the IAF –special credit is given to the arrival of new F-4E fighter aircraft in the Israeli inventory (p.65). Egyptian fighters largely avoided confrontation with the IAF despite the beginning of a large scale IAF bombing campaign of 2,700 sorties against targets far inside Egypt (p.67). Though Israel held air superiority over the canal zone, Russian intervention made it dangerous for Israel to continue deep strike operations into territory patrolled by Russian forces by the summer of 1970. As such, Israeli forces were never able to fully eliminate the threat of Egyptian air force (Khalidi; 1973 p.68). Pollack (2004 p. 93-97) suggests, however, that the Egyptian air force was unable to do much to hinder Israeli air operations.

Sources: Pollack (2004), Khalidi (1973)

War Name: Yom Kippur I
Decisive Battle: Contained Offensive (Oct 14)
Years of Conflict: 1973
Combatants: Egypt, Israel
COW War ID: 181

Coding Decision: Air Superiority – Israel

Narrative:
Handel (1977) and Rodman (2016) suggest that, while the IAF suffered significant losses to ground defenses in the fighting prior to the Oct 14 contained offensive, that the IAF nevertheless ruled the skies –shooting down 275-300 Egyptian and Syrian fighters for a cost of 15-20 IAF fighters. IAF forces were similarly decimated when attempting to attack targets far behind enemy lines, suffering 105-110 lost aircraft to Syrian and Egyptian air defenses (Rodman; 2016 p. 78). However, no Arab plane successfully struck Israeli territory (Handel, 1977, p. 490), while the IAF carried out 7,300 close air support and interdiction sorties throughout the war and provided major CAS, working as "flying artillery" in the opening days despite participating in simultaneous counter air and SEAD operations (Rodman, 2016 p. 78).

Sources: Handel (1977), Rodman (2016)

War Name: Yom Kippur II
Decisive Battle: Southern Golan
Years of Conflict: 1973
Combatants: Israel, Syria
COW War ID: 181

Coding Decision: Air Superiority – Israel

Narrative:
By Oct. 17, Israeli ground units had raided Egyptian air-defenses along the Suez Canal opening safe air corridors for operations deeper within Egypt (Rodman; 2016 p. 78) giving Israel clear air superiority over Egyptian forces during the second phase of the war. In addition, Israel bombed Syria at will (Rabinovich, 2007 265-8; Pollack p. 108, 123-125). Pollack's discussion of the war points to the same conclusion (see especially pages 108, 123-5), proving Israeli air superiority during the battles along the Southern Golan.

Sources: Pollack (2004), Rabinovich (2007), Rodman (2016)

War Name: War Over Lebanon
Decisive Battle: Peace of Galilee campaign
Years of Conflict: 1982
Combatants: Israel, Syria
COW War ID: 205

Coding Decision: Air Superiority – Israel

Narrative:
It is worth noting that Syria joined Lebanon in this war and that Syria lost approximately 80 aircraft while Israel lost 0. Olsen notes that Syrian air defenses were fully negated by IAF attacks using standoff television-guided weapons by the sixth day of the war. Syrian air forces scrambled to defend the air defense network during this time and sixty-five of the seventy aircraft committed were shot down for zero IAF losses (Olsen, 2010 p. 151). The destruction of Syrian air defenses and the accompanying loss of aircraft demonstrate Israeli air-superiority in the Peace of Galilee campaign.

Sources: Olsen (2010)

War Name: Iran-Iraq War
Decisive Battle: Fao Peninsula, Apr 17, 1988
Years of Conflict: 1980-1988
Combatants: Iran, Iraq
COW War ID: 199

Coding Decision: Air Parity
Secondary coding: Air Superiority – Iraq

Narrative:
Neither air force conducted significant strategic bombing or close air support operations. The Iranians prevailed in air-to-air combat early on, but then basically ran out of planes and parts, giving the Iraqis more room to operate in the air. Still Iraq did little in the air throughout the war. Clodfelter (page 588) notes that each side's air force struck the other in the first few weeks of the war, and the rest of the narrative indicates that each side's air planes often attacked the other side. Bergquist (1988) also states that most air actions were light, probing attacks, carried out by only a few aircraft and that they seem to have served a primary deterrent role, in deterring enemy air attacks on both sides against vulnerable oil infrastructure (p. 47), and that both sides discontinued counter-air operations due to prohibitive losses and focused instead on bombing raids and battlefield interdiction early in the war (p.58-60). Kupersmith (1993) compares the role of air power in the Iran-Iraq war to that of aircraft in the first world war; "Always present, but never decisive. (p. 21)" Most sources indicate that by the time of the Fao campaign in April of 1988, that Iraqi air forces held an advantage, though that advantage was not decisive.

Sources: Bergquist (1988), Clodfelter (2005), Kupersmith (1993)

War Name: Vietnam War I
Decisive Battle: Tet Offensive Jan-Sept. 1968
Years of Conflict: 1975
Combatants: North Vietnam, United States, South Vietnam
COW War ID: 748

Coding Decision: Air Superiority – United States, South Vietnam

Narrative:
While the U.S. Air Force was poorly prepared for the war in Vietnam, and suffered significant losses from ground fire, the North Vietnamese Air Force posed little threat to U.S. operations. Kries (1988) indicates that no American bases came under air attack through the course of the war (p. 279). NVAF aircraft were used in a purely defensive role conceding air superiority over the South to U.S. forces while contesting airspace over the North. In 1966, NVAF fighters saw success in harassing U.S. operations (Kries 1988, p. 279), though only 3% of U.S. aircraft losses came due to enemy aircraft action (p. 287). By April of 1967 (well before Tet), U.S. air forces were concentrated on destroying NVAF, destroying 21 fighters on the ground 61 in the air, and forcing North Vietnam to suspend air operations. Further, by this time, the U.S. had developed a number of new weapons and tactics to overcome static air defenses (Kries 1988, 288). By March 1968, only 7 Mig-21's and 6 MiG-17's are thought to have remained in North Vietnam to contest the *Rolling Thunder* bombing raids (p. 289).

Sources: Kries (1988)

War Name: Vietnam War II
Decisive Battle: Xuan Loc, April 9-21
Years of Conflict: 1975
Combatants: North Vietnam, South Vietnam
COW War ID: 163

Coding Decision: Air Parity

Narrative:
North Vietnam did not use many aircraft in their attack on the south. South Vietnam did not use many either. They expected the US to help them. The US only gave South Vietnam a small number of aircraft and no advanced aircraft to help combat SAMs as the US expected to offer air support in the event of an attack. Clodfelter (page 695) writes: "On April 28, in the first and only Communist air strike of the war in the south, 5 captured A-37s bombed Tan Son Nhut, destroying 3 AC-119 gunships and 4 C-47s." The conclusion we draw is that air power did not play a significant role in 1975.

Sources: Clodfelter (2005)

War Name: Vietnam Cambodia Border War
Decisive Battle: Vietnamese Offensive, Dec 1978 - Jan 1979
Years of Conflict: 1976-1979
Combatants: Cambodia, Vietnam
COW War ID: 189

Coding Decision: Air Superiority - Vietnam

Narrative:
Cambodia had neither a significant air force nor significant SAMs. When Vietnam invaded, A-37 aircraft were used extensively (Clodfelter, 2005 p. 626-627). Vietnam employed a number of captured F-5's and A-37's as well as a squadron of MiG-21's during this offensive. Cambodia possessed a number of MiG-19's but had no trained pilots to fly them (Pribbenow, 2006 p.464-464). KR air force divisions were apparently pressed into service as infantry (470). Vietnam appears to have used air strikes regularly, and destroyed Cambodian airbases in the few events that Cambodian aircraft took to the air (p. 472).

Sources: Clodfelter (2005), Pribbenow (2006)

War Name: First Sino-Vietnamese
Decisive Battle: Lang Son Campaign
Years of Conflict: 1979
Combatants: China, Vietnam
COW War ID: 193

Coding Decision: Air Parity

Narrative:
Aircraft were not used in combat operations. Clodfelter states "No air-to-air combat took place, but the 700 Chinese aircraft deployed along the border with Vietnam carried out 500 supply and recon sorties in the first week of the war." (page 627) Zhang (2005) notes that neither side was willing to commit their air forces to combat operations (p. 873).

Sources: Clodfelter (2005), Zhang (2005)

War Name: Uganda-Tanzania
Decisive Battle: Battle for Entebbe, Apr 1979
Years of Conflict: 1979
Combatants: Libya, Ugnada, Tanzania
COW War ID: 190

Coding Decision: Air Superiority – Tanzania

Narrative:
By the end of January, "Amin's air force of 26 combat planes had been reduced to 8 by the fighting since October, and it offered little resistance" (Clodfelter, page 567). In early April, "The Tanzanian and rebel Ugandans then closed in on the capital at Kampala and, after a series of heavy air and artillery barrages…" (Clodfelter, page 567). Assistance from the Libyan air force was minimal and ineffective (Pollack 368-374). Anecdotal evidence published in magazines at the time suggests that the Ugandan air force largely disintegrated. Further promised Libyan fighter aircraft could not reach Ugandan airfields due to fuel limitations (Cooper & Fontanellaz 2015). This seems consistent with the Pollack and Clodfelter descriptions and may explain Pollack's noted puzzlement at why, what should have been overwhelming Libyan air superiority, on paper, never materialized.

Sources: Clodfelter (2004), Pollack (2002), Cooper & Fontanellaz (2015)

War Name: Football War
Decisive Battle: Nueva Ocotepeque (July 14)
Years of Conflict: 1969
Combatants: Honduras, El Salvador
COW War ID: 175

Coding Decision: Air Parity
Secondary Coding: Air Superiority - Honduras

Narrative:
Both governments expected a military confrontation and purchased World War II vintage fighters from private sellers. Notably, the football war was the last war to use piston-engine fighters and saw the last dogfights between them. On July 14, 1969, El Salvador's Air Force began striking targets in Honduras, starting with the international airport in the capital city, Tegucigalpa, with hand-dropped bombs from the door of a C-47 cargo aircraft (Hickman, 2017). The war was very short (100 hours), and it is difficult to judge that either side achieved air superiority. On the one hand, the Honduran air force shot down three Salvadoran fighters (Clodfelter, 640) and damaged part of a Salvadoran oil refinery (Cable 1969). On the other hand, Honduras did not extensively bomb El Salvador or its army in Honduras. Honduras had the superior record in the air, but there is little evidence that it effected the course of the war.

Sources: Cable (1969), Clodfelter (2005), Hickman (1017)

War Name: First Kashmir War
Decisive Battle: Naushera, Feb 6
Years of Conflict: 1947-1948
Combatants: India, Pakistan
COW War ID: 147

Coding Decision: Air Parity
Secondary coding Air Superiority - India

Narrative:
Clodfelter (page 597) only references air power once and that is for India stopping a Pakistani attack. This may suggest air superiority for India, but overall it seems that air power was barely used in the conflict. Indeed, neither side had much of an air force, though India's was larger (Subramaniam, pages 114-116). Nawaz (2008) suggests that India held air supremacy over Kashmir and like Clodfelter notes that Indian air forces were instrumental in at least one battle (p. 141), notes Indian air force attacks against Pakistani cities (p. 129) and that the Pakistani air force played almost no role in the fighting (p. 151). However, poor weather often hampered Indian air forces (Nawaz, 2008 p. 145).

Sources: Clodfelter (2005), Nawaz (2008), Subramaniam (2004)

War Name: Indo-Chinese War
Decisive Battle: Naushera, Feb 6
Years of Conflict: 1962
Combatants: China, India
COW War ID: 160

Coding Decision: Air Parity

Narrative:
Clodfelter says nothing about air power being used in this war. Subramaniam indicates that India did not use air power (see pages 224-229 and 256-258). Similarly, there is no indication of China using air power to bomb India. Devereux (2009) states that the war is notable for the lack of airpower and that India would not commit its air force for fear that China would retaliate in kind, possibly against civilian centers (79-80).

Sources: Clodfelter (2005), Devereux (2009), Subramaniam (2004)

War Name: Second Kashmir War
Decisive Battle: Sialkot
Years of Conflict: 1965
Combatants: India, Pakistan
COW War ID: 166

Coding Decision: Air Parity

Narrative:
Clodfelter's narrative indicates that aircraft were used but were a minor part of the war (see especially his summary on page 600). Subramaniam's narrative also suggests that air parity was present (see pages 303 and 332). Ganguly (1990) states that an Indian quantitative advantage in aircraft was largely offset by a Pakistani qualitative advantage (p. 78-79) such that both air forces were able to employ aircraft effectively in support of ground operations throughout the course of the war (p. 90).

Sources: Clodfelter (2005), Ganguly (1990), Subramaniam (2004)

War Name: War for Bangladesh
Decisive Battle: Operation Windfall (Central Eastern Front)
Years of Conflict: 1971
Combatants: India, Pakistan
COW War ID: 178

Coding Decision: Air Superiority – India

Narrative:
India had a superior air force and achieved air superiority (see Subramaniam, page 352 and 374; and Clodfelter). Gill (2003) concurs with Clodfelter. The Pakistani air force had ceased to operate effectively on the Eastern front by the second day of fighting and thereafter India held air superiority (p. 143).

Sources: Clodfelter (2005), Gill (2003), Subramaniam (2004)

War Name: Falklands War
Decisive Battle: East Falkland Island June 11-14
Years of Conflict: 1982
Combatants: Argentina, United Kingdom
COW War ID: 202

Coding Decision: Air Superiority – United Kingdom

Narrative:
Olsen notes that the U.K. enjoyed unhampered use of the sky throughout most of the war due to Argentine aircraft operating at the extent of their range. However, Argentina attempted to conserved its air forces for surge attacks against isolated targets such as was the case in the sinking of the HMS *Sheffield* on May 4 by Argentine fighters and during the British amphibious landing at San Carlos on May 21 where Argentina committed most of its remaining air forces. However, these efforts expended the Argentine air assets (Olsen, 2010 p. 159). By the battle of Stanley (June 11-14), Argentine air forces were depleted and had become irrelevant while British Sea Harriers and Vulkan bombers continued to operate (p. 161).

Sources: Olsen (2010)

War Name: Ifni War
Decisive Battle: Spanish-French Offensive, February-April 1958
Years of Conflict: 1957
Combatants: France, Morocco, Spain
COW War ID: 158

Coding Decision: Air Superiority –France, Spain

Narrative:
No mention can be found of Moroccan aircraft deployed in the fighting. Clodfelter does mention Franco-Spanish airstrikes (552). Morocco had no air force until 1956. What little anecdotal evidence can be found suggests that Morocco owned no combat aircraft (only a few WWII era transports and liaison aircraft) by 1957.

Sources: Clodfelter (2005)

War Name: Off-Shore Islands War
Decisive Battle: PRC landing on Yijiangshan
Years of Conflict: 1954-1955
Combatants: China, Taiwan
COW War ID: 153

Coding Decision: Air Superiority – China

Narrative:
China had air superiority for 54-55 battles (See Clodfelter page 631). Li (1990), states that Chinese forces held air and see dominance over Yijiangshan island at the time of the PRC landings (p. 52).

Sources: Clodfelter (2005), Li (1990)

War Name: Aouzou Strip War
Decisive Battle: Battle of Aouzou
Years of Conflict: 1986-1987
Combatants: Libya, Chad
COW War ID: 207

Coding Decision: Air Parity
Secondary Coding: Air Superiority -Libya

Narrative:
Subramaniam (2004) notes that Libya's greatest advantage at Aouzou was Tripoli's ability to conduct incessant airstrikes. He notes that the attacks rarely caused any real casualties, but were frightening to the troops and imposed crucial delays and disrupted Chadian combat ability as units had to repeatedly disperse for cover and then regroup to move or fight (p. 396). However, he further notes that the key to Chadian advances after the battle of Aouzou would be a clandestine ground operation to neutralize the Libyan airbase at Maatan as-Sarrah (p. 396) during the 1987 battle of Aouzou. Libya clearly held air superiority at the beginning of the battle, per Pollack, but Chad's commando strike against the airbase at Maatan as-Sarrah destroyed two squadrons of fighters (26 fighters) and neutralizing the airbase. The end of the battle appears to be an interesting case of air-parity won through smart ground operations. France quickly stepped in to put an end to the fighting after this battle, so it is difficult to say how decisive the raid would ultimately have been.

Sources: Pollack (2004), Subramaniam (2004)

War Name: Second Taiwan Straits Crisis
Decisive Battle: Battle of Dongding/Tagntia Island*
Years of Conflict: 1958
Combatants: China, Taiwan
COW War ID: 159

Coding Decision: Air Superiority – Taiwan

Narrative:
GH say there were no battles over land and so they do not code an outcome. Edmonds & Tsai (2003) indicate that Taiwan held air superiority over all islands during the 1958 crisis and possessed the ability to strike China's frontline airbases (p. 37, 45). From August 1958 through October 1958, at least seven major air engagements took place between Chinese and Taiwanese forces. During the fighting, the PLAAF lost roughly 30 aircraft in air-to-air combat while the Taiwanese forces lost only one (p. 37).

* Grauer and Horowitz code no decisive battle, but the landing action at Dongding Island meets their criteria

Sources: Edmonds & Tsai (2003)

War Name: Gulf War
Decisive Battle: Operation Desert Storm
Years of Conflict: 1991
Combatants: Iraq, United Kingdom, United States
COW War ID: 211

Coding Decision: Air Superiority – United Kingdom, United States

Narrative:
The 100-hour ground campaign to liberate Kuwait –the only ground fighting in this conflict –was proceeded by 39 days of coalition airstrikes against Iraqi ground forces. Olsen notes that this air campaign, consisting of 110,000 sorties, which delivered 90,000 tons of ordinance to targets in Ira1 and Kuwait, had decided the outcome of the ground war before it began (Olsen 2010, p. 177). Further, by U.S. government estimates, the Iraqi air defense system was largely neutralized during the first night of airstrikes, and a number of Iraqi airfields were simultaneously rendered inoperable. With few exceptions, Iraqi aircraft did not take to the skies after the first week of fighting (p. 184-185). Coalition forces clearly held air superiority prior to the beginning of ground operations.

Sources: Olsen (2010)

War Name: Nagorno-Karabakh War
Decisive Battle: Azeri December 1993 Offensive
Years of Conflict: 1992-1994
Combatants: Armenia, Azerbaijan
COW War ID: 872

Coding Decision: Air Parity

Narrative:
Armenia's air force was almost non-existent, but they did have SAMs. Azerbaijan hired mercenary pilots from Ukraine and Russia. Armenian SAMs, however, limited the influence of Azerbaijan's air force. Indeed, Clodfelter does not even mention air power in this war. Tom Cooper (2003) notes that Azerbaijan did attempt to use its numerically superior air force against Armenia, but that the Azeri aircraft suffered major losses to Armenian ground-based air defenses. It would seem that Armenian air-defenses were able to prohibitively interfere in Azeri air operations throughout the conflict. Air parity seems to be the proper coding.

Sources: Clotfelter (2004), Cooper (2003)

War Name: Badme War
Decisive Battle: May 2000 Offensive
Years of Conflict: 1998-2001
Combatants: Eritrea, Ethiopia
COW War ID: 219

Coding Decision: Air Superiority – Ethiopia

Narrative:
At the outbreak of hostilities, both Eritrea and Ethiopia possessed a small number of older fighter aircraft, but received advanced fighters during the course of the war –imported from Russia in both cases (MiG-29's on the Eritrean side and Su-27's on the Ethiopian side). By the end of 1999, Ethiopian Su-27's had downed all but two Eritrean MiG-29's which were grounded (Cooper & Fontanellaz, 2018, p. 62-63). From this point, Ethiopian air forces carried out air-strikes unmolested, harassing Ethiopian troop concentrations and destroying air-defense and infrastructure. By the May, 2000 Ethiopian offensive, Ethiopia had clearly achieved air superiority (Copper & Fontanellaz 2018; Dias, 2008, p. 101-102), and the offensive was preceded by two days of unopposed Ethiopian airstrikes against Eritrean strong points (Copper & Fontanellaz, 2018, p. 64). However, the overall impact of air power on the outcome of fighting is debated, as Ethiopia's victory in the May battles is said to have resulted primarily from well executed ground maneuvers and favorable terrain (Dias, 2008, p. 103-104).

Sources: Cooper & Fontanellaz (2018), Dias (2008)

War Name: Kargill War
Decisive Battle: Tololing, June 12-13
Years of Conflict: 1999
Combatants: Eritrea, Ethiopia
COW War ID: 223

Coding Decision: Air Superiority – India

Narrative:
Pakistani ground-based air defenses scored a handful of kills against Indian aircraft early in the conflict, but were largely ineffective after India mounted flare-dispensers on its aircraft. Further, Pakistani aircraft declined to engage. No air-to-air combat took place. Indian aircraft operated unhindered in the close air support and strike roles throughout the conflict, carrying out 1,730 fighter sorties (Lambeth, 2012 p. 5-6). Clodfelter concurs with the idea of Indian air supremacy (p. 610).

Sources: Clodfelter (2005), Lambeth (2012)

War Name: Kosovo War
Decisive Battle:
Years of Conflict: 1999
Combatants:
COW War ID: 221

Coding Decision: Air Superiority – NATO Coalition

Narrative:
Olsen notes that Serbian fighter aircraft did little to hamper coalition forces with only one squadron of MiG-29's even engaging in combat, and with all but one of the scrambled fighters lost to NATO forces and the remaining fighters destroyed on the ground (Olsen, 2010 p. 232). Serbian air defenses –especially man-portable surface to air missiles –remained a threat to NATO aircraft throughout the campaign and downed a small number of NATO aircraft, but there is no indication that this seriously hampered air operations (p. 234).

Sources: Olsen (2010)

War Name: Invasion of Afghanistan
Decisive Battle: Operation Anaconda
Years of Conflict: 2001
Combatants: Afghanistan, United Kingdom, United States
COW War ID: 225

Coding Decision: Air Superiority – U.S. Coalition

Narrative:
Robert Pape provides an excellent summary of the lopsided balance of air forces in this conflict. "The United States won the 2001 war in Afghanistan by imitating and updating the blueprint it had tested in Bosnia, combining precision air power with ground attacks by local troops. Once again the tactic proved devastating. The Taliban's front lines collapsed within days of first being battered from the air and on the ground, opening the way for the Northern Alliance to quickly overrun Mazar-i-Sharif and Kabul. Since the Taliban had virtually no air power and meager air defenses, U.S. air supremacy was assured before the first bomb fell. The first month of bombing, October 2001, thus focused on command-and control facilities and other leadership targets (Pape; 2004 p. 126)."

Sources: Pape (2004)

War Name: Iraq War
Decisive Battle: Operation Anaconda
Years of Conflict: 2003
Combatants: Australia, Iraq, United Kingdom, United States
COW War ID: 227

Coding Decision: Air Superiority – U.S. Coalition

Narrative:
During the 2003 invasion of Iraq, no Iraqi aircraft are thought to have taken to the air (Meilinger; 2016 p. 49). Further, coalition air forces delivered between 20,000 and 30,000 munitions against Iraqi ground targets (Conetta; 2003 p. 3, Dudney; 2003 p.39). This indicates a clear ability for coalition air forces to operate unhindered.

Sources: Conetta (2003), Dudney (2003), Meilinger (2016)

War Name: War over Angola
Decisive Battle: Operation Anaconda
Years of Conflict: 1975-1976
Combatants: Angola, Cuba, Democratic Republic of Congo, South Africa
COW War ID: 186

Coding Decision: Air Parity

Narrative:
Clodfelter, page 565-6, indicates that Cuba won but he does not mention anything about air power. Warwick (2012) notes that air operations in this conflict involved logistical support and reconnaissance, but that the only air combat operations were one or two inconsequential Cuban attacks on South African forces and one failed South African air attack (p. 368). This seems to indicate air parity.

Sources: Clodfelter (2005), Warwick (2012)

War Name: Cenepa Valley War
Decisive Battle: Operation Anaconda
Years of Conflict: 1995
Combatants: Ecuador, Peru
COW War ID: 217

Coding Decision: Air Superiority – Ecuador

Narrative:
Spencer (1998) provides a detailed account of the conduct of this war. Both sides employed helicopter and fixed-wing aircraft for ground attack and air-to-air combat during the fighting. 3 Peruvian fighters were shot down during the Tiwintza battles in air-to-air combat without destroying any Ecuadoran aircraft (Spencer; 1998 p134-146). Spencer notes that a combination of advanced aircraft and air-defenses gave Ecuador local air superiority over the Cenepa Valley during the Tiwintza battle (p. 146). Close air support (primarily from rotary aircraft) appears to have been decisive in several engagements.

Sources: Spencer (1998)

War Name: Iraqi Invasion of Kuwait
Decisive Battle: Aug 2 Offensive
Years of Conflict: 1990
Combatants: Iraq, Kuwait
COW War ID: 211

Coding Decision: Air Superiority – Iraq

Narrative:
According to Cooper and Sadik (2007), the Kuwaiti airforce offered little resistance during the two days of the invasion. Most Kuwaiti aircraft fled into neighboring Saudi Arabia from which they would participate in the 1991 liberation of Kuwait as squadrons of the Free Kuwaiti Airforce. Iraq employed several squadrons of fighter-bombers to strike targets in and around Kuwait City.

Sources: Cooper & Sadik (2007)

War Name: War of the Communist Coalition
Decisive Battle: Late March Offensives
Years of Conflict: 1970-1971
Combatants: Cambodia, North Vietnam, United States, South Vietnam
COW War ID: 176

Coding Decision: Air Superiority – U.S., South Vietnam, Cambodia

Narrative:
The United States dropped 2.7 million tons of ordinance on Communist targets (North Vietnamese as well as Cambodian rebels) in Cambodia between 1965-1973 as part of the regional conflict surrounding the Vietnam War, and held air superiority over the region during this time (Owen & Kiernan, 2007 p. 2).

Sources: Owen & Kiernan (2007)

War Name: Sino Japanese War
Decisive Battle: Battle of Beijing
Years of Conflict: 1937
Combatants: China, Japan
COW War ID: 130

Coding Decision: Air Superiority – Japan

Narrative:
Harmsen (2015) notes that by mid-November (a month prior to the ground battle of Beijing) that Chinese aircraft had been largely wiped from the sky over Beijing (p. 5-6).

Sources: Hamsen (2015)

War of Bosnia Independence of 1992

War Name: Bosnian War of Independence
Decisive Battle: Battle of Beijing
Years of Conflict: 1992
Combatants: Bosnia, Croatia, Yugoslavia
COW War ID: 215

Coding Decision: Air Parity

Narrative:
NATO's Operation Deny Flight effectively grounds fighter aircraft of all sides (Beale, 1997p.19-30).

Sources: Beale (1997)

War Name: Congo War
Decisive Battle: Contained rebel offensive near Kinshasa
Years of Conflict: 1998
Combatants: Angola, Congo, Rwanda, Uganda, Zimbabwe
COW War ID: Intra-State # 908

Coding Decision: Air Parity
Secondary Coding: Air Superiority -Congo and Angola

Narrative:

Clotfelter states that forces allied to the government were instrumental in checking the rebel offensive on Kinshasa (p 570), thus this battle should be coded a victory for Congo and allies. Angola and Zimbabwe seem to be the principle combatants on the side of the Congo, while Rwanda and Uganda are the principal combatants on the other side of the conflict (International Crisis Group, 2000 p. 40-65).
Angolan air forces are said to provide the Congo and allies a decisive advantage in containing the offensive of rebel Rwandan and Ugandan forces near Kinshasa (International Crisis Group, 2000 p. 4, 54).

Sources: Clodfelter (2005), International Crisis Group (200)

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