

**THE HAVOC — HISTORY IS A SYMPHONY OF DIFFERENT MELODIES . . .**

WORLDWARRII COMMEMORATION

# THE ATOMIC BOMBING OF JAPAN & THE END OF THE WAR



THURSDAY, 20 AUGUST 2020 @ 1800-1900 CDT  
VIA TWITCH.TV @HISTORYKID

PRESENTED BY: **THE KID**

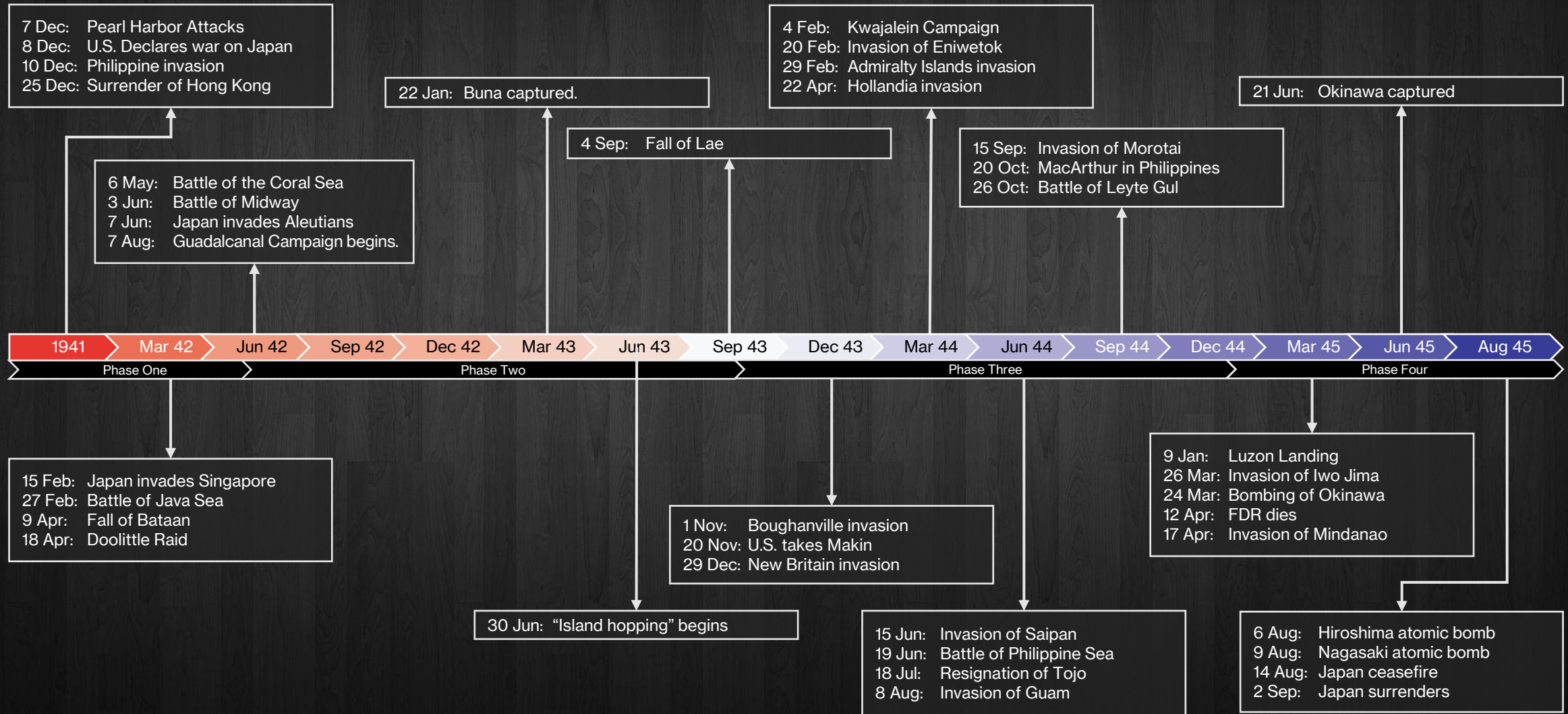
@HISTORYKID

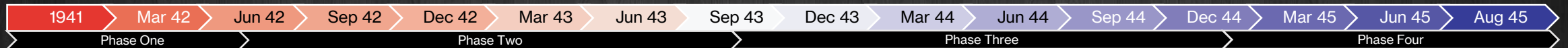
WWW.MELODICHAVOC.COM

facebook/MELODICHAVOC

tumblr.@MELODICHAVOC

## PACIFIC THEATER TIMELINE

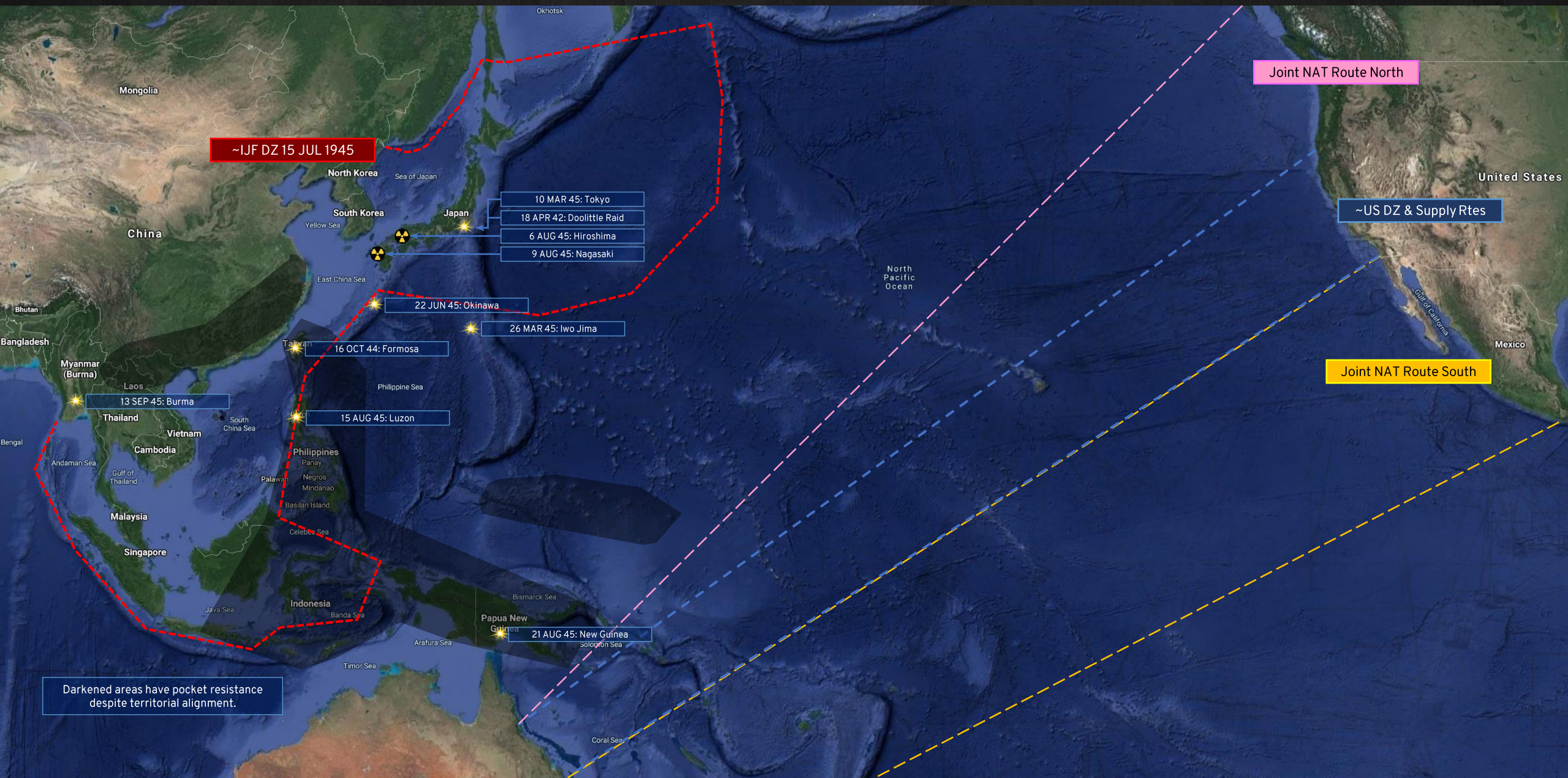




- 1 From 7 December 1941, until June 1942, the Japanese successfully attacked the Pacific Fleet's base at Pearl Harbor, took Wake Island and Guam, invaded and conquered the Philippines, Hong Kong, Malaya, and seized the British base of Singapore. They conquered Burma, thereby cutting off China from all overland routes to the western allies, and seized the Netherlands East Indies and British Borneo, thereby securing a much-needed source of oil. The Japanese advance came to a halt with the American victories at the Battle of the Coral Sea (May 1942) and the Battle of Midway (June 1942).
- 2 The second phase was one of a relative stalemate. From June 1942 until late 1943, neither side could muster the land, sea or air power required to take the offensive and seize the initiative from each other. The Battle of Guadalcanal (August 1942 – February 1943) is a good example of this stalemate.
- 3 The third phase from mid 1943 to September of 1944, can be characterized as the period of Allied offensives. Two drives were under American control; General MacArthur's Southwest Pacific campaign and Admiral Nimitz's Central Pacific campaign. MacArthur's drive was a series of Army amphibious operations up the Solomon Island chain and along the northern coast of New Guinea, with the Philippine Islands as the ultimate objective. Nimitz's strategy was designed to move directly towards Japan and draw the Imperial Navy into a decisive fleet engagement such as the Battles of the Philippine Sea (June 1944) and Leyte Gulf (October 1944). MacArthur's and Nimitz's campaigns merged into one for the invasion of the Philippines. Afterwards, the Central Pacific campaign continued with the invasions of Iwo Jima and Okinawa.
- 4 During the later stages of the war, the Army Air Force, operating from the Mariana Islands and flying the B-29 Superfortress, had begun to firebomb the cities of Japan. These raids culminated and precluded the dropping of the atomic bombs at Hiroshima (6 August 1945) and Nagasaki (9 August 1945). Japan surrendered to the Allies on 2 September 1945.



# THE PACIFIC SITUATION: 1944-1945

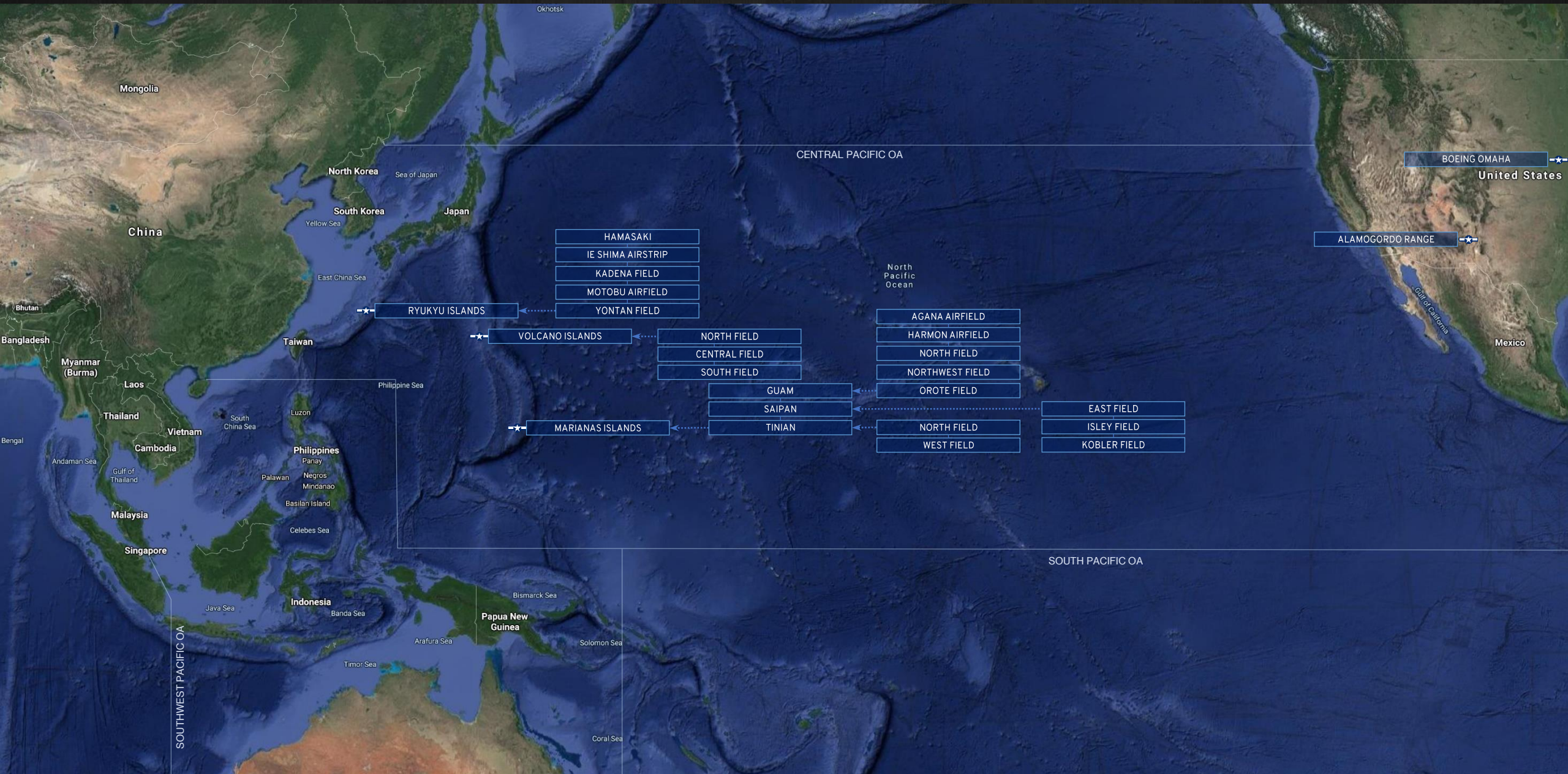






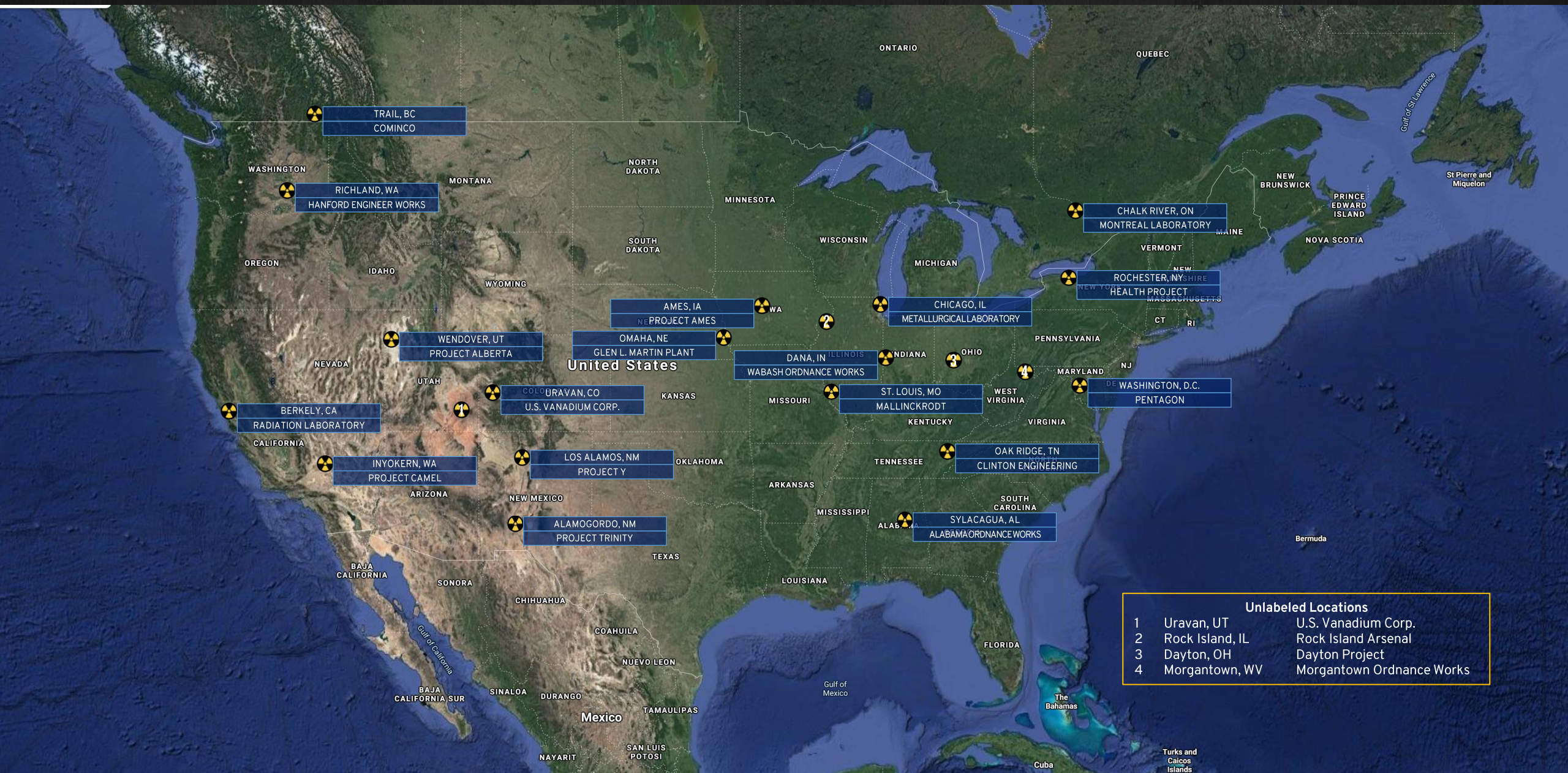


# KEY INSTALLATIONS INVOLVED WITH LATE-STAGE PACIFIC THEATER OPERATIONS





# (22) NORTHCOM LOCATIONS WITH CONNECTIONS TO THE MANHATTAN PROJECT





## IT BEGINS IN GERMANY...

BEFORE EUROPE ENTERS THE WAR (1938 – 1939)

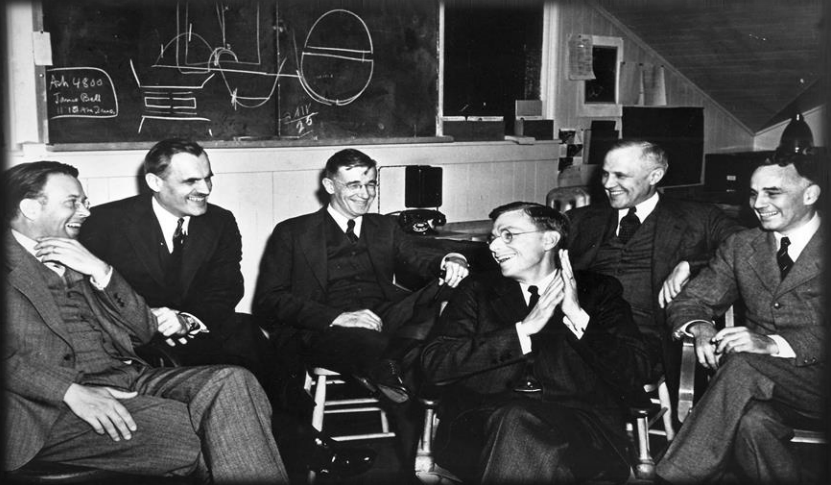
- Radiation had first been detected in 1895. (Wilhelm Röntgen)
- Discovered in Nazi Germany in 1938. (Meitner, Hahn, and Strassmann)
- Albert Einstein writes a memo to FDR urging him to fund research.
  - He is concerned about Nazi Germany's research into the theory.
  - Einstein had moved to the U.S. in 1933.
- Germany invades Poland the month following Einstein's letter.
  - By the end of 1939, the foundations had been laid for the Manhattan Project.



Albert Einstein received his U.S. citizenship in 1940, just a year after writing a plea to the U.S. government.



Meeting of the minds at Berkeley, California. These minds would go on to create the core of the think tank for the Manhattan Project.



- Mass exodus of scientists flee Germany ahead of the invasion in Poland.
- Scientists that remain in Germany are taken by *Third Reich*.
- Most scientists that fled do so by mid-1938.
- Greatest turnover happens from 1929-1935.
- Numerous scientists voluntarily vest in the Manhattan Project.





## THE U.S. OPTS TO BUILD A BOMB

### THE MANHATTAN PROJECT, 1942-1947



MG Groves, Jr. meeting with James Chadwick who was the head of the British Mission in 1945.

- Early international interests led to a multi-national cooperation.
  - The primary partner was the United Kingdom.
- Multiple sites were chosen to aid in the project for different reasons.
  - Reduced the risk of pilfering of research.
  - Allowed already existing installations & facilities to use natural talent.
  - Increased logistics costs but reduced overall construction costs.
- Los Alamos & Alamogordo were chosen due to their isolation.
  - Espionage prevention was the number one priority, but that didn't mean it was successful.

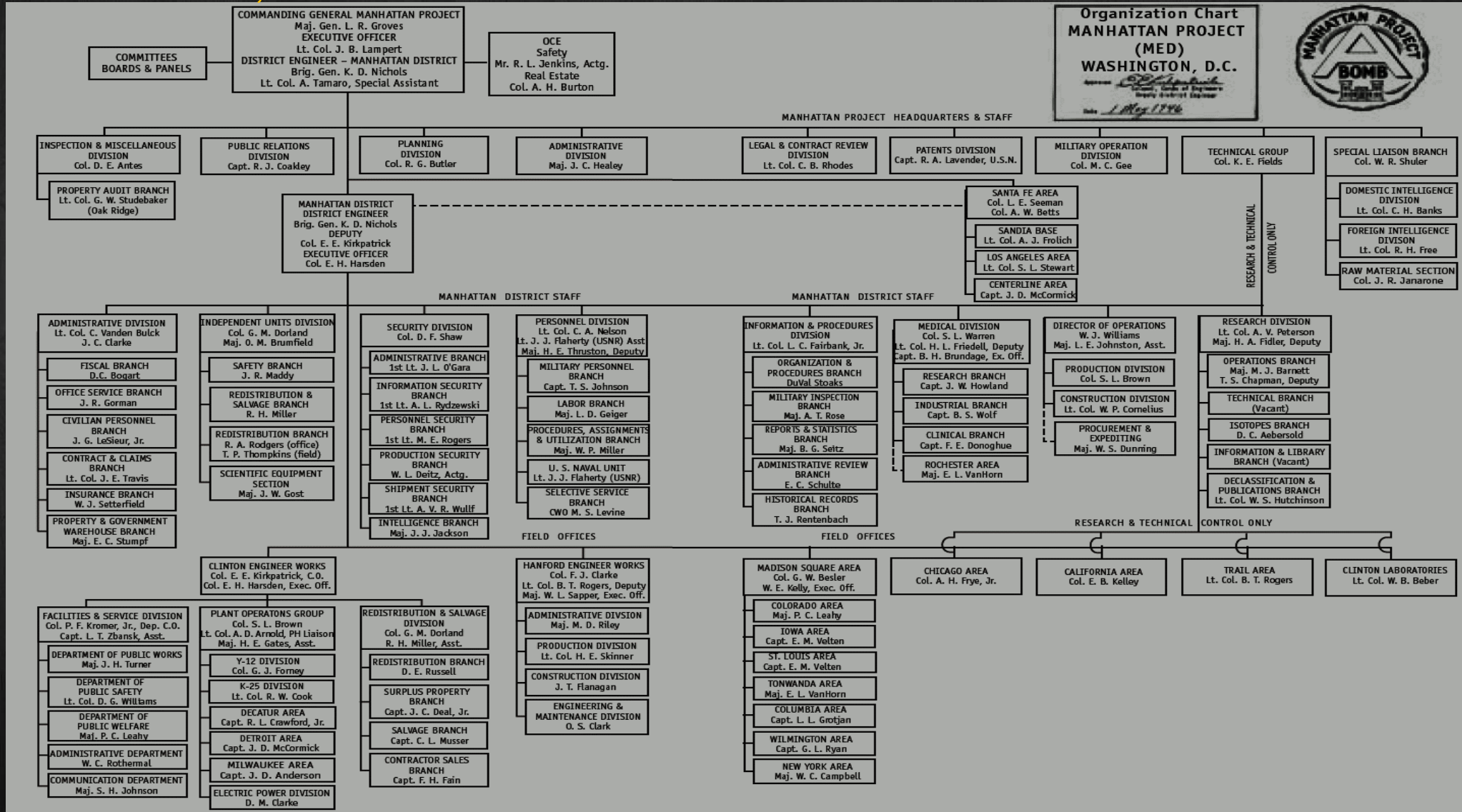






## THE U.S. OPTS TO BUILD A BOMB

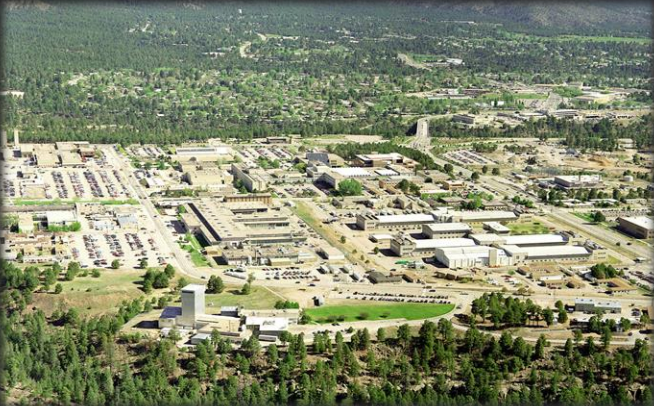
### THE MANHATTAN PROJECT, 1942-1947





## LOS ALAMOS & THE TRINITY SITE

### THE STAGE OF THE APOCALYPSE



Los Alamos Laboratory as it appeared in 1995 from the air. Surrounding area has also expanded.



Trinity Site as it appeared in 1945. Base Camp Trinity was abandoned after the testing concluded.



- The Los Alamos site was initially selected for its isolation from prying eyes.
- *Project Y* was the initial incarnation of the laboratory.
- Exclusively handled nuclear research.
- Facility was wide-spread over a large area.
- Remains in operation today.
- Located on the edge of White Sands Desert.
- Base Camp Trinity was more isolated than the Los Alamos Laboratory.
- The actual detonation sites were located about a mile away.
- The Alamogordo Bombing range had been acquired in 1942.
- The site was opened to the public in 1953 as a National Heritage Site.

Robert Oppenheimer (left), chief, presented with the Army-Navy E Award in 1943.





**16 JULY 1945****THE FIRST ARTIFICIAL SUNRISE OF 1945**

- Started with a conventional test on 7 May, with 100 tons of TNT.
- Final revisions came after this initial test.
- *Trinity* was detonated shortly before sunrise on 16 July.
  - Altitude: 100 feet
  - Yield: 22 kilotons (22,000 tons of TNT equivalent)
- B-29's were present as observation aircraft.
  - None of these were from the 509<sup>th</sup>.



The initial fireball and mushroom cloud shortly after detonation on the morning of 16 JUL 1945.



An image of "the gadget" before being hoisted up to the tower for its final test.



- The first atomic bomb was massive in size and called "the gadget."
- It used the same components as the *Fat Man* bomb.
- Hoisted into position on a 100-foot tower on 15 July.
- It was armed at 2200 hours local time in preparation for detonation.
- Its shape was for simplicity in design only.



## A WAY TO DELIVER A DEVICE

### THE PACIFIC THEATER EXCLUSIVE

- Boeing had first flown the prototype YB-49 in 1942.
- The plane was used exclusively in the Pacific Theater.
  - Disinformation campaign in Europe and a single frame in Britain were the exceptions.
- Was the only aircraft that would be capable of carrying heavy payloads.
  - The weight of an atomic payload exceeded the weight of any existing airframe.
  - Up to 22,000 lbs on the standard variant.
- Flew higher, farther, and faster than the B-17 that had been used.



B-29's rolling off the assembly line at Boeing's Wichita, Kansas assembly plant. in 1944.



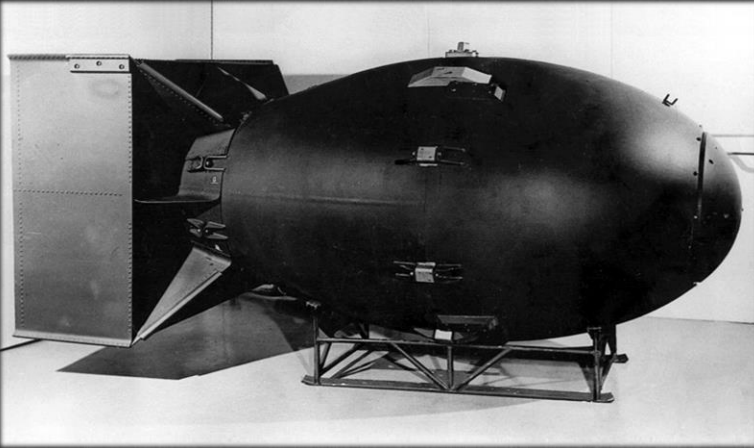
YB-29 prototypes in flight, sporting Olive-drab markings. Most production variants post-1944 were silver.



- Modified "Silverplate" (or Saddletree) aircraft were atomic capable.
- 82 total Saddletree aircraft were produced during and after the war.
- First aircraft were selected off the assembly line in Omaha.
  - Aircraft were selected by Tibbets exclusively for the Manhattan Project & the mission.
- Removed much of the guns and upgraded engines on the B-29.
- The basis for the B-50 update that followed in 1948.

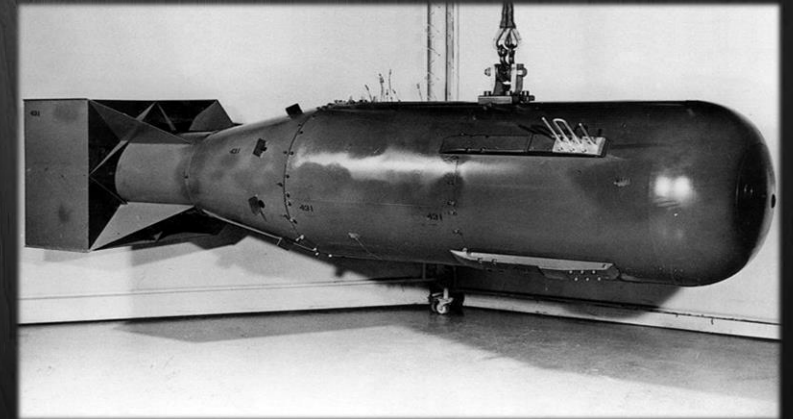
## FAT MAN & LITTLE BOY

### THE FIRST ATOMIC BOMBS 1945-1949



- *Fat Man* was Nagasaki device, and chosen for larger production.
- Rock Island Arsenal responsible for chassis and some components.
  - Chosen for manufacturing capabilities and output.
  - Had a history of handling secret U.S.-British collaborations since World War I.
- Weighed over 10,000 pounds assembled with a 21 KT standard yield.
- 120 were produced between 1945 and 1949 – retired in 1950.

- *Little Boy* was the Hiroshima device, and only retroactively produced.
- Its inefficient design was noted early on, and most plans were destroyed.
- Subsequent need for *Little Boy* developments led to 25 produced.
- Most bombs were to be in service of the U.S. Navy.
- Overflow resulted in none of the additional 25 being armed.





## JAPAN ON THE DEFENSIVE

### SURRENDER IS NOT AN OPTION

- Japan had largely been forced into a state of retreat.
- Massive losses mounting from loss of the Navy and dwindling air power.
- IJF surrender policy was non-existent due to Bushido.
- Emperor's favor of continuing the war began to waver by late 1944.
- By June 1945, territorial islands began to be invaded by the Americans.
  - Japanese home islands subject to fierce firebombing and air raids.



Aftermath of *MEETINGHOUSE* the firebombing of Tokyo, part of a series of firebombing campaigns on the home islands.



Map depicting Japan's dwindling influence in the Pacific Theater on 1 August 1945.



- By July 1945, Japan keyed in on four terms for their surrender.
  - These largely centered around the absolving of Hirohito.
  - Also included absolving of war crimes and international prosecution.
- By the same time, internal power struggles erupted in Japan.
  - Clash of power between the Emperor and the Shogunate legacy (IJF)
- Fire bombing in Japan had already begun to destroy entire cities.
- Citizen population was loyal to the Emperor but not necessarily in approval of continuing the war. (post-war lawsuits)



## REQUIREMENTS TO MEET FOR AN ATOMIC BOMBING TARGET

The target is more than 3 miles in diameter.

The target is a major city and manufacturing center.

A resulting blast would create effective damage in the target area.

The target was unlikely to be attacked prior to the month of August 1945.

Must have some sort of lasting impression by way of culture, strategic, military, or production to create psychological trauma.

THE FIRST TARGET IS TO BE STRUCK NO SOONER THAN  
3 AUGUST 1945

### Hiroshima

- Military headquarters
- Embarkation point
- Port city with industry

### Kokura / Kitakyushu

- Munitions depot
- Munitions storage
- Internal shipping control

### Nagasaki

- Major naval port
- Shipbuilding facilities
- Munitions depot

### Niigata

- Port city
- Industrial facilities (Steel/Aluminum)
- Oil refinery

### Yokohama

- Aircraft manufacturing
- Oil refineries
- Materiel distribution/manufacturing

### Kyoto

- Manufacturing center
- Cultural center
- Intellectual center

Kyoto is struck from the list on 30 May.  
Nagasaki is added to the list on 25 July.





## NORTH FIELD, TINIAN ISLAND

OVERSEEN BY TWENTIETH AIR FORCE, XXI BOMBER COMMAND

- Being in the Marianas, Tinian was originally occupied by Japan until 1944.
  - It also previously was an asset of Spain then Germany up until 1914.
- Japan established Ushi Point Airfield in 1939.
- Americans take Tinian on 24 July 1944 – launched via Saipan.
- Construction of North Field began immediately upon American victory.
- North field was to operate exclusively as a B-29 installation.
  - Four main runways and 265 B-29 handstands made up the crux of the installation.

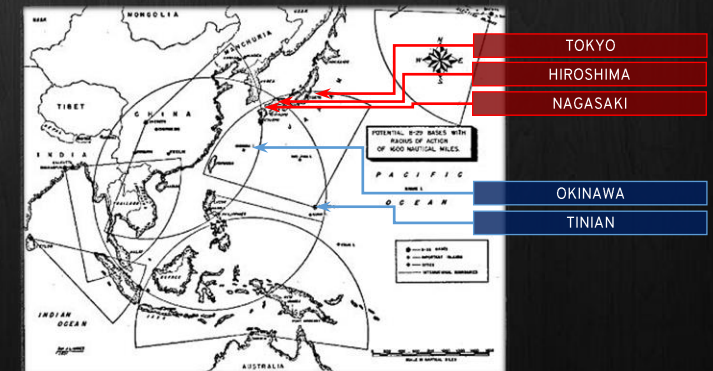
✓ A modern-day view of what used to be North Field.  
Tinian's main air hub is situated further south. (West Field)



B-29's stationed at a newly completed North Field. These B-29's were all involved in the Atomic Bombings of Japan.

- ~1,500 miles from Kyushu & the remainder of the Japanese home islands.
- Ideal operational range for the B-29 was at ~1,620 miles for safe return.

Bases on mainland China narrowly put Kyushu in range, and installations near Leyte and Luzon also had narrow reach. However, Tinian put Kyushu, and the rest of Honshu in range, and even included striking ability for B-29's to hit Tokyo, making it a strategic point behind the front in the Ryukyu chain. The push for the end of the war, therefore, comes from the Marianas, not the Ryukyu chain.





## ON THE EVE OF DESTRUCTION

### AMERICA URGES A SURRENDER



“...we cannot promise that only these cities will be among those attacked ...” Leaflets dropped over cities in Japan.

- Potsdam Conference on 26 July 1945 established surrender terms.
- Disarmament, territorial consolidation and occupation among the terms.
- Prosecution for elements that poised Japan on an imperial mission.
- Required an unconditional surrender and capitulation of Japanese forces.
- Unilateral agreements of Soviet involvement in war by September.
  - “We have a powerful new weapon...” – Harry S. Truman to Joseph Stalin

- The U.S. had been dropping leaflets on Japanese cities for months.
  - Urged citizens to flee cities at risk to their lives.
  - Generally, citizenry heeded the warnings.
  - The magnitude of the atomic bomb was never communicated in the leaflets.
- Increased Japanese population resistance was ineffective against IJF.
- Truman agreed to notify the UK (and Canada) for deployment.
- “The target must be a military one, and it must be a psychological attack.”



Leaders of the Allied Powers meet at Potsdam to determine the terms of surrender for Japan on 26 July 1945.







## ENOLA GAY & BOCKSCAR, FAT MAN & LITTLE BOY

### THE BRINK OF JAPANESE DESTRUCTION & THE PATH TO PEACE



Enola Gay immediately following her bomb run on Hiroshima.



Bockscar just before being put into storage in Dayton, Ohio. She did not have nose art the day of the bombing.



- Both B-29's were "Silverplate" / "Saddletree" modified designs explicitly for carrying a single atomic payload.
- Were never in the air alone, each atomic bomb mission consisted of a full formation operating in the airspace.

#### 6 AUGUST 1945

Straight Flush  
Jabit III  
Full House  
**Enola Gay**  
The Great Artiste  
Necessary Evil  
Top Secret

#### MISSION

WX Hiroshima  
WX Kokura  
WX Nagasaki  
**Deployment**  
Measurements  
Photography  
Strike PK Spare

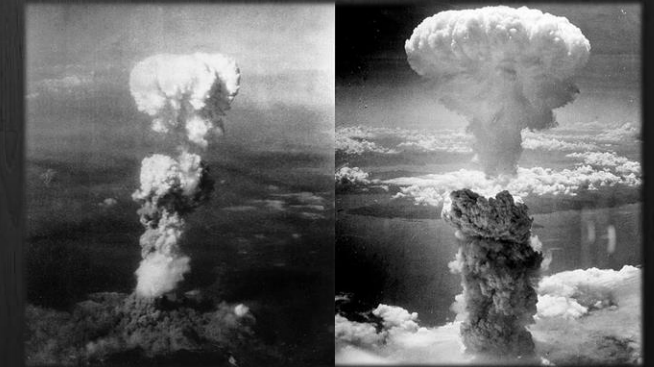
#### 9 AUGUST 1945

Enola Gay  
Laggin' Dragon  
**Bockscar**  
The Great Artiste  
Big Stink  
Full House

#### MISSION

WX Kokura  
WX Nagasaki  
**Deployment**  
Measurements  
Photography  
Strike PK Spare

- Japanese anti-air defenses were close to the B-29's but still couldn't reach.
- Deployment altitude was just beyond Kokura defensive altitudes. (~2,500 feet)



After-blast of Hiroshima (left) and Nagasaki (right).







## 6 AUGUST 1945

### THE ATOMIC BOMBING OF HIROSHIMA

- Crew of the *Enola Gay* had been training with test bombs up to 5 August.
- Early radar in Japan detected bombers shortly after midnight.
- Multiple bombers traveled separate routes to the target area.
- *Enola Gay*, *Great Artiste*, and *Necessary Evil* rendezvous at Iwo Jima.
- *Straight Flush* called clear weather at 0609.



The crew of the *Enola Gay* ahead of the bombing in 1945, Tibbetts is at the center.



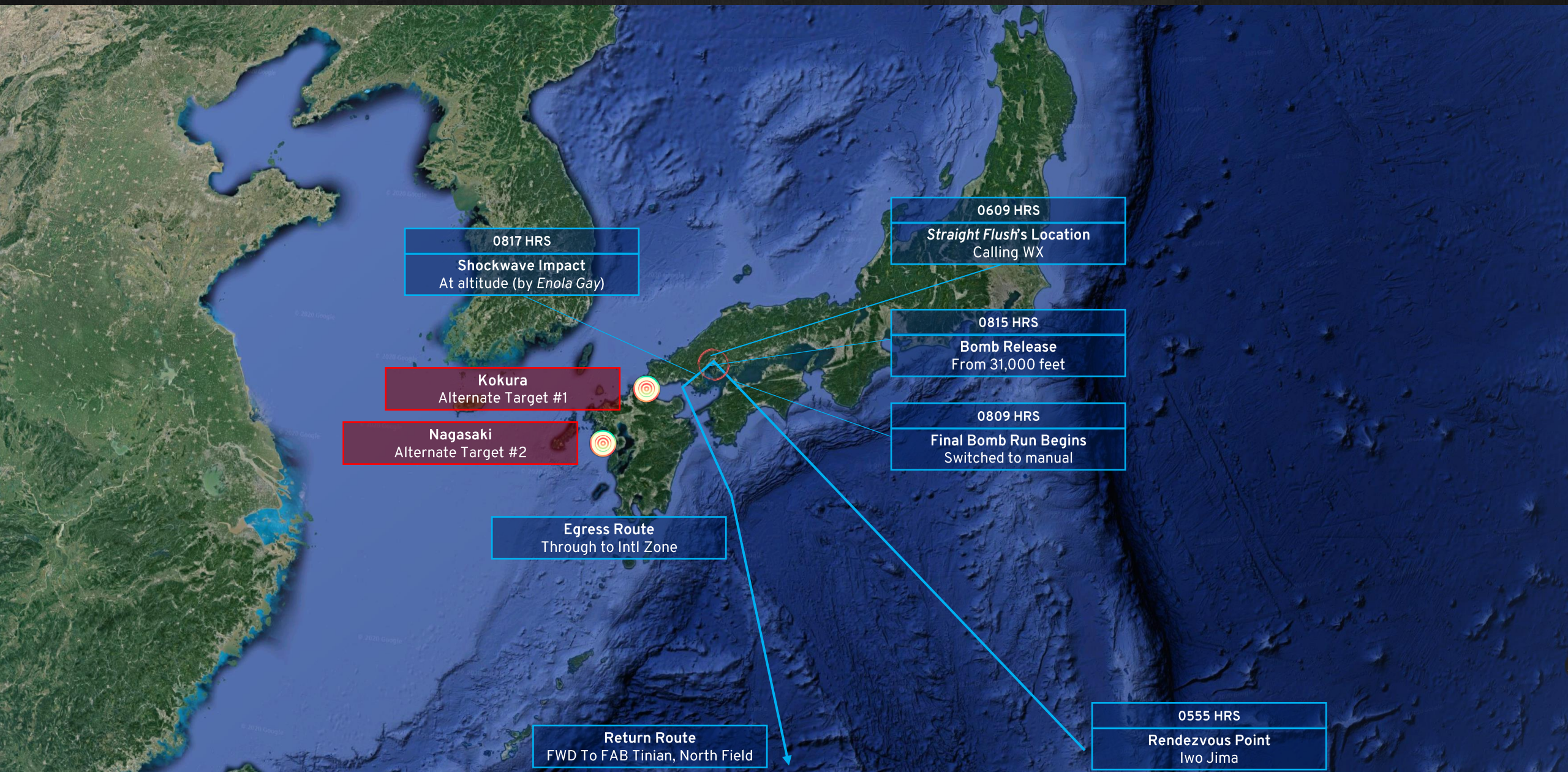
The aftermath of the atomic blast in Hiroshima, this was taken hours after the firestorm had ceased.

Paul W. Tibbetts  
Col. USAF  
Pilot, the Enola Gay



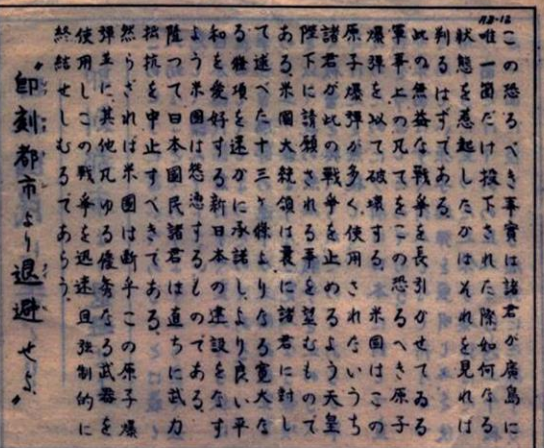
- Air raid sirens in Hiroshima during *Straight Flush*'s flyover.
- By 0709, all clear is sounded in Hiroshima.
- Bomb release occurs on schedule at 0815 with little harassment.
- Detonation 44 seconds after release 800 feet over Shima Surgical Clinic.
- Blast yield was ~16 kilotons.







- Truman announced the weapons use shortly thereafter.
- He issued a warning to Japan that further use of WMD's may follow.
- Warned of imminent land invasion of American forces on the home islands.
- Saipan radio urged civilians to evacuate large cities at risk to their lives.
- The Soviets unilaterally launched strikes on the Japanese in Manchuria.
- At 0402 hours on 9 AUG, Tokyo receives word of the Soviet war declaration.
- Japan was convinced that there could only be one or two bombs.
  - Officials opted to continue the war and weather the destruction.
- American crews dropped leaflets and broadcast radio signals into Japan to urge people to push on the Emperor and flee cities.
- Decision was made on 7 AUG to carry out second atomic strike on 9 AUG.
- Third bomb entered planning phases.





## 9 AUGUST 1945

### THE ATOMIC BOMBING OF NAGASAKI

- Crew of the *Bockscar* had been training with test bombs up to 8 August.
- Due to experience discrepancies, the crews were switched before flight.
- The strike package aircraft had mechanical problems preflight.
- Original date of 11 August moved up to the 9<sup>th</sup> to avoid week of bad weather.
- Bombing in nearby Yahata the night before led to poor visibility.



An airborne shot of ground zero in Nagasaki a few days after the bombing showing extent of damage.

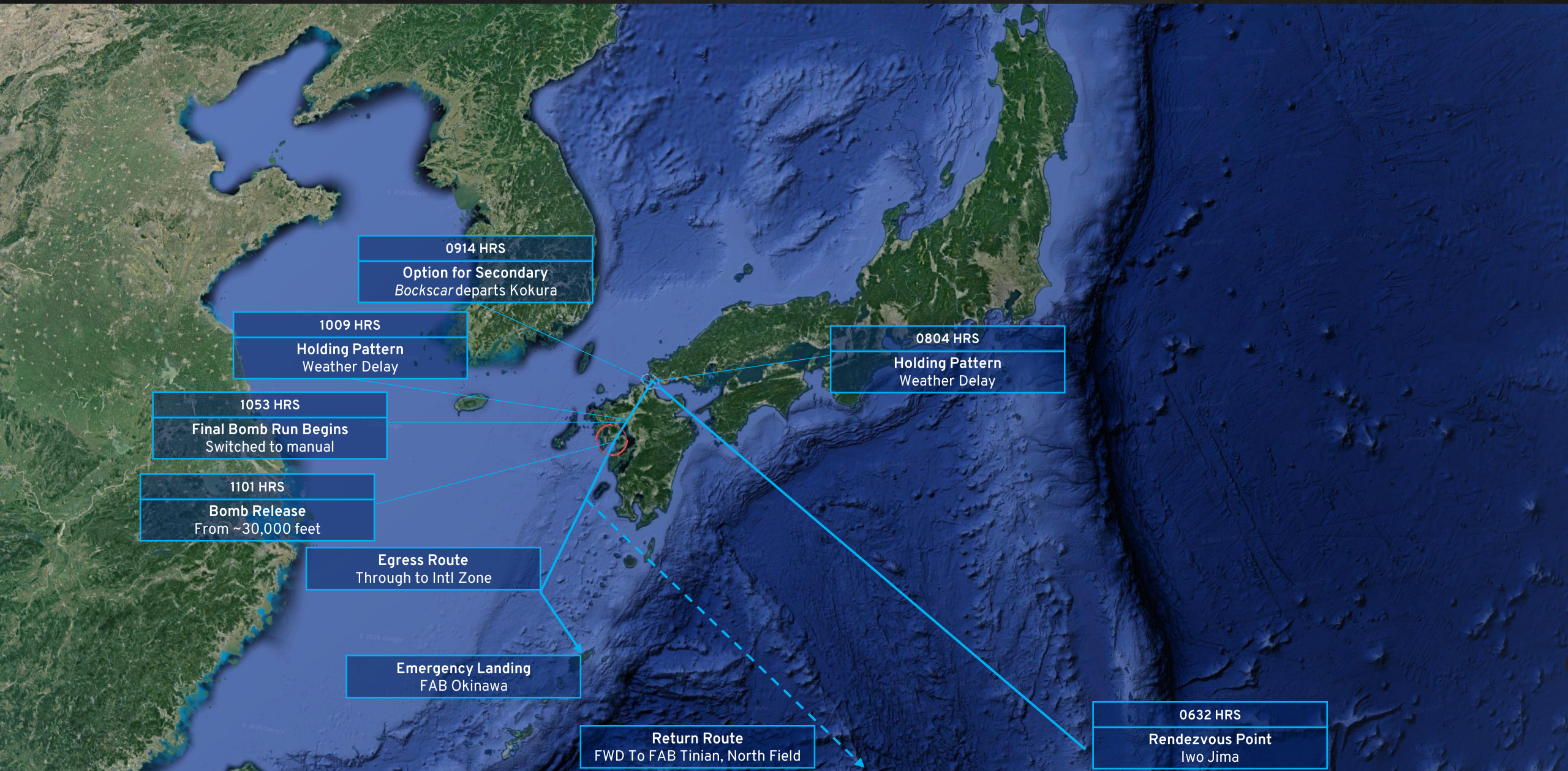


The *Bockscar* crew after the bombing, this crew was switched with crew of *The Great Artiste* for the bombing.



- Kokura mission was scrapped in favor of Nagasaki just after 0900.
- Holding pattern continued even above Nagasaki.
- Last minute break in the clouds allowed an 1101 drop time.
- 21 KT detonation occurred 47 seconds later 1,650 feet above a tennis court.
- Mechanical problems forced an emergency landing at Okinawa.

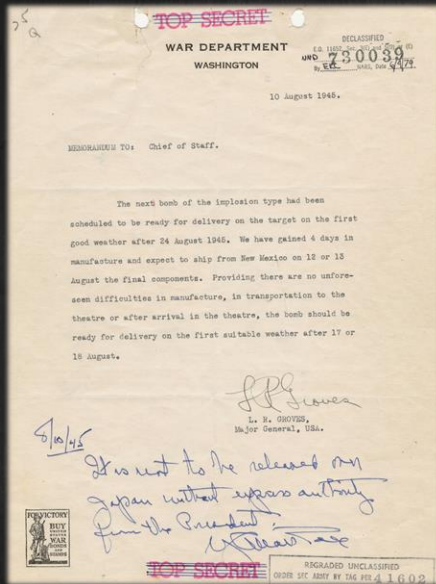






## JAPAN SURRENDERS

15 AUGUST 1945



*The next bomb of the implosion type has been scheduled to be ready for delivery on the target on the first good weather after 24 August 1945. We have gained 4 days in manufacture and expect to ship from New Mexico on 12 or 13 August the final components. Providing there are no unforeseen difficulties in manufacture, in transportation to the theatre or after arrival in the theatre, the bomb should be ready for delivery on the first suitable weather after 17 or 18 August.*

*L. R. Groves, MG, U.S. Army*

*It is not to be released on Japan without express authority from the President.*

*George Marshall*

- Japan was still uncertain of surrendering by late on 9 August.
- A series of failed coups ensued as the Emperor leaned towards surrender.
- Finally on 15 August, Japan formally surrendered over broadcast by Hirohito.

*Should we continue to fight, not only would it result in an ultimate collapse and obliteration of the Japanese nation, but also it would lead to the total extinction of human civilization. Such being the case, how are we to save the millions of our subjects, or to atone ourselves before the hallowed spirits of our imperial ancestors? This is the reason why we have ordered the acceptance of the provisions of the joint declaration of the powers.*

Members of the Allied forces celebrate the surrender and capitulation of Japan.





## THE FINAL INSTRUMENT OF SURRENDER

2 SEPTEMBER 1945

- Following Hirohito's declaration, Allied occupation began on 28 August.
- The formal surrender followed on 2 September.
- Full Japanese military detail was present for the surrender.
- Took place under the supervision of GEN Sutherland on the *Missouri*.
- Many high-ranking officials continued to resist surrender despite the ceremony.



Japanese foreign affairs minister signs the Japanese Instrument of Surrender aboard the *U.S.S. Missouri*.



A massive formation of American aircraft over Tokyo Harbor on 2 September 1945. These planes held formation during the ceremony.

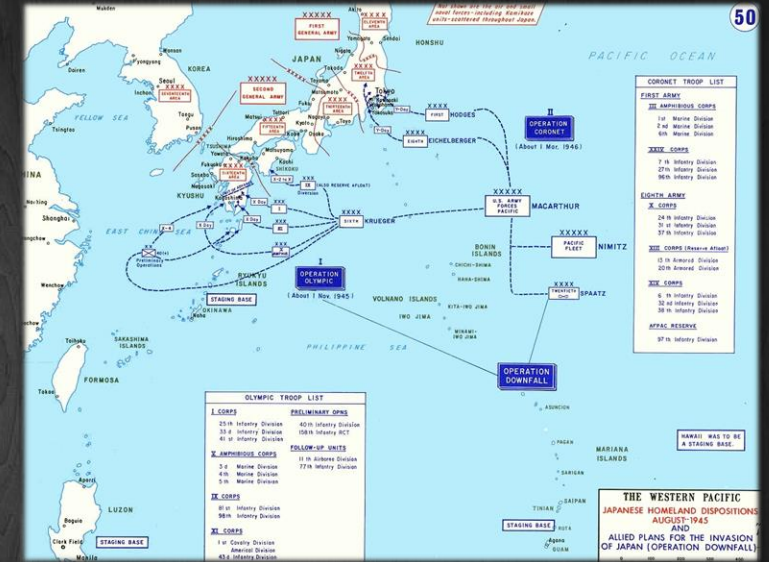


- Was a total and unconditional surrender.
- Fully adhered to the policies outlined in the Potsdam declaration.
- The Emperor was mostly absolved but to rule via SAC.
- Despite orders for entire surrender of forces, holdouts continued.
- Broad language was the source of contention for years.



## WHAT IF WE DIDN'T USE THE BOMB? THE OPERATION THAT (THANKFULLY) NEVER WAS...

- *Downfall* was planned to kick off with *Olympic* on 1 NOV 1945.
- Would have consisted of the largest mass of force ever seen
  - 42 aircraft carriers, across 4 fleets, plus 5 air forces in addition to an auxiliary British force.
  - 6,000,000 projected landing forces
- Primary *Olympic* attacks would strike airfields and depots in Kyushu.
- *Coronet* focused on Honshu and the planned invasion of Tokyo.
  - The Soviet Union was tasked with the assault on Hokkaido.
- Intel reported 2,500 aircraft in the IJAAF, a number that was erroneous.
  - Over 10,000 aircraft were inventoried at the time of surrender.



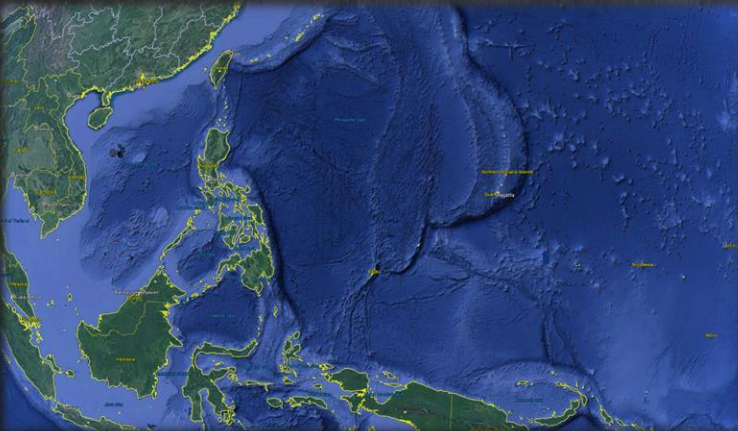
- Tactical nuclear strikes – up to seven – were authorized and planned for.
- The Allied Command assessed over 4,000,000 IJF warfighters in the region, plus accounted for an additional 31,000,000 count of civilian resistance.
- Total combatant engagement totals were estimated to be over 40,000,000 with a casualty rate of over 30% projected across all combatants.
- The operational planning was cancelled effective 15 August 1945 with the total surrender and capitulation of the Empire of Japan.



## POST-COMBAT OPERATIONS

2 SEPTEMBER 1945 - 1952

- Occupation of former Japanese territories continued thru 1952-1974.
- Okinawa was the last holding to be turned back over to Japan.
- The occupation of Japan's home islands ended in 1952.
- Surrender included disarmament with security guarantees which continue.
  - This includes the installations on Honshu (S) and Okinawa (Kadena).



- Korean War highlighted the strategic importance of Japan in defense.
- The Cold War provided an opportunity for Japan to shine as an ally.
- War criminals put on trial, but loss of documents led to release of many.
- American forces were asked to stay at the behest of the Japanese after the occupation concluded in various territories.

- Holdouts of Japanese forces continued into the 1970s.
  - LT Hiroo Onoda was discovered in 1974 and would only surrender to his superior officer.
  - PVT Teruo Nakamura was discovered later in 1974.
- Some unconfirmed reports indicated holdouts into the 1990s.





## WORLD WAR II BY THE NUMBERS

NATION	COMITTED	KIA	WOUNDED	CIVILIANS	T. KILLED	T. LOSS
Australia	1,000,000	26,976	180,864	10,000	36,976	217,840
Austria	800,000	280,000	350,117	125,000	405,000	750,117
Belgium	625,000	8,460	55,513	76,000	84,460	139,973
Brazil	40,344	943	4,222		943	5,165
Bulgaria	339,760	6,671	21,878	10,000	16,671	38,549
Canada	1,086,343	42,042	53,145		42,042	95,187
China	17,250,521	1,324,516	1,762,006	7,750,000	9,074,516	10,836,522
Czechoslovakia	6,683	8,017	294,000		8,017+	302,017+
Denmark		4,339		2,000	6,339	6,339+
Finland	500,000	79,047	50,000	2,000	81,047	131,047
France		201,568	400,000	350,000	551,568	951,568
Germany	20,000,000	3,250,000	7,250,000	1,600,000	4,850,000	12,100,000
Greece		17,024	47,290	325,000	342,024	389,314
Hungary		147,435	89,313	290,000	437,435	526,748
India	2,393,891	32,121	64,354	25,000	57,121	121,475
Italy	3,100,000	149,496	66,716	153,000	302,496	366,850
Japan	9,700,000	1,270,000	140,000	672,000	1,942,000	2,082,000
Netherlands	280,000	6,500	2,860	200,000	206,500	227,360
New Zealand	194,000	11,625	17,000		11,625	28,625
Norway	75,000	2,000		7,000	9,000	9,000+
Poland		664,000	530,000	5,680,000	6,334,000	6,864,000
Romania	650,000	350,000		200,000	550,000	550,000+
South Africa	410,056	2,473			2,473	2,473+
Soviet Union		6,115,000	14,012,000		6,115,000+	20,127,000+
United Kingdom	5,896,000	357,116	369,267	92,700	449,816	819,083
United States	16,112,566	291,557	670,846	6,000	297,557	968,403
Yugoslavia	3,741,000	305,000	425,000	1,200,000	1,505,000	1,930,000
<b>Total</b>	<b>84,201,164+</b>	<b>~14,953,926</b>	<b>~26,856,391</b>	<b>18,775,700+</b>	<b>33,729,626+</b>	<b>~60,586,017</b>



**THE HAVOC — HISTORY IS A SYMPHONY OF DIFFERENT MELODIES . . .**

WORLDWARII COMMEMORATION

## STRATEGIC BOMBING IN THE PACIFIC THEATER



THANK YOU FOR JOINING US...  
REMEMBER TO "LIKE" FOR MORE UPDATES!

PRESENTED BY: **THE KID**

@HISTORYKID

WWW.MELODICHAVOC.COM

facebook/MELODICHAVOC

tumblr.@MELODICHAVOC