

How the US Nuclear Weapons Modernization Program Is Increasing the Chances of Accidental Nuclear War with Russia

Co-sponsored by Harvard College Peace Action, Massachusetts Peace Action, and the Harvard Russian Speaker Association

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MIT
Science, Technology, and
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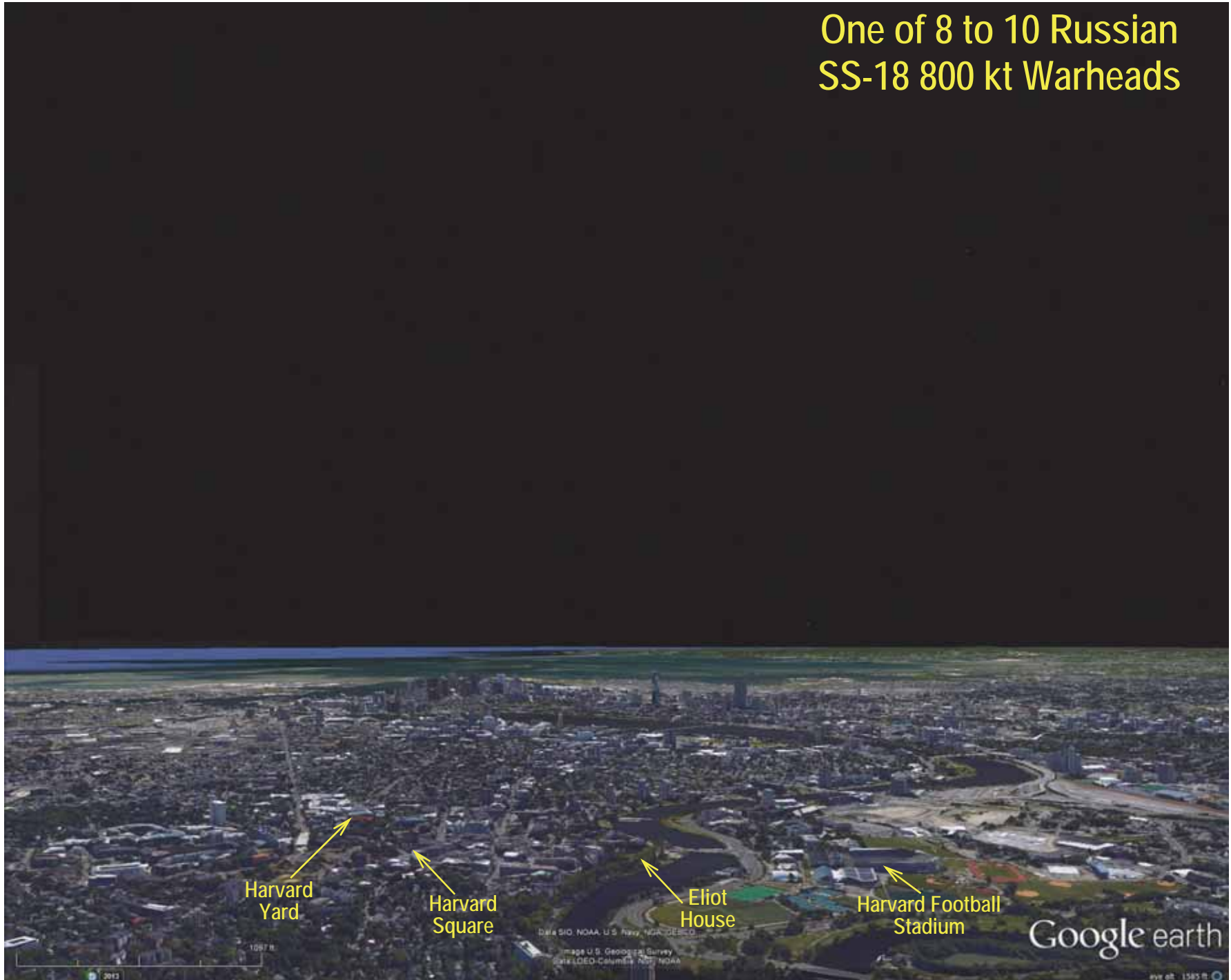
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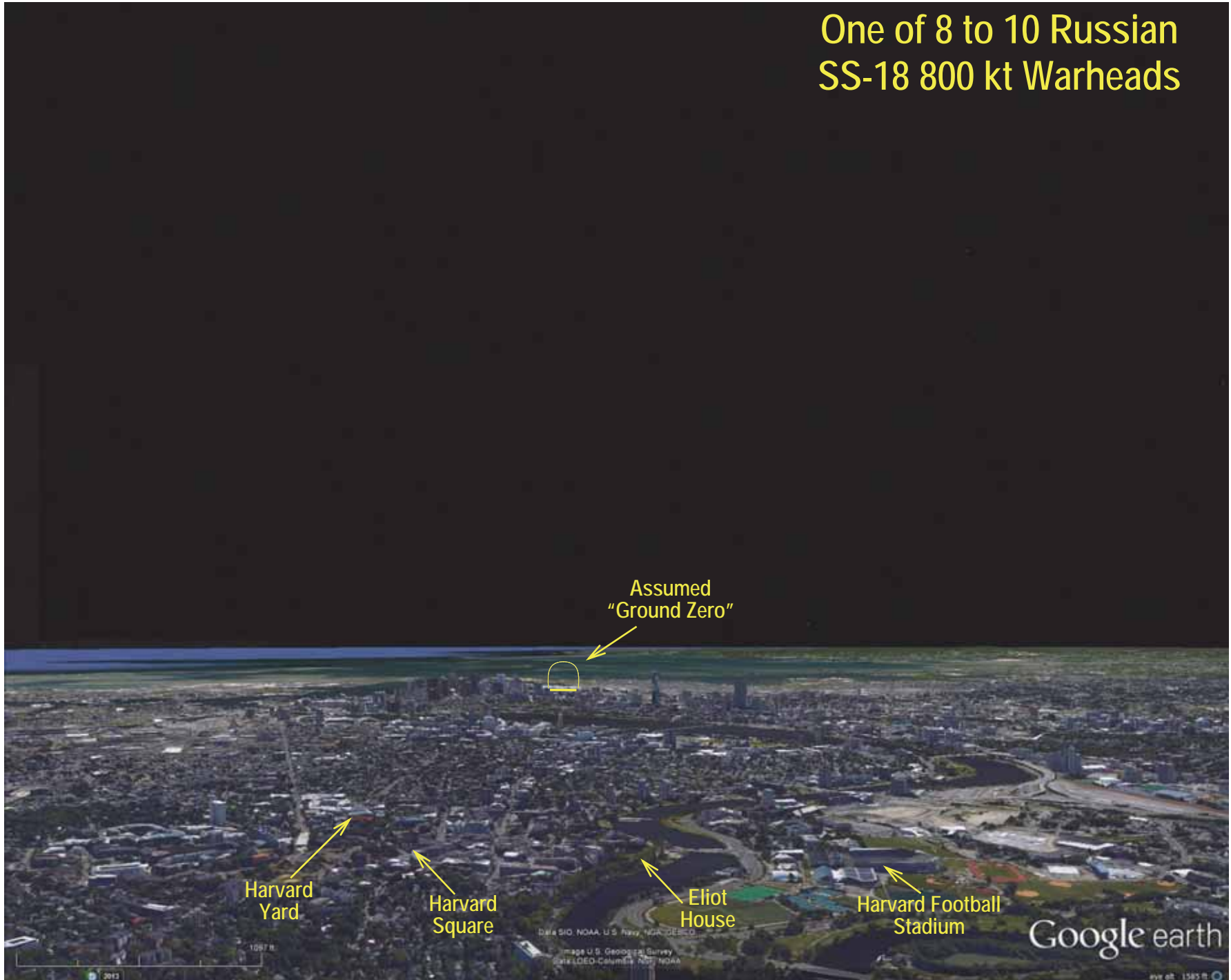
Boston Downtown Skyline Viewed from Nearly Above the Harvard University Campus

One of 8 to 10 Russian
SS-18 800 kt Warheads



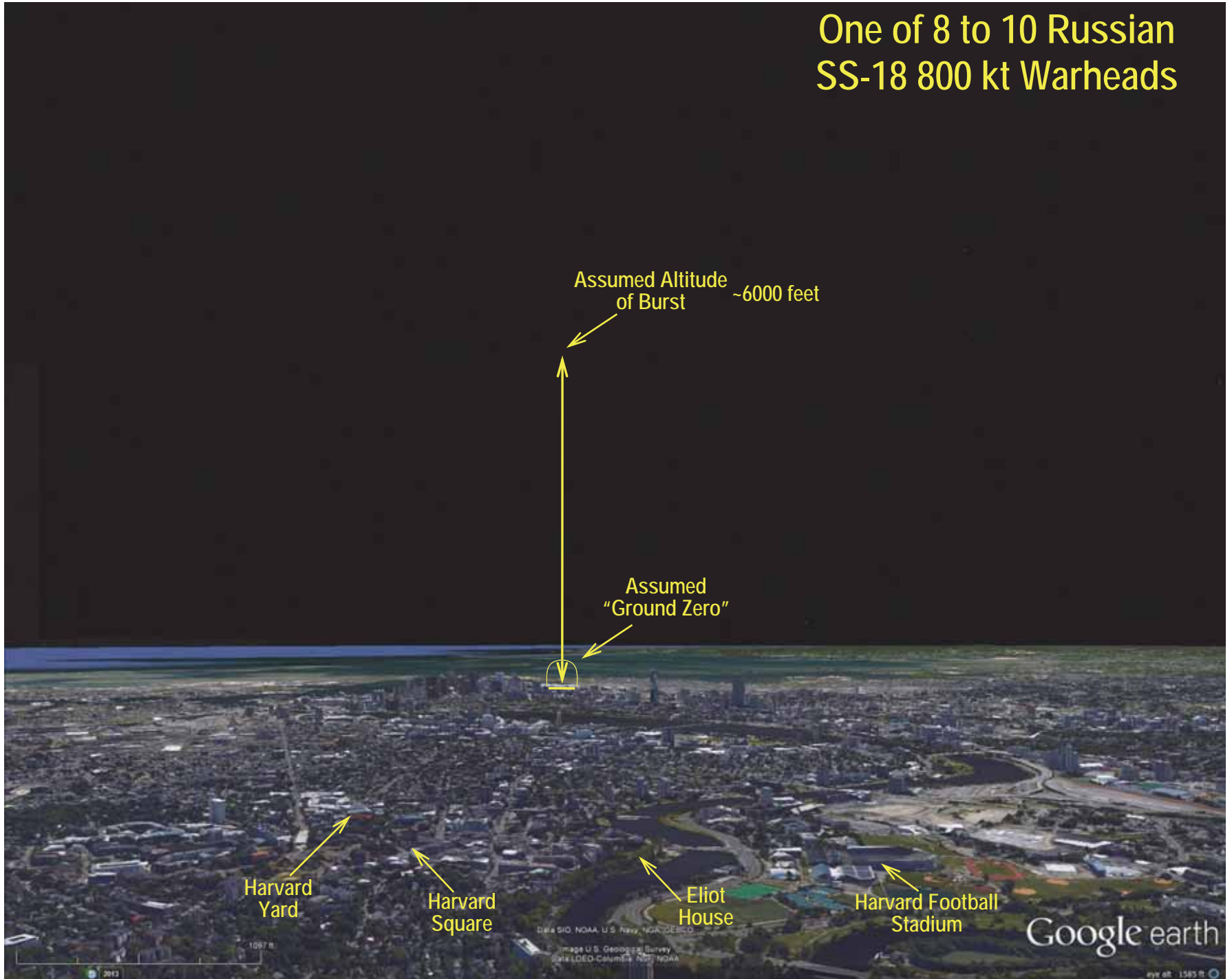
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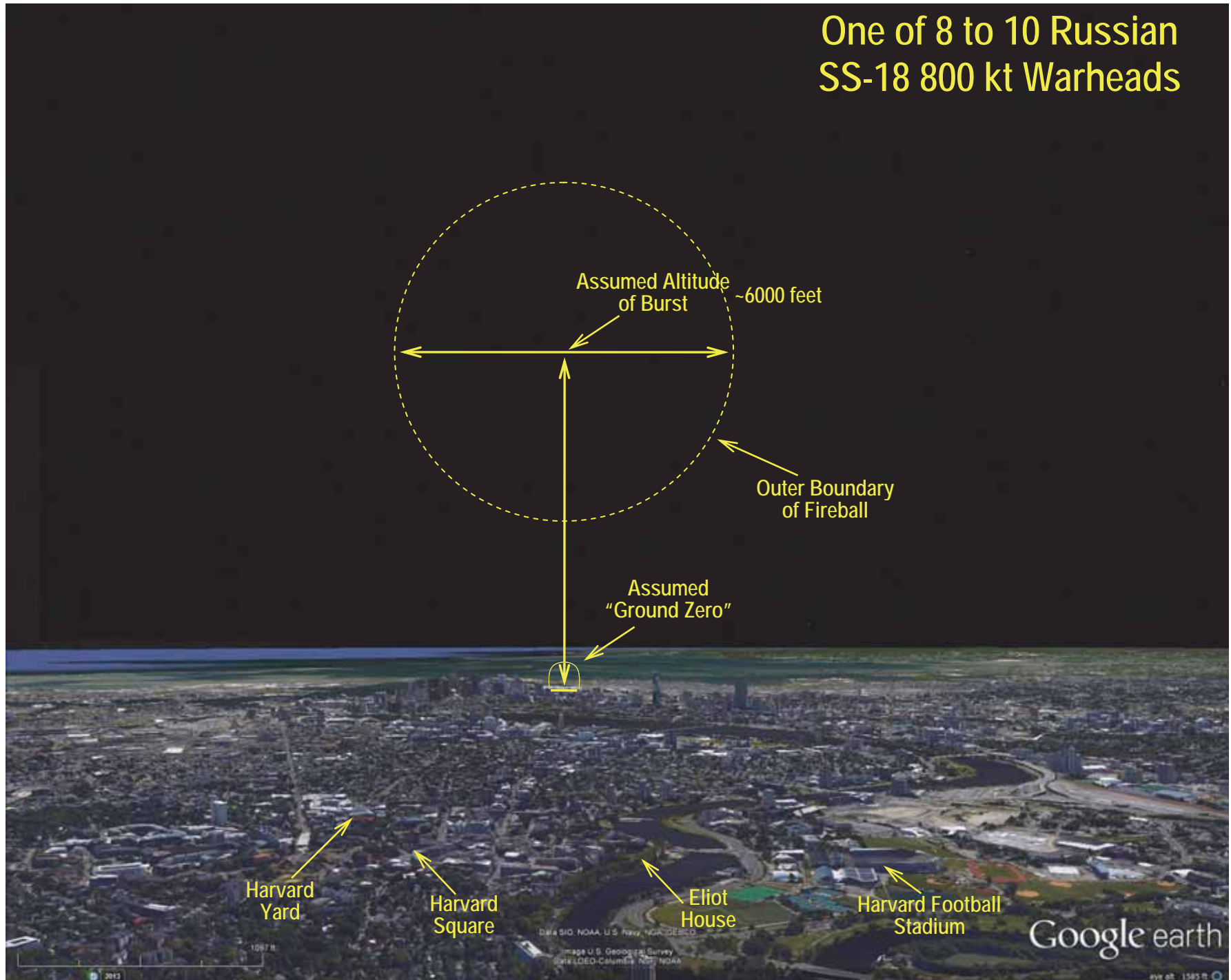
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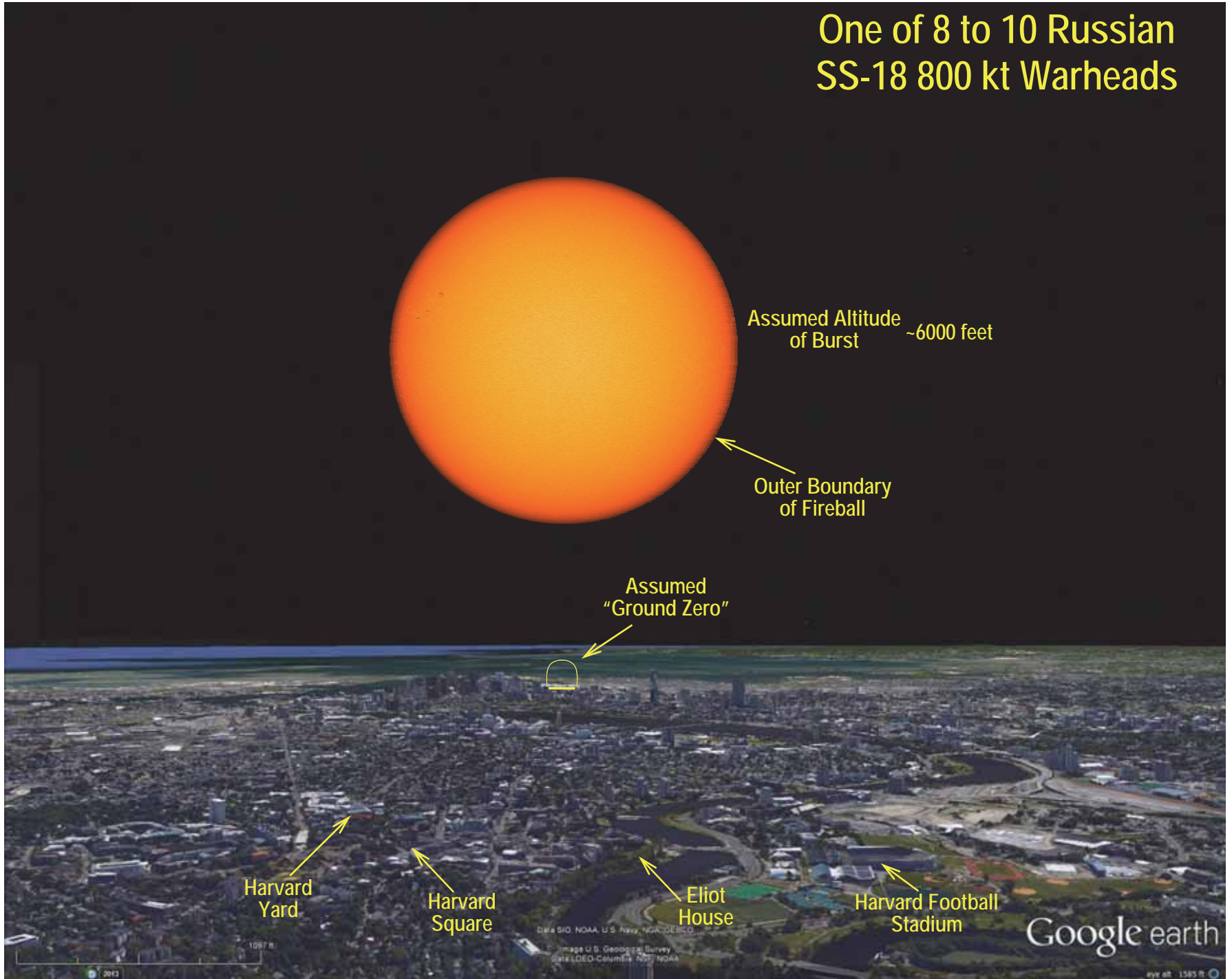
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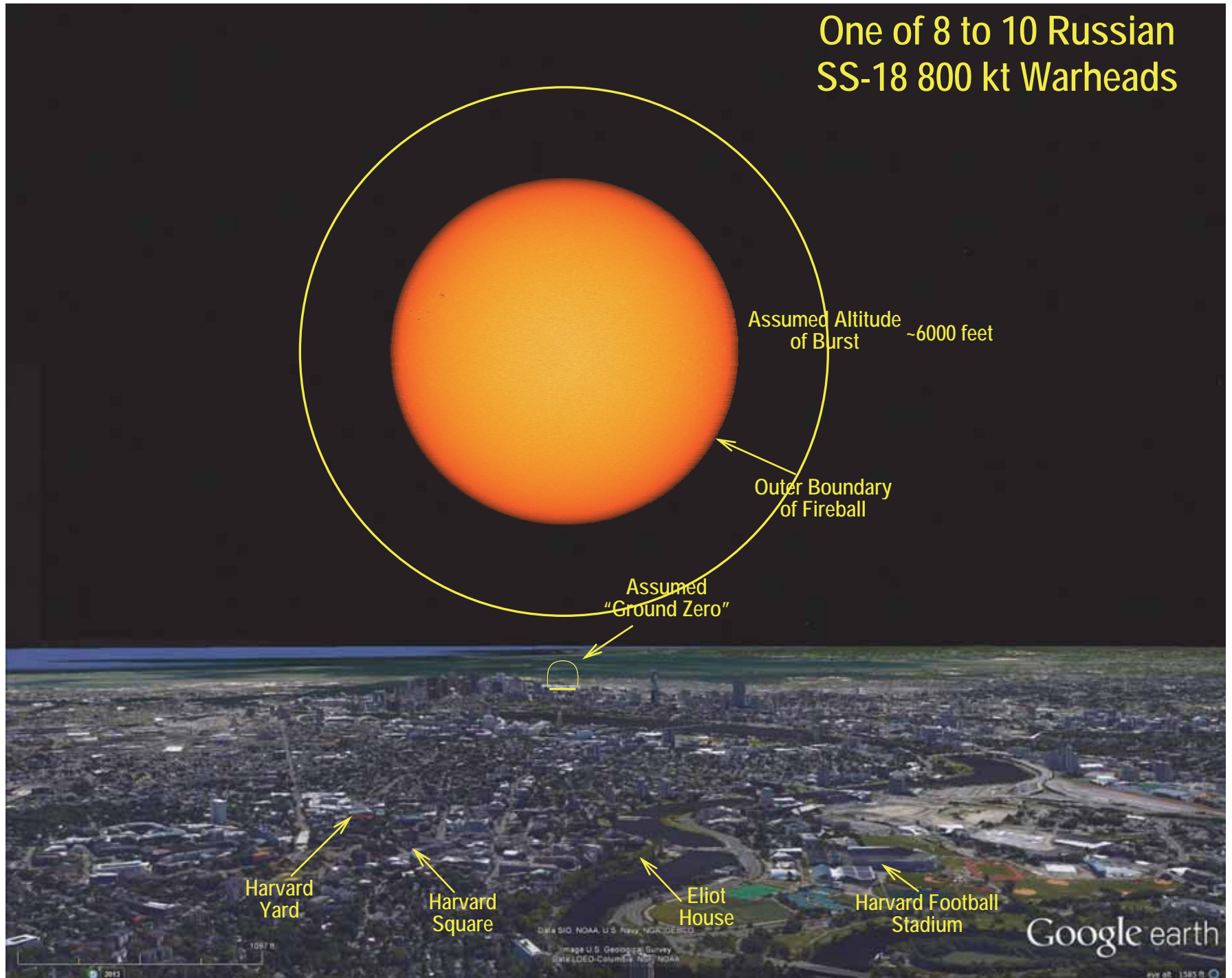


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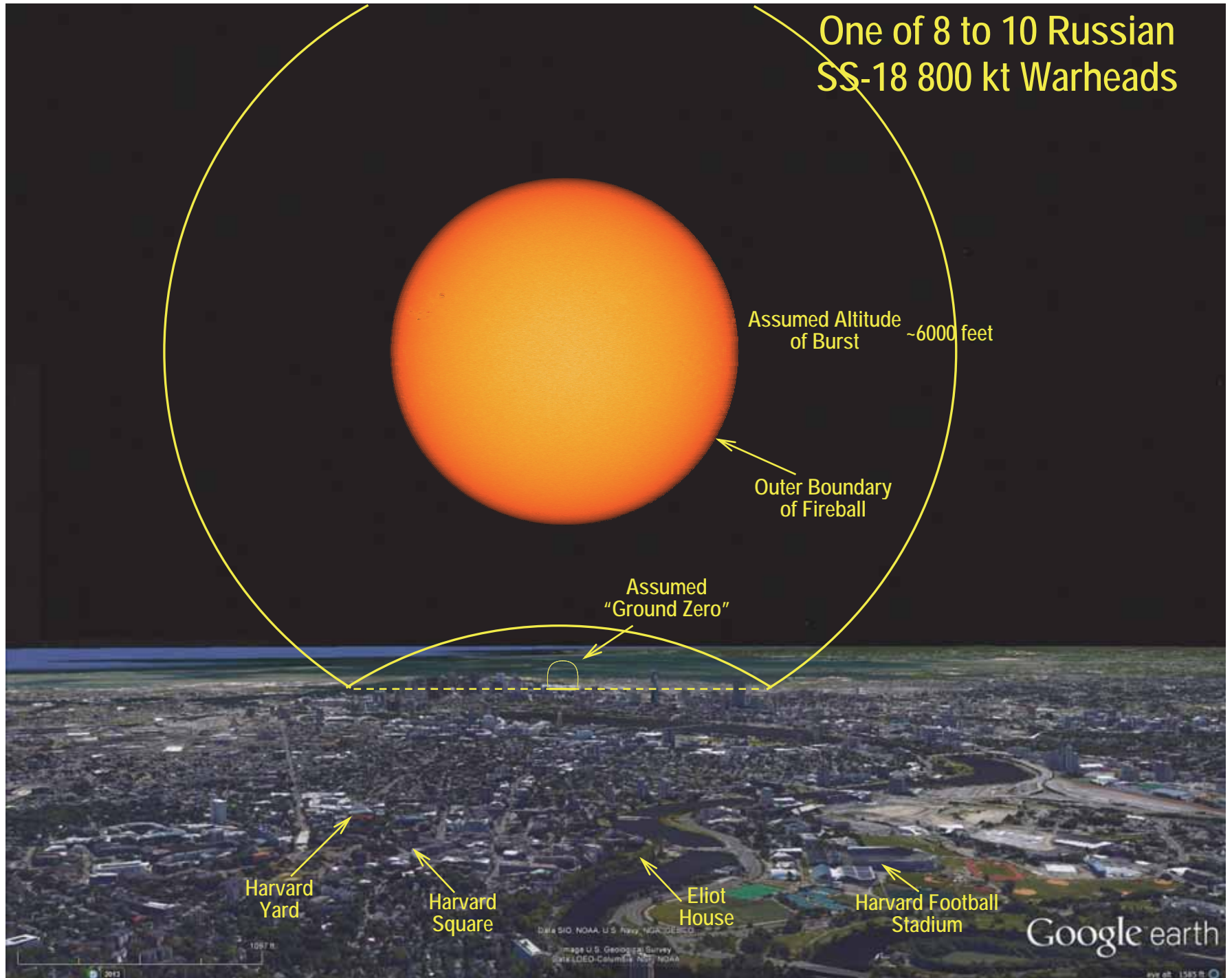
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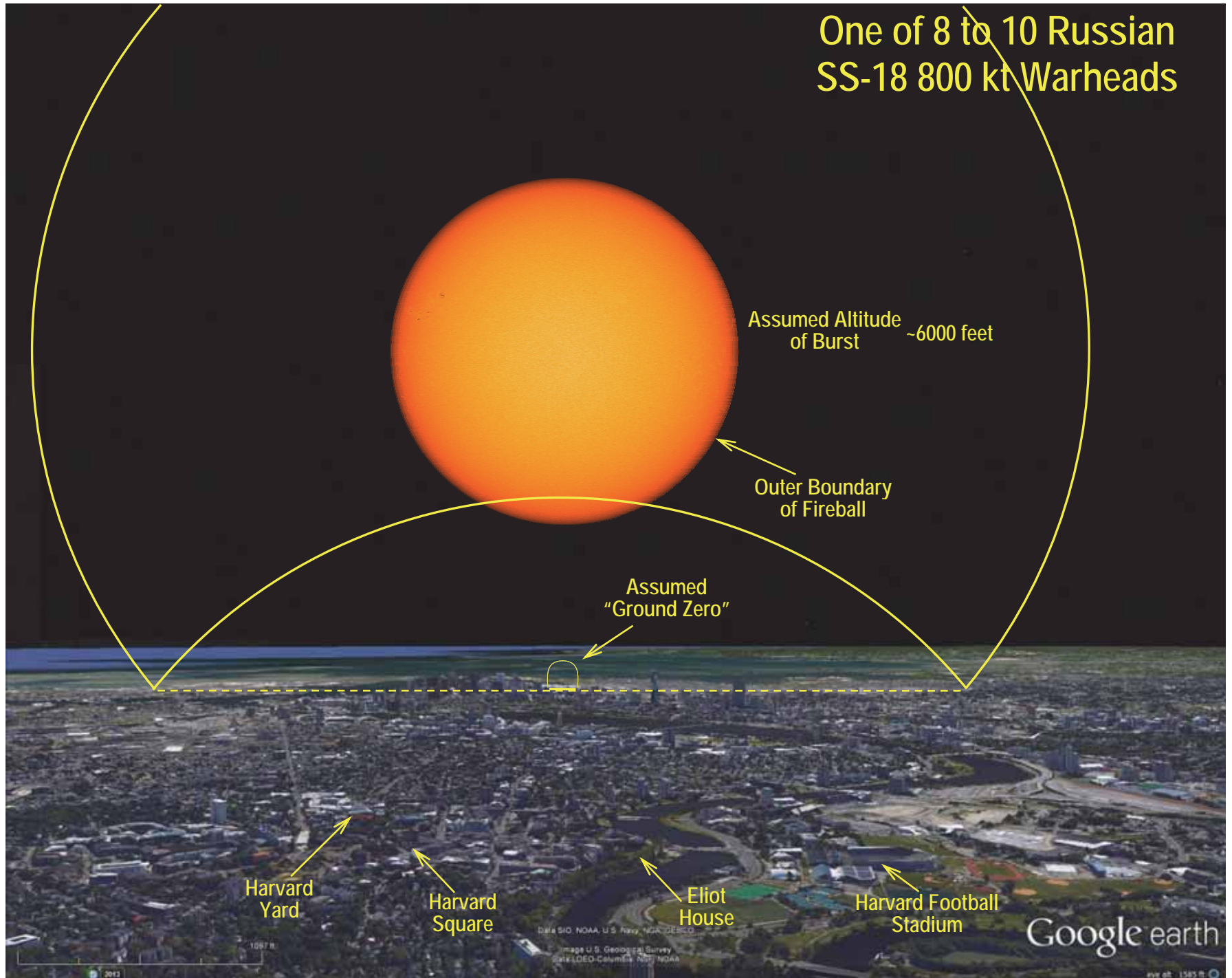
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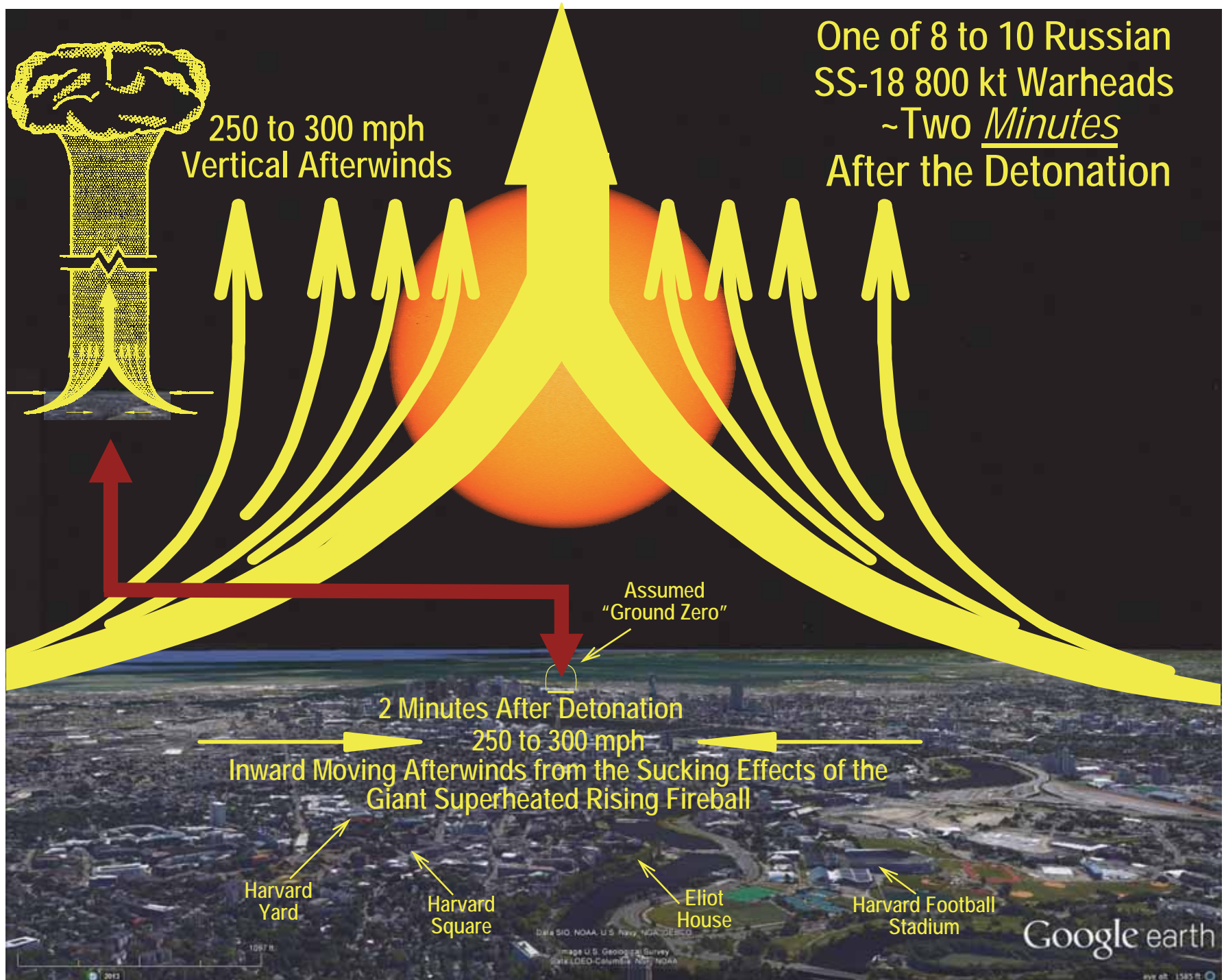
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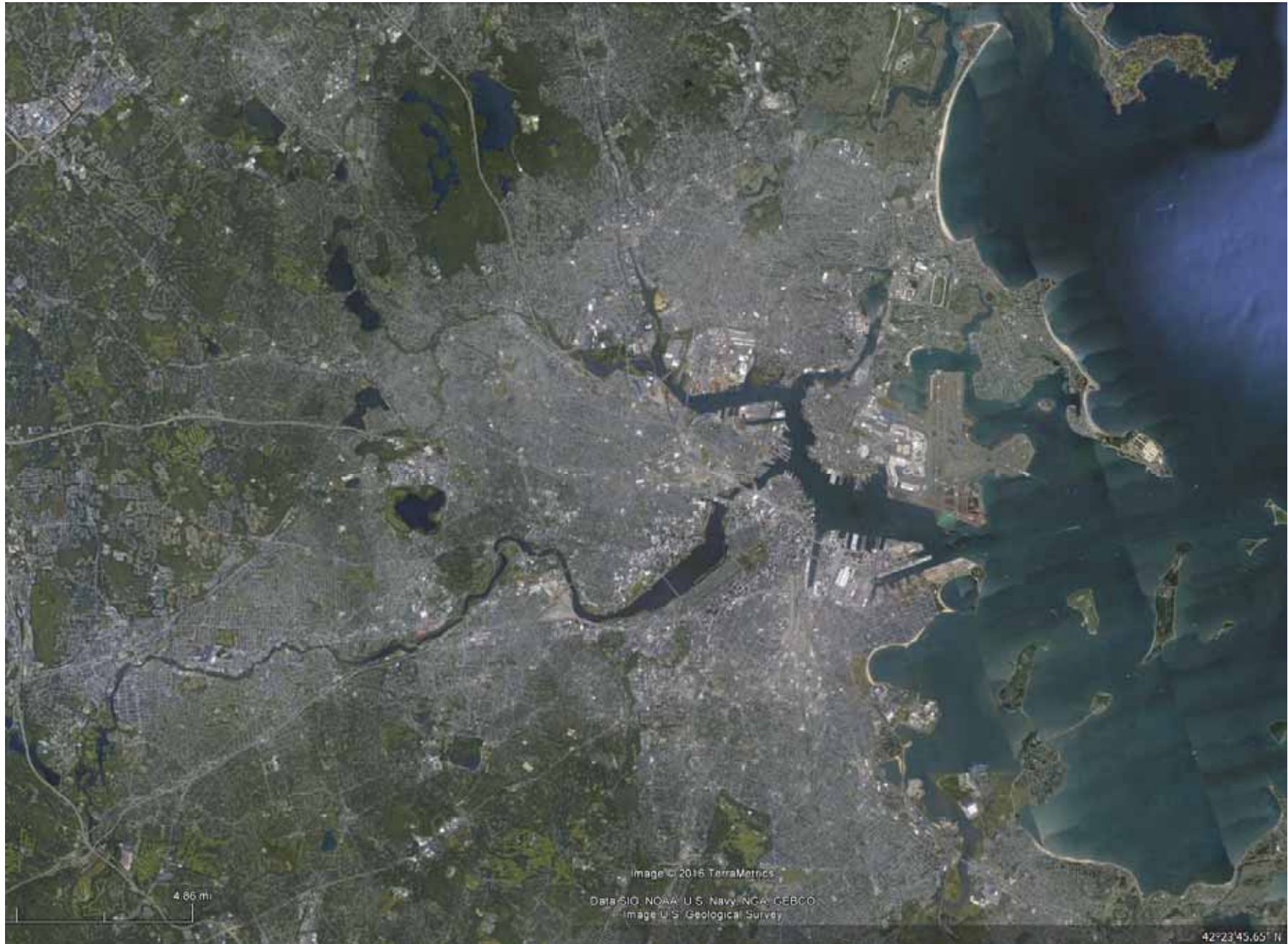


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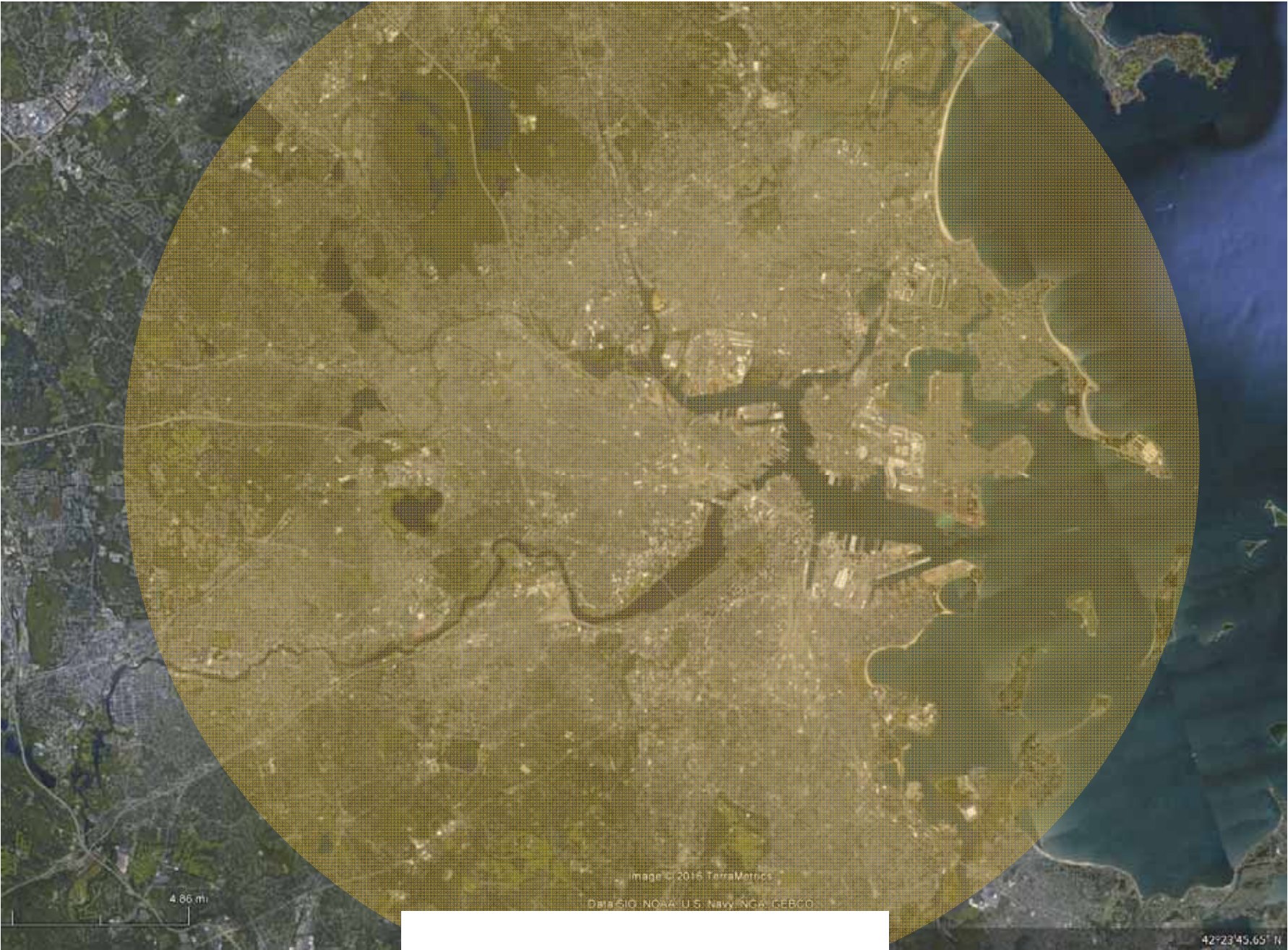
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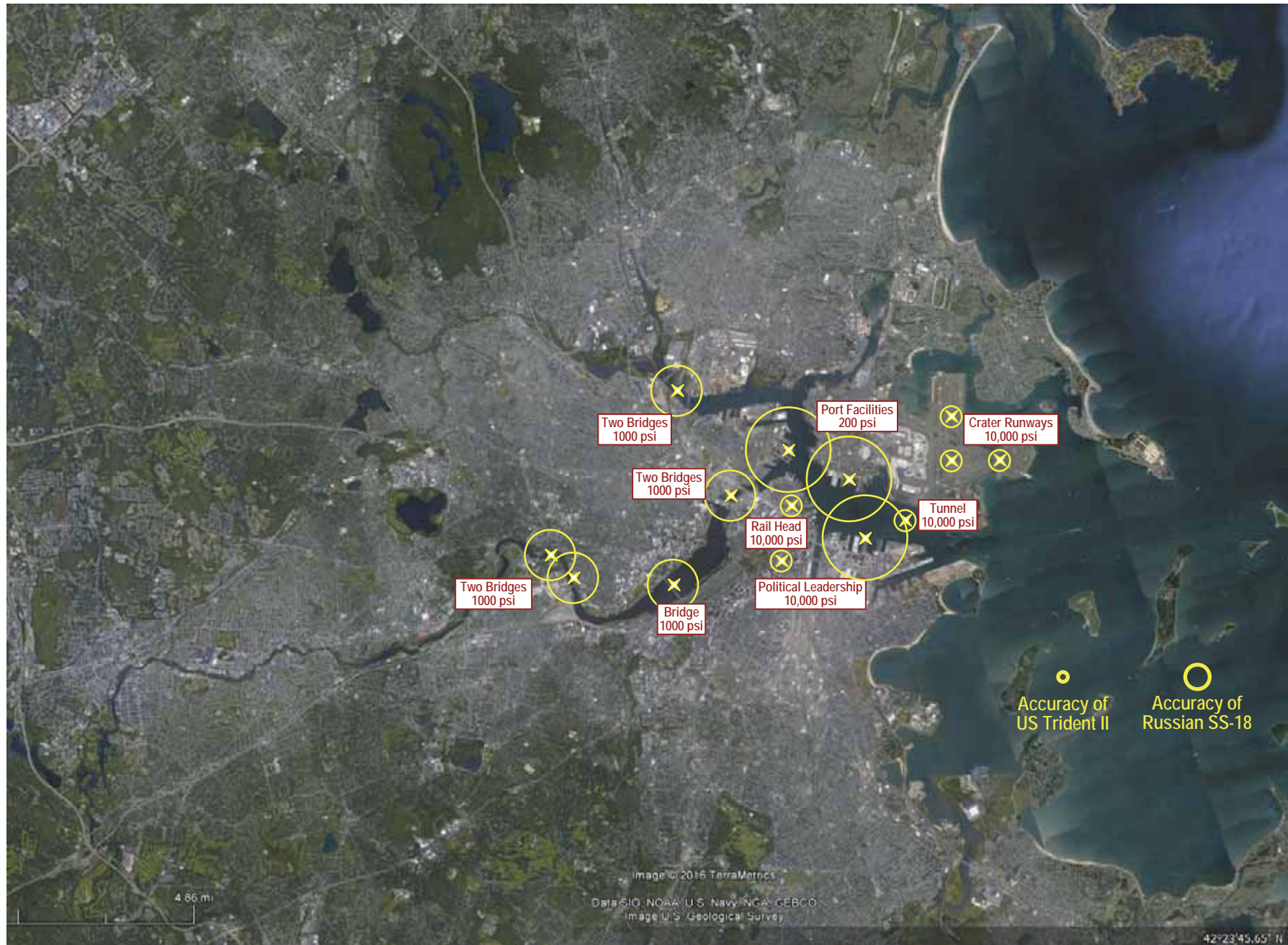
Boston Area Potentially Subject to Damage from a Single SS-18 800 kt Warhead



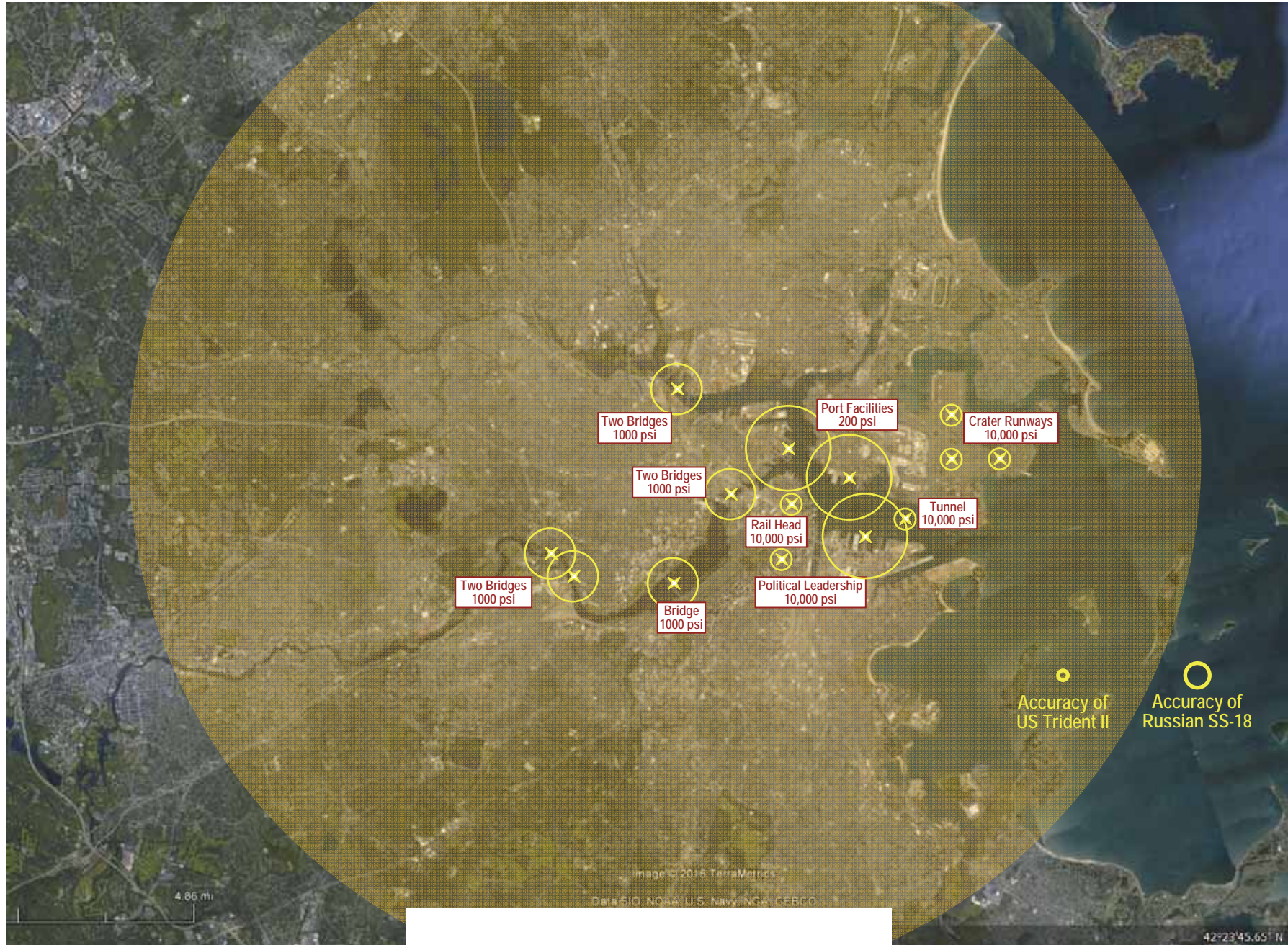
Area of Boston Potentially Completely Destroyed by Firestorm from a Single SS-18 800 kt Warhead



Warfighting Plan: SS-18 Warheads Against "Urban-Industrial" Targets in Boston



Warfighting Plan: SS-18 Warheads Against "Urban-Industrial" Targets in Boston



Is It Possible to Fight and Win a Nuclear War With Russia?

- The US forces that are needed for fighting and winning a nuclear war with Russia have unambiguous characteristics. But in order to understand why these forces need these characteristics, it is first necessary to understand what “winning” means.
- Nuclear war fighters considered nuclear weapons to be similar to conventional weapons, but more powerful.
- This allows them to define “victory” as circumstances where the “winner” has a larger and more capable nuclear force relative to the “loser” when the conflict ends.
- This argument ignores the existential fact that the loser can still totally annihilate the winner’s nation with only an infinitesimal surviving nuclear force.
- It also ignores the fact that the secondary consequences of nuclear attacks would certainly be disastrous for the nations of the northern hemisphere and would also result in massive losses of life elsewhere on the planet.

What Forces Are Required to Fight and Win the Nuclear War?

- The theory of nuclear war fighting requires that the victor be able to destroy most or all of the adversary's forces
- The only way to do this is to destroy the adversary's forces before they can be launched.
- The only way to destroy the adversary's forces before they can be launched is to attack first.
- An ability to destroy, cripple, or overwhelm the adversary's early warning systems is also essential to any strategy that aims at destroying an enemy's forces before they are launched
- Nuclear antimissile defenses are also critical to blunt the effects of any counterattack from residual enemy nuclear forces that survive the initial attack.

Circumstances Relevant to Nuclear War Against Russia

- Early warning system has no space-based component.
- Russia has substantial nuclear forces and fixed ground-based missile silos that can now be destroyed by the US submarine launched ballistic missiles (and US ICBMs as well).
- Nuclear arms reductions with the United States will only increase Russia's vulnerabilities to a US nuclear first-strike.
- Russians remember that the US has repeatedly not been helpful in providing for Russian early warning.
- The US supported the Latvian government when it demanded that Russia close down a new early warning radar that was covering major attack orders from United States.
- The US is now drastically increasing the ability of all its submarine-launched ballistic missile warheads to destroy Russian silo-based forces and command centers. These improvements will free up many US nuclear weapons that would have otherwise been dedicated to that mission.
- The US relentless and irrational preoccupation with global missile defenses is seen by the Russians as yet another US program aimed at reducing Russia's ability to retaliate after a US nuclear first-strike.
- The Russian analysis of US modernization programs and behavior can only lead them to conclude that the United States is trying to create an option to fight and win a nuclear war against Russia.
- The US nuclear weapons modernization program is unambiguously oriented toward achieving these goals.

Potential Consequences

- The Russians have no space-based satellite early warning systems to alert them to the launch of US nuclear-armed ballistic missiles from the ocean.
- The Russians may be in the process of trying to reconstitute a primitive and limited space-based system that could with some reliability observe the launch of US land-based missiles.
- However, the most capable ballistic missile systems are now on submarines, which have warheads of much higher killing power and can be launched from unmonitored locations in the ocean.
- Since the US has been improving its capability to preemptively attack Russia, the only choice the Russians have is to streamline their decision-making capabilities.
- Because the Russians cannot see over the curved-earth horizon with space-based satellite sensors, they can only depend on line-of-sight radars.
- This means their warning time could be as short as 10 to 15 minutes.
- The only way to guarantee the ability to be launched before Russian forces are destroyed by a preemptive US attack is if some method of pre-delegated launch authority is put in place.
- The response times of the streamlined launch authority are by necessity very short.
- The time-pressure to take actions can, in crisis, greatly increase the chances of an accidental launch of Russian central strategic nuclear forces.
- Thus, the US Nuclear Weapons Modernization Program is pushing the Russians to take actions that could, in a crisis, lead to a massive accident that could well destroy most of the countries in the northern hemisphere.



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Some Technical and Political Factors That Will Impact the Stability of Future Nuclear Forces

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Technical and Political Factors That Will Impact the Stability of Future Nuclear Forces

1. There are NO Foreseeable ICBM Threats from Iran or North Korea.
2. There is NO Foreseeable Nuclear Threat from Iran to Western Europe
3. If US missile-defense activities continue, they will almost certainly block deep nuclear reductions.
4. Since the pursuit of missile defenses has little or no relationship to the capabilities or promise of these systems, diminishing these programs will require a political change in the culture of “running away from the problem” in the Democratic Party.
5. Russia does not have the technology to build a viable space-based infrared early warning system. This means that Russia has no early warning against SLBM attacks.
6. It also means that Russia has half as much early warning time (~15 minutes or less) as the US.
7. The US is tripling its hard target kill per warhead, greatly increasing the threat to Russia’s nuclear forces.
8. This also means that the hard target killing power of US forces will increase even if there are deep numerical reductions in US forces.
9. The continuing heavy reliance by Russia and the US on fixed land-based ICBMs will result in basically vulnerable fixed silo-based forces in both Russia and the US.
10. Russian reliance on land mobile missiles could well increase crisis instability due to the need for timely decisions to disperse the forces for survivability.
11. As long as Russia continues to rely heavily on land-mobile and fixed silo-based ICBMs, it will have a very substantial vulnerability to a short-warning attack from the United States.
12. The extreme vulnerability of Russian VHF early warning radars to high-altitude nuclear explosions, in combination with Russia’s lack of space-based early warning and its dependence on timely dispersal of mobile ICBMs, will present serious stability problems for future Russian and US nuclear forces.

13. The introduction of new weapons like the “Advanced Hypersonic Weapon” will create enormous stresses on both Russian and possibly US early warning systems. US space-based infrared satellites will be able to detect the launch of a Russian hypersonic glide weapon and may also be able to track such weapons in the glide phase as well. This latter possibility needs to be studied, as it could seriously contribute to other destabilizing developments as well.
14. Continued NATO actions, like lying about the true circumstances associated with the Turkish shoot down of a Russian Sukhoi 24 over Syria, will further increase Russian concerns about Western intentions towards Russia in future crises. In the case of the Turkish shoot down, it is clear that the role of Turkey and the US in the incident has not been forthrightly explained. It is imperative that NATO and the West develop a clear strategy of being forthright about such incidents when they occur.