

What Hides Beneath the Waves

HPC: 1 May. 2025

(7:30-8:30 max)

BRING: USB, pointer, flashlight (for demo)

[[1]]

OPENING:

- Pretend you're in school ... assignment about NYC
 - ... one picture
 - Wall Street — tall buildings
- Iowa
 - Farmland
- Earth

[[2]]

- Point Nemo 3,000 mi diameter
 - Holland=6sq/mi; US=3m; Nemo=9m; Pacific=64m
 - Pacific depth: 14,000 ft. average
 - highest point in Continental US: 14,000 ft
- Why is this interest me? ... I was in Navy.

[[3]]

- Proof I was in the Navy ... my CV ... my credentials.
- My credentials—evidence I may know something about oceans.
- Other sailors in room?
- USS LaSalle, only white ship in Navy, JEANE DIXON.

INTRO:

- Will make 3 points:
 - (1) Vast unknown.
 - (2) Oceans important.
 - (3) Challenge—barely see into ocean. Easy to HIDE.

REVIEW HOW SEE & understand our place in universe?:

[[4]]

- SPACE: Telescope.
- SMALL: Microscope.
- OCEANS? any guesses?
 - But, looking into the oceans is difficult. How? Only recently.
 - Only three people been to Marianas Trench
 - Trieste (Jacques Piccard, John Walsh), and James Cameron.
 - 36,000 ft; 1,071 times pressure
 - Hundreds been to Mr. Everest (29,000 feet)
 - 7,000+ people climbed; 800 year.

OCEANS ARE UNKNOWN – A MYSTERY

[[5-6]]

HOW LOOK:

[[7-12]]

Diving bell, 1600s
Scuba: 1940s
Side scan: 1960s

SIDE SCAN DEMO:

[[13-16]]

Swing **flashlight** to emulate side scan sonar.
Is like flashlight
Sound speed: 1,500 m/sec.

WHY LOOK:

[[17]]

TRADE:

[[18]]

Electronics, cars,

Food—agricultural goods and processed goods.

NAVY ... defense, shipping lanes, pirates, undersea cables
exclusive zones vs international waters

Maritime zone: 12 miles ... 200 miles.

FISHING:

[[19]]

OIL & MINERALS:

[[20]]

SUB HUNTING: challenging, no good answers.

[[21-26]]

SURTASS (surv-towed-array-sensor-system)

Sensor: 4,900 ft long; 155 ton

speed 3.2 knots.

crew: 40.

WHY my interest

[[27]]

Naval aviation. Dropped out.

Naval Intel.

STAFF — Indian Ocean

Tactical and Strategic.

(1) Where were they?

(2) Could they track us?

Why ... it's a place to hide. We know so little about the ocean.

Shift the tenor ... forgive me if it is upsetting. I'm usually a pretty upbeat guy, but I'm going to change for a few minutes.

***** Nuclear release authority.**

- I didn't ask for the job and didn't really want it.

- very sober task

- Slide ruler device ... PLUMEOLGY

SLBMs:

[[28-30]]

FEMA:

My expertise led to assignment at FEMA (two Navy officers), especially with regard to nuclear war issues.

- "continuity of government" who would go.

- Mount Weather, Virginia (Cheyenne Mt.)

- scary, lose sleep at night

- this is "world altering" ... "society altering" issues

- STARFISH PRIME: July 1962

[[31-32]]

- 1963, Nuclear Test ban treaty in atmosphere.

- Bill Huizenga ... Fort Custer.

NAVY and Nuclear (peaceful):

Navy—83 nuc ships

Power plants—54

TAKE AWAYS:

[[33]]

CLOSING

I've tried to provide a glimpse into our mysterious, unseen water world. And relatedly—in our brief time available—have briefly touch on ethical implications and nuclear related issues. Much more to say, only scratched the surface.

As I'm sure you noted, I transitioned to a major concern regarding the importance of understanding the oceans, a concern you probably now know more about than anyone else in Holland. I think people like you should know about these things because the implications are incredibly, potentially life changing.

To sum it up: the use of submarine nuclear ballistic weapons could happen ... yet it can't happen.

To repeat: It could happen ... but it can't happen.

I should point out that these submarines represent only a 1/3 of our counties weapons. So, the potential is even greater than I've presented.

These weapons would alter life beyond your wildest imagination ... your worst nightmares.

We would be blasted back to life as it was in the 1920s.

The die-off would be probably 3/4 of the population.

Lack of medical care, food, heating, transportation, effective government, police ... would be devastating.

QUESTION: care guess which country we fear might use the EMP bomb?
(N. Korea)

To briefly close ...

I believe we—who have significant influence on society here in Holland—should be aware of such matters.

My talk and views come from 41 years in international affairs and being on the front lines of nuclear weapons issues. In a way, this talk is my purging—of coming to grips with the harsh fact that I was involved with nuclear weapons—a grave duty beyond what a 30 year old—or likely anyone—can responsibly handle. As I navigate daily life here in wholesome Holland, Michigan, I’ve wondered if some sort of apology is appropriate.

So, why risk depressing you with such talk?

Because I believe there’s good news:

We have a potential defense.

I don’t think it’s another technical solution—gallium arsenide circuit boards or anti-missile systems! Those are incredibly expensive and probably wouldn’t work.

But there is another way ...

I believe humanity has a choice. We have a choice ... we can work to ensure this doesn’t happen. We need to do what we can ... “to get along” ... “to just get along.”

~~Annually, the UN publishes its “Top Ten Problems.” One is called “preventive diplomacy,” that is: “diplomatic action to prevent disputes from arising and to limit the spread of conflicts when they occur.”~~

~~It’s another way of saying “let’s just get along!”~~

Can we in this room help? Absolutely ... in our daily lives we may disagree strongly with other people: neighbors, work colleagues, family, friends, politicians, etc. But, we must strive at our interpersonal level to get along—setting a revised paradigm for our fractious society—stopping the spiral of growing antagonism. Or face severe consequences that are almost beyond comprehension.

So, let’s just get along.

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SEA-STORIES — End with two sea stories related to my talk:

- (1) Lasalle, phosphorescent trail.
 - (2) Ship aground, chart wrong.
- Current Nuclear Triad: 1/3 of it is in the oceans. A huge investment in our national security. Thus, lots of money and study goes into protecting it.

SUBMARINES:

- SSBN:
- ATTACK SUBS: \$5.5B each, there's good reason to spend that.

HASP or HPC TALK: The Uncertainty Principle. Relate it to Nuclear Weapons and how “uncertainty” is part of nuclear studies (is it energy or matter, Don Williams will have info on it). I can morph the principle into a talk about the uncertainty regarding the effects of nuclear weapons, the uncertainty if they have or will have a deterrence aspect (it's arguable) and get into my FEMA experience and the uncertainty of “Continuity of Operations.”

The Minuteman ICBM fields are designed to soak up the bulk of a Russian (or Chinese) first strike. One warhead per missile, and one missile per hardened silo. The silos are hardened against anything except a direct hit, and they are spread out enough to require a direct hit for each and every silo. For the Russians to be sure, they would likely need to assign multiple warheads to every silo.

There are 500 silos spread across 4 bases in the center of the country, which in theory would require 1,000 warheads to destroy at the very least. START limits both Russia and the US to 1,600 deployed warheads, which means Russia would need to expend at least 63% of its allotted warheads on taking out the ICBM fields in an area with low population, low military value and at a location that maximizes the warning time for the US.

No need for a super advanced missile when it is largely designed to be used as cannon fodder

Even if the Russians take out every silo, that still leaves a minimum of 4 Ohio class submarines out on permanent patrol and their roughly 264 warheads unaccounted for by the Russians, as well as 80 B-2 or B-52 strategic bombers capable of launching nuclear tipped cruise missiles or nuclear gravity bombs like the B61

The **Trident II** missiles on the American *Ohio* class and British *Vanguard* class are **arguably the most advanced and reliable ICBM's** in the world and represent the bulk of the “real” deterrent capabilities for the US (and all of the UK's)