



Science that Supports Oil Spill Response Planning and Operational Decision Making Before and After OPA90

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Director NOAA's GOM Disaster Response Center





My Perspective and Background

- United States Air Force – Radar Weapons Control Tech
“WCS Gorilla”
- Marine Scientist/Chemist
- Research Associate, Louisiana State University (13 years)
- First Oil Spill, 1985 ARCO Anchorage Oil Spill
- Part of the NOAA Response Team – Exxon Valdez Oil Spill.
- NOAA Scientific Support Coordinator (14 years)

Lead Science Advisor to Federal On-Scene Coordinator

“the NOAA Guy in the fish shirt”

- DOC/NOAA Representative for Regional Response Team VI

Disclaimer – The Fine Print

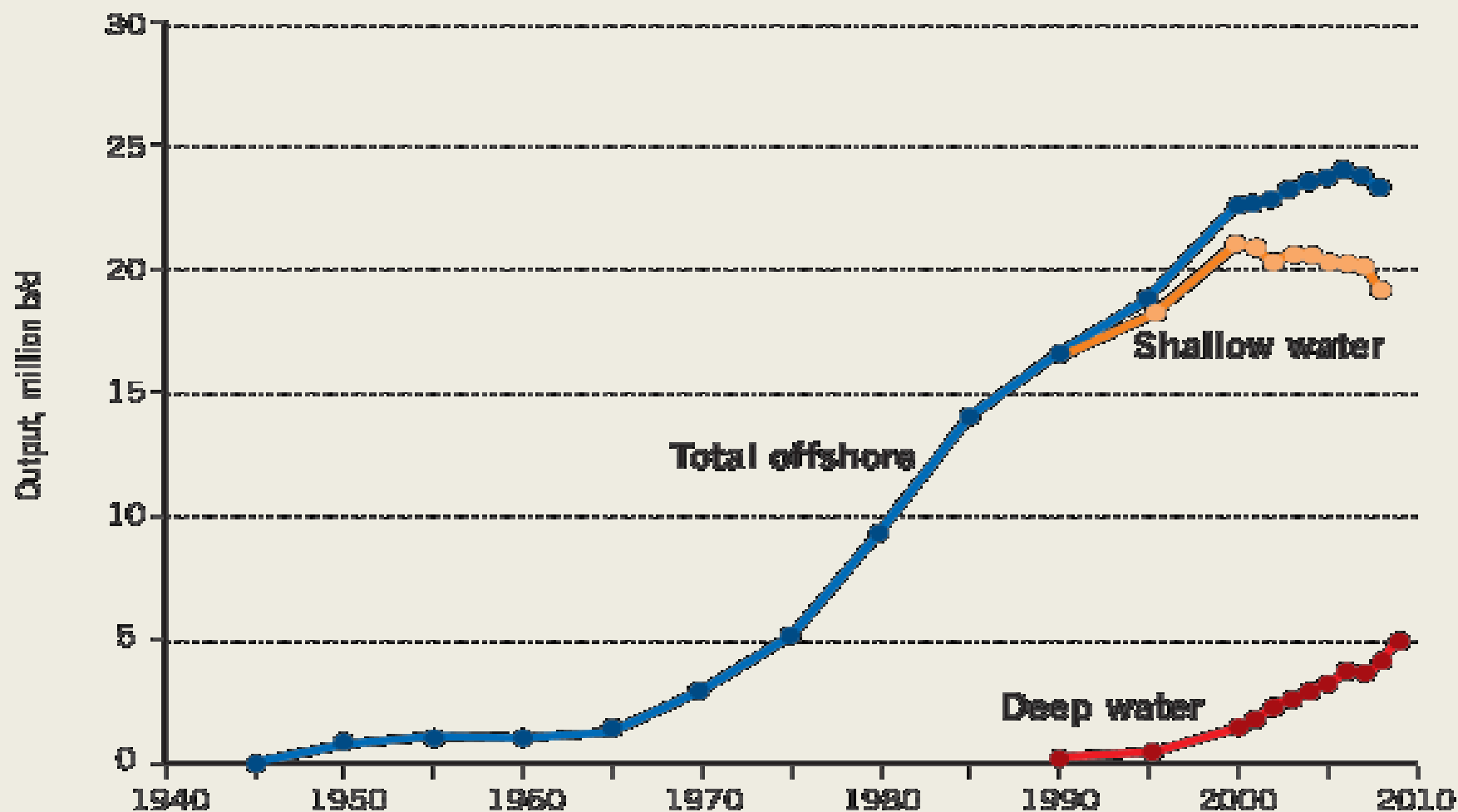
The information presented are the opinions of the presenter and do not necessarily represent the position of the Department of Commerce (DOC) or the National Oceanic and Atmospheric Administration (NOAA).



1989

WORLD OFFSHORE CRUDE OIL PRODUCTION

FIG. 1



A dark, atmospheric photograph of a snowy mountain peak reflected in a calm body of water. The scene is dimly lit, with the white snow of the mountain and its reflection providing the primary light source. The water is still, creating a clear mirror image of the mountain above. The overall mood is quiet and serene.

2010





“The Five Questions”

- What got spilled?
- Where is it going to go?
- What’s at Risk?
- How will it hurt?
- What can be done to protect, mitigate, and cleanup?

**“Common sense and science should lead to the right decisions.”
(good science – trusted science)**

Deepwater Horizon, Gulf of Mexico

Type of Map: Overflight

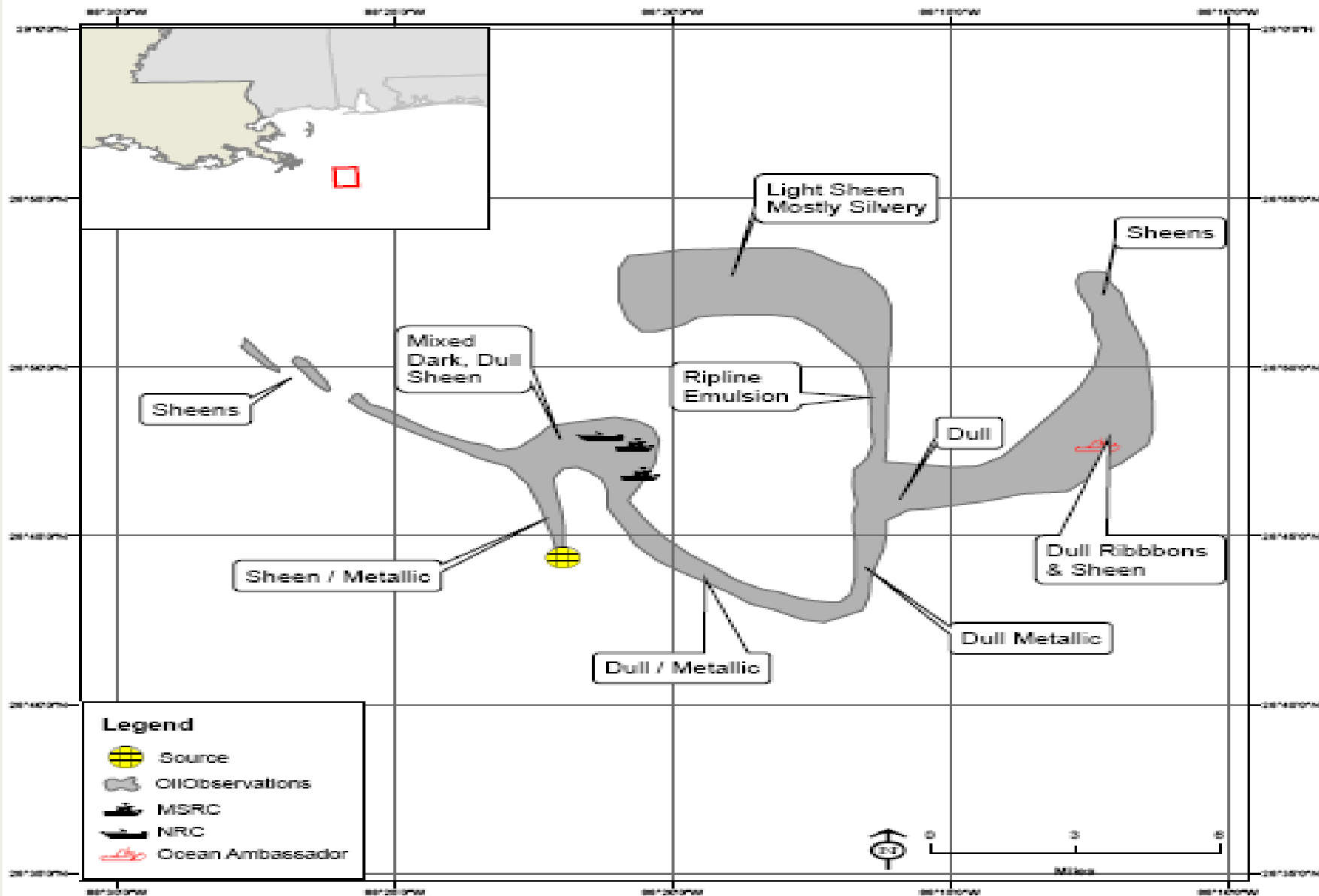
Prepared by: NOAA

USE ONLY AS A GENERAL REFERENCE

Date/Time: 04-22-2010 / 1345

Platform: Helo

Observers: O'Brien's



EXPERIMENTAL MARINE POLLUTION SURVEILLANCE REPORT



Analysis Provided by: The National Oceanic and
Atmospheric Administration/National Environmental
Satellite, Data and Information Service (NOAA/NESDIS)

REPORT DATE: April, 22, 2010
REPORT TIME: 2130Z (1630 CDT)
ANALYST: WARREN

DATA SOURCE: MODIS TERRA
MODE: N/A
IMAGE DATE/TIME: 4/22/2010 1645Z (1145 CDT)

Legend



Anomaly

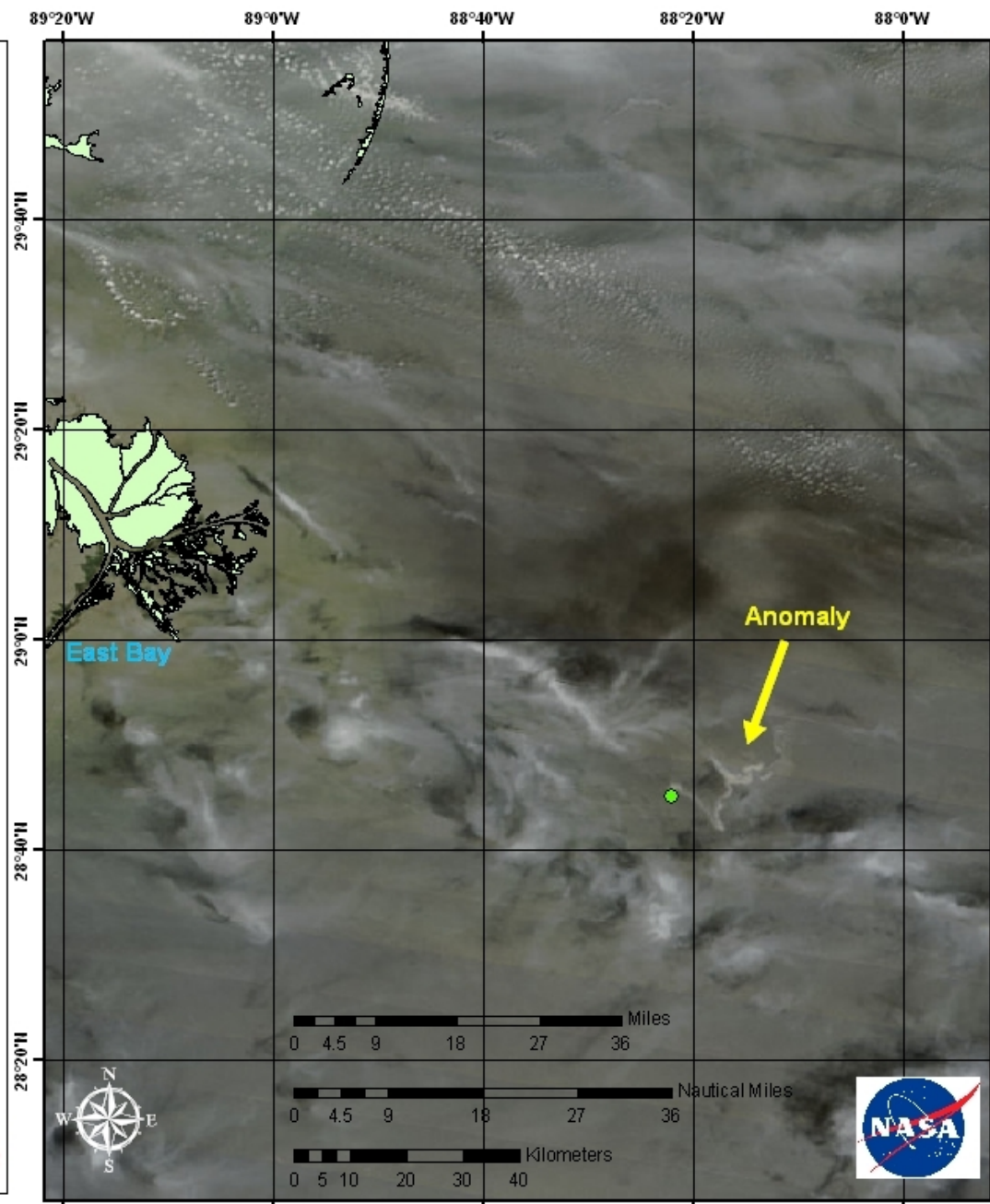


Location of Horizon Oil Rig:
[28°44'12" N / 88°23'14" W]

REMARKS:

Anomaly seen winding its way to the northeast of the oil
rig location. At its farthest point of the anomaly from
the rig is seen stretching 13 miles away. The anomaly
is roughly 1.3 miles in width. Surface winds suggest oil
likely will continue to spread to the north and east of the
rig over the next several hours.

**This is an experimental product of the Satellite Analysis Branch
and not operationally maintained. We will do our best to make it
available in a timely manner.**





New Orleans

oil slick

25 km

ISV SKANDI NEPTUNE

SUBSEA 7

E: N:

11/05/2010 12:40:03

Depth: 4957.5 Alt: 5.1

Hdg: 156.2

14: Measurement Ops



Spongebob!!!

I'm
SCARED!

bp
What's an
Oil
Plume?



ISV SKANDI NEPTUNE

SUBSEA 7

E: N:

11/05/2010 12:40:03

Depth: 4957.5

Alt: 5.1

Hdg: 156.2

14: Measurement Ops

Something new... “SSDI”
Minimum Regret Prospective



“Very Little Time During Oil Spills”

- During an active emergency response there is rarely time to be developing the science that drives problem understanding and decision making – you apply the science that is currently known and accepted.
- Much of the science we know is based on lessons learned from past oil spills.
 - From a response scientist’s prospective – oil spills are our laboratory because we cannot fully reproduce an oil spill in a laboratory.
 - As a spill response community, we are always getting smarter, but are we asking the right questions?
- Most laws and regulations (including OPA90) are reactive not proactive – they are based on the lessons learned and identified gaps - the problems from past incidents.



Area Contingency Plan (Committee)

- OPA90, National Contingency Plan, and Clean Water Act Regulations
- Be proactive before the next incident.
- Before an incident, you plan for the threat, assess what is at risk (what is most important to an area), what resources are available to respond, and how the local, state, federal, and industry “partners” will coordinate an effective response. Work with the larger community.
- **Planning should include new threats, new solutions, and new science. “No bucks, no Buck Rogers.”**