



Journey to Planet Earth

Transcript for Episode 14: DISPATCHES FROM THE GULF

Abridged Version

Journey to Planet Earth is produced by

**Screenscope, Inc.
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CHRIS REDDY

I got a phone call from a friend of mine who works for the government and he said, “You have to get involved in this spill.”

MATT DAMON

It happened on April 20th 2010 – 41 miles off the coast of Louisiana.

CHRIS REDDY

Woods Hole Oceanographic Institution

It’s going to change your career. It’s going to define every part of the rest of your life. You have to get in the game and get down here.

MATT DAMON

Tragically – the explosion killed 11 – and changed the lives of millions living near the Gulf coast – as well as hundreds of scientists who responded to the crisis.

CHRIS REDDY

I was as close to the well as any scientist could be. This cauldron of oil that’s flying out of the bottom of the ocean floor.

MATT DAMON

Four weeks after the BP Deepwater Horizon disaster – oil hit the Louisiana coast.

WAYNE KELLER

Port Commission – Grand Isle, Louisiana

The first few days of the major impact, it was – it was – mind-boggling.

Everybody just could not believe how much oil was on the beaches.

MATT DAMON

In an effort to breakup as much oil as possible, almost two million gallons of dispersants were sprayed onto the surface of the water and directly into the escaping oil. By the time the well was capped – 87 days after the blowout – hundreds of communities and millions of people were affected.

TRACIE SEMPIER

Mississippi-Alabama Sea Grant Consortium

People were looking for answers and I think that was a very difficult time because we were still trying to research and uncover what had truly happened.

MATT DAMON

To discover what happened – scientists from around the world turned their attention to the Gulf of Mexico.

DAVE HOLLANDER

A whole research community has developed.

CHENG LI

It’s composed of engineers. It’s composed of chemists, biologists.

HANK ASHBAUGH

Tulane University

We all get to work on pieces of this very big puzzle.

MATT DAMON

Today – an international team of researchers are focused on the Gulf of Mexico. These are some of their stories – intimate portraits of research – innovation –

discovery. Stories that speak directly to a nation still recovering from the largest offshore oil spill in U.S. history.

DISPATCHES FROM THE GULF

CREW MEMBER

Stay clear of the ground wire.

CAPTAIN BAUMEISTER

Go ahead and light up the bow thruster.

CREW MEMBER

Good.

*A Film By
Marilyn & Hal Weiner*

*Narrated By
Matt Damon*

Dispatch #1: The Journey Begins

MATT DAMON

The Weatherbird II is on the second leg of a two-week cruise. At 115 feet, it's one of the better-equipped research vessels working the waters of the Gulf of Mexico. Its current mission is to collect and analyze fish and soil samples near the site of the Deepwater Horizon oil spill.

DAVE HOLLANDER

And that'll be up in the site DSH 10, which is at a depth of 1500 meters.

MATT DAMON

Dave Hollander and Steve Murawski are leading a team of oceanographers from the University of South Florida. Working closely with the ship's captain, Brendon Baumeister – they've spent weeks developing their itinerary.

STEVE MURAWSKI

We're really interested in the fish all along the area north of the Deepwater Horizon.

MATT DAMON

Because time aboard the Weatherbird is limited and expensive, their plan is to divide into two teams and work around the clock.

BRENDON BAUMEISTER

Okay. That'll put us in a few hours behind. So it looks like we'll probably arrive to the first fishing site like mid-afternoon tomorrow.

MATT DAMON

Running behind schedule and with the clock ticking – the team is facing one other time-related problem. Though the spill happened six years ago, Gulf coast communities are still pressing scientists for more information – more answers about the environmental impact of Deepwater Horizon.

*Dispatch #2
What's At Stake?*

MATT DAMON

If you travel south – through the back-country of Louisiana – eventually you'll arrive at a point where the land begins to join the Gulf of Mexico. And then it soon becomes obvious – in this part of the world, everything and everyone is tied to the rhythms of the sea.

DAVID CHAUVIN

[David Chauvin's Seafood Company](#)

Shrimping has been in my family for four generations. It's all we've ever done and the way we've always supported our families and made a living.

TIMOTHY LUKE

It's wonderful – I mean you're your own boss and you don't have nobody to answer for.

MATT DAMON

For crabber Timothy Luke and thousands of other watermen working the waters of the Gulf – the oil spill changed everything.

DAVID CHAUVIN

It's just scary how one little pipe in the middle of the Gulf could change so many lives and, and rearrange things in a way that you could have never imagined.

MATT DAMON

What's at stake is not only a way of life – it's the future of one of the most biologically fertile regions in the world – a place whose waters provide 40% of the commercial seafood caught in the lower 48 States.

The Gulf's coastal wetlands and marshes are home to thousands of species of plants and animals – and its beaches help support a hundred billion-dollar tourist industry. But after 87 days of oil spewing into the Gulf, the beaches and salt marshes were hit hard – hundreds of thousands of marine animals and birds died.

ROBERT CRAFT

[Mayor – Gulf Shores, Alabama](#)

All of our tourists left, everybody evacuated, basically left – didn't want to be here. A lot of just unanswered questions created a lot of fear and concern.

MATT DAMON

Fear and concern – empty beaches — unanswered questions. Caught in the middle of a public debate was the scientific community.

STEVE MURAWSKI

Our role is primarily to look at the weight of evidence of what we've got and then come up with the most reasonable explanation for the different things that we're actually seeing.

MATT DAMON

And what the public saw were oil slicks covering 65,000 square miles of the Gulf – stretching from the salt marshes of central Louisiana, across Mississippi and Alabama, into the Florida panhandle.

***Dispatch #3
The Mud and Blood Cruise***

MATT DAMON

The Weatherbird motored through the night putting the research team back on schedule. Traditionally, every scientific cruise is given a nickname. This one is called “The Mud and Blood Cruise.”

Steve Murawski's team is getting ready to catch fish.

STEVE MURAWSKI

What you're seeing is a long-line fishing operation. We're setting out five miles of baited hooks. There's 500 hooks on that set.

MATT DAMON

Their equipment is similar to what the commercial fishing fleet uses.

STEVE MURAWSKI

We're trying to catch a representative sample of the fish community in this particular location off Southwest Pass Louisiana.

MATT DAMON

The team's ultimate goal is to track the recovery and health of fish.

STEVE MURAWSKI

This is a very confusing place because if you look around us there's a tremendous number of oil facilities.

MATT DAMON

The numbers are staggering: 4,000 gas and oil platforms – 25,000 miles of active pipelines and 22,000 natural oil seeps – all contributing to an oil-soaked underwater environment.

STEVE MURAWSKI

And so we're trying to basically disentangle the Deepwater Horizon effect from all the other background and so that's why continued studies of this is so important.

MATT DAMON

Not very far from the Weatherbird, a smaller and faster vessel is also in search of fish. However, the scientists aboard do not use baited hooks to find their prey.

Dispatch #4 It Gets Complicated

MATT DAMON

Oceanographers, Will Patterson and Joe Tarnecki, are about to launch an ROV – a remotely operated robotic device with cameras and data collecting sensors.

WILL PATTERSON

There are 27 sites here that we've been studying now for about a decade. So we had a long time series of data before the oil spill and now we've been revisiting them since the spill.

So Joe will fly it from inside.

Got it?

JOE TARNECKI

Got it.

JOE TARNECKI

Our ROV is in the water at 10:05:41.

All right, we're at about 100 feet now.

WILL PATTERSON

How you doing Joe?

JOE TARNECKI

Just approaching the bottom now.

WILL PATTERSON

There's a red snapper. And we just scaled him with our lasers.

MATT DAMON

When the ROV is close enough, Joe aims two parallel laser beams at the fish. Called scaling – it's how the team determines the length of reef fish.

WILL PATTERSON

The lasers that we have are set at 10 centimeters apart. That's about 4 inches. So when we go back we can grab frames...

...of the video. We can measure the distance between the two red dots and then get an estimate of the true length of the fish.

That's important because for many of these fish that we have on these coastal reefs, they're small young fish, less than ten years old.

And for many of these species we can estimate their age from their length. We can also estimate the weight of the fish.

JOE TARNECKI

It's a great way for us to gain information about the fish without having to bring them up to the surface and potentially killing them.

MATT DAMON

After the oil spill, the team discovered that the population of the reef fish community dramatically decreased. But they also found that within a few years their numbers rebounded to pre-spill levels. Yet there were profound changes. On average, the fish were now smaller and weighted less than before the spill.

WILL PATTERSON

Well there's lots of different ways to think about impact of oil. So one thing that we've been looking at is growth rates and we've seen in the years after the spill that for a few of these species for which we have quite a bit of information that they are smaller at age than they were before the spill. So just because their numbers are similar to what they were doesn't mean that there's no chronic impacts in the system.

MATT DAMON

For the team aboard the Weatherbird, this presented another layer of complexity to their red snapper research.

*Dispatch #5
This Is Fishery Science*

STEVE MURAWSKI

Here we go.

MATT DAMON

The first four hooks come up empty, but Murawski is still confident.

STEVE MURAWSKI

Oh, Red Snapper. Come on, Chris, you can get him. You can get him! All right.

Oh, a double! Oh, that's a nice one.

MATT DAMON

It doesn't take long before the deck of the Weatherbird is covered with red snapper.

AMY WALLACE

Forty-eight.

MATT DAMON

Susan Snyder is a graduate student at the University of South Florida.

SUSAN SNYDER

I work with the bottom trawling fish that we're catching here, looking at their present day exposure to oil and any long-term accumulation in their tissues.

AMY WALLACE

This is a male.

MATT DAMON

Amy Wallace is a Ph.D. candidate – also at the University of South Florida.

AMY WALLACE

To study fish around the time of the oil spill you need to be able to tell what they're eating. Were they in the area of the oil spill at the time of the oil spill and if so how did they change and move after that.

STEVE MURAWSKI

So what we're going to learn from this is basically what the levels of contamination are. Some of the fish are quite contaminated and they remain contaminated and they are among the highest contaminated ever seen. And some of the other fish the contamination levels have dropped significantly. Like red snapper and you know that's a good thing.

The problem comes in when you actually have exposure to toxic chemicals. It results in things like liver cancer and you know long-term genetic changes and other things that may affect the long-term viability of this population.

MATT DAMON

And that is exactly what scientists at the University of Miami are looking at – the genetic impact of oil on fish.

Dispatch #6
Failing Hearts

MATT DAMON

This is a larva of a Mahi-Mahi. Take a closer look – this is what the failing heart of a fish looks like.

The story of that larva begins here – where the Gulf Stream nears the shores of Miami, Florida.

This morning a team of scientists are going fishing. They're after Mahi-Mahi. Their goal is to replenish breeding stock necessary for their research.

MARTIN GROSELL

[University of Miami](#)

We cannot do the work without the brood stock and what we're looking for is basically young adult animals that are sexually mature, but not too big to handle. As I say, it all starts here, that is what we're doing today and the target is to collect one or two males, bulls as we call them, and then a handful or perhaps more cows.

JOHN STIEGLITZ

[University of Miami](#)

What we see here these fish are about four months old. We feed them about twice a day to satiation. We try and replicate what they eat in the wild and provide them with a balanced, nutritional diet. This is probably the one place in the world where you'll be able to see Mahi-Mahi this many of them in captivity.

JOHN STIEGLITZ

We also sample the tissue frequently and compare that against tissue from wild fish to make sure that the body composition really matches that so because in terms of the experiments we want really want to make sure that these are good examples of fish you would find in the wild.

MATT DAMON

In a few days, the newly captured fish will begin to spawn. Their embryos and off-spring will be used in two separate studies.

MARTIN GROSELL

One of the things that we're focusing on in particular is the ability of these animals to swim at sustained high aerobic activity.

MARTIN GROSELL

In here we have a swim tunnel, which is basically a treadmill for fish where we can also monitor the metabolic rate while we are looking at their swim performance.

The equivalent would be if you place me on a treadmill and you exhaust me or exercise me. My cardiac problems would manifest themselves in poor performance on this treadmill.

And we can do it the exact same thing with Mahi-Mahi and other fish species in the lab.

The bottom line though is that Mahi-Mahi exposed to oil in certain concentrations during certain life stages are not able to swim as well as unexposed animals.

And swimming performance is critical obviously for capturing prey, therefore being able to ingest food and also critical for being able to avoid predation – avoid larger animals.

MATT DAMON

In a second study, the team discovered yet another serious problem.

ED MAGER

[University of Miami](#)

So what I'm doing right now is looking at larval Mahi-Mahi, specifically at their hearts. And the reason why we're doing that is because we know that one of the primary targets of oil toxicity is the heart.

The larvae that we have here today, we got from the experimental hatchery that we have across the street from our campus.

We find that with oil exposures to Mahi-Mahi, they have specific impacts to the heart and also have impacts on their survival at later stages of life and the capacity of which they need their hearts to sustain high aerobic function.

Dispatch #7

Lessons From The Past

MATT DAMON

Surrounded by rugged mountains and the frigid waters of Prince William Sound is the picturesque fishing village of Cordova, Alaska. Not very long ago, Cordova

was among the top ten fishing ports in the United States. But all that was before disaster struck in 1989.

MALE ANCHOR #1

It's being called the worst oil spill ever in Alaska. The super tanker Exxon Valdez, loaded with nearly 53 million gallons of oil, ran aground off the Port of Valdez...

MATT DAMON

Ultimately, about eleven million gallons of crude leaked from the Exxon Valdez oil tanker – devastating nearly everything in its path.

Among the few bright spots was the herring fishery. Everyone thought Cordova was spared, until something totally unexpected happened.

MALE REPORTER #1

The fishing village of Cordova was hard hit. A mainstay of the local economy, the herring catch disappeared.

MALE REPORTER #2

Fishermen from Cordova, Alaska say that lingering effects from the oil spill have caused a sharp decline in herring.

MATT DAMON

Four years after Exxon Valdez, the herring fishery suddenly collapsed.

STEVE MURAWSKI

We need to be cognizant that sometimes these events take a while to work their way through the ecosystem. Many of these animals are long lived. It takes a number of years for – you know baby fish to recruit to the spawning populations.

DAVE HOLLANDER

Larval fish are much more susceptible to contaminant chemistry and contaminant exposure than are adults.

Subsequently, if larval fish and even juvenile fish are more severely impacted by contaminant exposure then, as they become adults, those populations suffered dramatically.

MATT DAMON

So why should we care about an eleven million gallon oil leak that happened in Alaska 27 years ago – when today, the Gulf Coast states are still coping with the aftermath of a more recent 200 million gallon oil leak?

STEVE MURAWSKI

I think the biggest issue that we have in terms of learning from Exxon Valdez is to expect the unexpected. So we need to have a healthy skepticism about early declarations of no harm.

Dispatch #8
Where Did The Oil Go?

MATT DAMON

To the causal observer, it's hard to believe that the world's ninth largest body of water is still under stress. The flotilla of boats surrounding the BP blowout site is gone – and oil exploration has resumed in the Gulf. Tourists have returned to pristine beaches, commercial and recreational fishing boats are again working the waters of the Gulf, and the seafood is safe to eat.

So what happened to over 200 million gallons of leaked oil? Government scientists estimate that 25% was burned or siphoned off. 23% reached the salt marshes and beaches or stayed in the water. And 52% evaporated into the air or was dispersed.

TONY KENNON

Mayor – Orange Beach, Alabama

I just don't know that anyone can say today whether dispersants was a good choice or a bad choice. It may have probably or may have been the lesser of evils. Only time will tell did the dispersants actually have a long-term effect on our ecology and environment, or not.

MATT DAMON

Scientists at John Hopkins University are developing innovative ways to see how dispersants interact with the ocean.

JOSEPH KATZ

We have some unique facilities that enable us to simulate oceanic conditions in a very controlled laboratory set up.

JOSEPH KATZ

Johns Hopkins University

This information then will go into large-scale field models that actually try to predict the fate of oil.

CHENG LI[Johns Hopkins University](#)

Essentially, I built the wave tank from scratch, which is 20 feet long wave tank and it can generate from non-breaking waves to very violent breaking waves. And it's amazing.

MATT DAMON

The wave tank enables scientists to study exactly how naturally breaking waves split oil slicks into small droplets. But when dispersants are added to the oil slick – high-speed cameras capture the interaction. The result is remarkable. The oil is broken up into microscopic droplets, which mitigates many of the adverse effects of an oil spill.

DAVID MURPHY[Johns Hopkins University](#)

When you have an oil well blowout at the bottom of the ocean, you almost have this cloud or this smokestack of oil that's rising from the bottom of the ocean. And as it rises, it gets swept by the current. And so I built a towing tank to try and simulate that process. So we're looking at how that dispersant breaks the oil up into very small droplets and then looking at how those droplets rise much more slowly and how that interaction changes the structure of the plume. And that ultimately affects where the oil goes.

JOSEPH KATZ

What happens after an oil spill? How fast the oil disperses, how much of the oil is going to end up in the marshes, how much the oil will settle to the bottom?

We need to answer those questions. Otherwise we don't really have tools to predict and then we don't really know what kind of tools do we need to develop to mitigate the adverse effect of oil.

MATT DAMON

Despite the use of dispersants, about 47 million gallons of Deepwater Horizon oil reached land or stayed in the water. Its impact poses a lingering question that scientists are still trying to answer. Chris Reddy and his colleagues from the Woods Hole Oceanographic Institution have been filling in some of the blanks.

Dispatch #9

Ginger Snap Cookies

CHRIS REDDY

My whole career has been studying oil spills, and at the end of the day I think about oil as a bunch of different molecules and I'm interested in where all those molecules go and how Mother Nature attacks them.

I try to go out and collect as many different oiled samples and try to figure out who's winning this war of nature versus oil.

We're going to start looking for samples. They have a little orange glow to them – about as big as a ginger snap cookie. So from a distance you could almost think it's this, but it's not. That's a shell. That's a sample from the Deepwater Horizon right here. That's one. That's not.

What I have been seeing more recently – that a lot of the oil compounds that we would have thought would have lasted a decade maybe only lasted about a year. The sun and has done a remarkable job of breaking down these oil molecules

much, much faster than I would have thought. And to me has added a whole new appreciation about how powerful the sun can be breaking down oil in the environment. You know we still find oil on some beaches, but it's very trace amounts. And you know we know there are some oil and salt marshes in Louisiana, but after that it's really hard to figure out whether or not there's any you know identifiable oil. And so obviously you have to keep looking.

Dispatch #10 *Holy Cow Moments*

MATT DAMON

Like Chris Reddy, Mandy Joye is also looking for answers. She's an oceanographer from the University of Georgia. Her team of researchers studies the environment in the most remote parts of the Gulf of Mexico.

MANDY JOYE

It's different too in that the little beads at 600 were larger. These are little tiny like tar ball size.

MATT DAMON

Places where oil seeps naturally from vast pools of petroleum locked deep beneath the sea floor.

MANDY JOYE

I'm a microbial geochemist. That means that I study microorganisms, the little tiny organisms that you need a microscope to visualize. You can think of them as these little microbial worker bees that live in the ocean and they carry out critical processes that make the ocean function and keep the ocean healthy.

MATT DAMON

Over the years, Joye has visited numerous sites where animals have adapted to an oily existence – places where microscopic organisms eat tiny droplets of oil.

MANDY JOYE

These natural seeps are incredibly diverse and the teeming with life. Every single dive is filled with “wow's” and “ah-ha's” and “holy cows” and “can you believe that?” Oh my God – look at this – look at that!

MATT DAMON

But ever since Deepwater Horizon, she has experienced very few “holy cow” moments.

MANDY JOYE

It’s a lot of dead worms and debris from the water column.

MATT DAMON

In 2010, Joye and her team were aboard the research vessel Atlantis several months after the blowout. Operated by the Woods Hole Oceanographic Institution, the Atlantis is one of the most sophisticated research vessels afloat. The ship’s hangar carries a unique vehicle. A manned submersible called the Alvin – famous for its voyages in the deep ocean – including the exploration of the Titanic.

For this cruise, the Alvin will take Joye to the bottom of the Gulf – to a location just over 5,000 feet deep and two miles from the site of the oil spill. Her goal is to visually confirm what the team’s remotely operated equipment discovered. Instead of rising to the surface, a significant amount of oil now blankets vast areas of the ocean floor.

Diving to bone crushing depths and frigid temperatures introduces inherent risks on every dive.

MANDY JOYE

But I’ve never been afraid because these guys – the ship’s crew and the Alvin crew – they’re excellent at what they do. And you feel perfectly safe in their hands.

MATT DAMON

The Alvin’s ultraviolet camera is turned on. Wherever there’s oil, the sediment fluoresces an eerie green.

MANDY JOYE

The bad “aha moment” was when we really started looking hard at some of the animals. We saw oiled and dead corals. We saw oiled and dead sea fans. All the filter-feeding organisms were clearly impacted by the sedimented oil.

A sea fan that’s a few feet tall can be five hundred years old and happily surviving and is now covered in brown slime and is dead.

We saw two crabs both of which had the darken carapaces and they all were just covered in these barnacles. And when we brought that crab up, we picked some of the barnacles off and looked at them under the microscope. And their guts were filled with this orangey, oily look residue. That to me was a very just sort of somber message.

MATT DAMON

The dive to the bottom of the Gulf confirmed Joye's worst fears. She found oil – and lots of it. Since the oil spill in 2010, Joye has made 17 such dives to the floor of the Gulf. And along the way a question she is often asked is simply this – nearly six years after the blowout – what is the state of the Gulf?

MANDY JOYE

The answer is we don't know fully yet. I think in many aspects the Gulf is certainly resilient and it has responded incredibly to this very, very large and significant perturbation. But I do believe that there are things that we don't know the answer to yet.

Dispatch #11

Tracking Contamination

MATT DAMON

Back on the Weatherbird, long-lining for red snapper is over for the day – and the mud team of the “Mud and Blood Cruise” has taken over the main deck. David Hollander and his researchers are launching a device that collects sediment samples from the sea floor.

DAVE HOLLANDER

What we have here is the multi-corer. This is the device for taking sediment cores from the ocean basin.

DAVE HOLLANDER

You got it?

WINCH OPERATOR

Ready to roll.

DAVE HOLLANDER

So why are we doing both sediment coring and fishing on the same cruise, which is sort of unorthodox? By us taking sediment cores in the same locations as we do the fishing we are able to relate the evolution of contaminants over time in the sediments – to the changes that we see in the fish. All right; we're in.

What we're trying to do is track the vectors of contamination. How it goes from the sediments into the fish. And then how long it takes for the sediments to recover, the contamination to decrease, and see how that parallels the contamination in the fish.

What this is essentially is a record of history or you can view it as a history book where you can peel back the layers or turn the pages back in the history of the Gulf of Mexico. So this could be anywhere from a couple of hundred years to present – each layer denoting a certain time. The Deepwater Horizon is going to be the upper most window of time that is accumulated in this sediment core.

MATT DAMON

When the Weatherbird returns to Panama City – all of the samples and data collected during the two-week Mud and Blood Cruise are carefully off-loaded and brought to the University of South Florida in St. Petersburg. That's where the process of discovery continues.

MALE LAB ASSISTANT

All right, you ready?

FEMALE LAB ASSISTANT

Yep.

PATRICK SCHWING

This is the carbon dioxide coming from the sample into the mass spectrometer.

ISABEL ROMERO

This is the reference gas for the nitrogen. Those are great picks actually.

DAVE HOLLANDER

The chemical techniques that we use – are essentially doing forensics on the events that are associated with the oil. How the oil evolved in the system and ultimately its impacts, its consequences, and its fate.

MATT DAMON

Murawski and Hollander's team discovered that oil contamination transferred from tiny creatures – that managed to survive in the oiled sediment – to small fish that feed on those organisms – and then the contamination simply moved up the food chain until it reaches larger fish like the red snapper. But there is also some good news.

STEVE MURAWSKI

The fish are fine. Unless people are eating things like gall bladders there should be absolutely no difficulty in terms of meeting public health standards you know for fish muscle – fish flesh. So people should be confident that they're not eating tainted fish.

Dispatch #12
Final Thoughts

MATT DAMON

Today, the scientific community is working together to push the boundaries of what we need to know about oil spills and what we still need to discover. Yet in the end – there are simply no easy answers – no quick fixes.

DAVID CHAUVIN

It was never, ever a thought that it would be possible to have to get out of this business. You was born in it. You knew you were going to be raised in it, and you was probably going to going to die living in, in this business. The fear is what if this ever happens again? How many oil spills can the Gulf take before it starts having a more of a negative effect than what this one's already had?

DAVE HOLLANDER

As exploration moves further off shore to deeper environments, these deep-sea blowouts or any subsurface blowout of an oil well is the new breed of oil spills.

STEVE MURAWSKI

What we're finding is that in many cases those wells are going to be over two miles deep. Much of that deep-water area remains totally unexplored. There are many new species to be discovered. It's really on us to try to do as much as we can to try to understand and protect those animals that are likely to be highly vulnerable to these kinds of issues.

MANDY JOYE

You've got to be a science communicator. You've got to be a science advocate. You've got to be a science educator and you've got to go outside the classroom. And you've got to work with kids. And you've got to work with adults. And you've got to teach them about how the ocean and the earth's system is changing.

MATT DAMON

In a world that is 70% ocean and inter-connected by an increasing demand for energy, we cannot ignore the reality that the search for oil is a major economic issue of the 21st century.

ROBERT CRAFT

If it ever a light bulb went off in all of our mind it was our economy is totally dependent on a clean safe useable environment. So that was the lesson that we learned and to this day that is still our biggest concern.

MATT DAMON

This presents the scientific community with an enormous challenge – to help find the right balance between the search for new sources of energy and what nature can safely provide.

Though separated by distance and culture – for the more than seven billion people who draw sustenance from the resources of the world – there are common bonds – bonds that are renewed by each generation – bringing new ideas – new attitudes – new hope. Planet Earth – this is our home – this is where our journey of discovery must begin.

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Titles

Series Host/Narrator
MATT DAMON

Producer
MARILYN WEINER

Writer/Director
HAL WEINER

Editor
JIM MCNAMEE

Co-Producer
REBECCA HOWLAND

Director of Photography
WILLIAM MILLS

Sound
JOHN NEU

Additional Photography
DENNIS BONI
DANIEL BRANAM
HAL WEINER

Drone Operator
WIL GONZALEZ

Original Music
FRANK FERRUCCI
CHRISTOPHER MANGUM
Series Science Advisor
THOMAS E. LOVEJOY

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Production Controller
VICTOR J. CALANDRA

On-Camera Interviews

AMY WALLACE

I've always been in love with the ocean. I have always wanted to work with it and be around it.

MARTIN GROSELL

I was raised in a very rural area – very close to a pond – and I spent most of my waking hours in that pond netting out any aquatic organism I could get my hands on.

SARAH MUFFELMAN

I've always loved the outdoors and was interested in science and animals.

Titles

Educational Materials Development
MARGARET PENNOCK

Assistant Editor
TOBY MUES

Intern
WILLOW ANGELICA NELSON

Web Site Design
REVELATION CONCEPT

Post-Production Facilities
HENNINGER MEDIA SERVICES
THERAPY STUDIOS

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WISCONSIN-MILWAUKEE*)
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On-Camera Interviews

DAVID MURPHY

I used to work on my science projects with my, with my dad and we used to build some pretty fun contraptions.

DAVE HOLLANDER

It should be noted I was a surfer and a surf rat when I was growing up. So this was a logical transition for me.

MANDY JOYE

My father used to joke that the question I always asked when I was a little kid – when I was walking along the beach – is

Titles

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On-Camera Interviews

where the water came from that filled my footprints.

[Underwriters Bed]

UNDERWRITING NARRATOR

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