



## **Journey to Planet Earth**

### **Transcript for Episode 01: Rivers of Destiny**

**Complete Version**

---

**Journey to Planet Earth is produced by**

**Screenscope, Inc.  
4330 Yuma St, NW  
Washington, DC 20016**

(Space Journey)

Since the first of time, before we even thought of time, our ancestors dreamed of wandering the universe. After years of longing, we finally ventured into the solar system -- searching for signs of life -- even for echoes of past civilizations. We claimed that we were looking for explanations -- perhaps we were really looking for a meaning beyond our lives.

Now that we have gazed upon far-off worlds, we may have found our answer. Turning homeward -- passing more familiar heavenly neighbors -- we now see ourselves in ways our ancestors never could have imagined -- finally aware that this is where our voyage ends -- this is where our journey of discovery must begin.

[Series Title]

(River Montage)

To enter the magical world of rivers is to experience their rhythm, their power, their extraordinary beauty. Though many rivers look lush and robust, they are in fact fragile and delicate environments.

From high above, space age information discovers newly emerging patterns of environmental change. Virtually every major waterway in the world is under attack.

Please join us now, as we journey to four great river systems. Along the way we will learn that the story of rivers is the story of unexpected -- unstoppable change -- the type of change that controls the destinies of the Mekong, the Amazon, the Jordan, and the Mississippi.

[Episode Title]

(Grafton - early morning)

The tiny fishing village called Grafton, where the Illinois and Mississippi Rivers meet, is still quiet -- its day not yet begun. In many ways, Grafton is no different from waterfront towns all over the world -- it's people are inescapably tied to a river.

(Church service)

This is a town of many generations. Most of those born here, have stayed here. Father Herkes is their spiritual leader -- guiding them through the ups and downs of life along the river. Since its founding more than 150 years ago, the people of Grafton have had their share of tough times.

(B & W stills)

In the beginning, they learned to endure the seasonal high waters of the Mississippi -- it was no more than an inconvenience -- a spring ritual. But then the river began to change. The year was 1927.

(B/W flood footage)

All along the Mississippi, floodplain cities were inundated, farms and industries destroyed, transportation paralyzed -- over 600,000 people became homeless.

(Footage of construction)

That's when the Army Corps Of Engineers stepped in to control the river. They started by building a series of locks, dams and thousands of miles of levees -- parallel mounds of earth and concrete sometimes twenty-five feet high. It was an enormous and innovative project. Nothing like it had ever been attempted before.

They were fighting to keep the livelihood of the floodplain farmers from washing away. After pleading for help, the farmers could only wait and pray. Their destinies were tied to the most productive farmland in America -- it was all they had. And without help they knew they were doomed.

(Computer Generated Map)

Today, computer-generated maps help us look at the vast part of the continent they were trying to protect. Shaped like a funnel -- with the Rockies rising to the west, and the Appalachians on the east -- the Mississippi River basin drains thirty-one states and two Canadian provinces. This was the battleground in the fight between the Corps of Engineers and the river. But the end result was never clearly envisioned -- and the final cost was enormous.

(Clearing of wetlands)

Gone are irreplaceable breeding grounds and habitat for plants and animals. Gone are aquatic ecosystems that cleansed the river's water. Gone are woodlands that eased the burden of floods.

(Helicopter aeriels)

Today, more than sixty percent of the floodplain wetlands and forests have simply disappeared. In their place are twenty-two hundred miles of levees protecting millions of acres of rich farmland and hundreds of river front cities. But was the battle really won? There are no clear answers

(Fishing)

For years the people of Grafton saw themselves as winners. Jim Beasley has fished Grafton's fertile waters since he was a boy. It's a proud family tradition he hopes to pass on to his children.

**Jim Beasley**

Well just being your own boss and being out in the fresh air, and the sunshine, and the excitement of catching a few fish once in a while. The river kind of gives you a boundary, too. This is as far as you go. I can't image somebody living out in the desert or up in the mountains where you don't have a river.

For the people of Grafton, life on the Mississippi seemed perfect. They rarely thought about the vulnerability of their shoreline. Then a strange thing happened.

(Flood of 1993)

The year is 1993. An almost never-ending series of storms stalls over the upper Mississippi basin. For months the rains keep coming.

Though this weather pattern is unusually severe, the actual amount of rainfall along the Mississippi hasn't really changed over the past 90 years. What has changed are the wetlands -- which are now carpeted with concrete and asphalt -- accelerating run-off and flooding.

By early spring, the land can't absorb any more rain -- and the river starts to rise. No one expects it to get worse -- but it does.

Jim Beasley is forced to pull in his fish traps in mid-June, when the upper Mississippi is closed to all commercial and recreational traffic.

(Enhanced satellite images)

Satellite images help scientists keep a focused eye on the unfolding drama. As the water rises, a massive levee system struggles to protect the city of St. Louis from the flood. Near Grafton and the surrounding communities, farmland that once separated the Illinois and Missouri Rivers from the Mississippi, slowly becomes an inland sea.

(Night)

In a final act of desperation, floodplain communities reinforce their final line of defense.

(Morning)

August 1st dawns warm and sunny. Volunteers continue sandbagging. At 10:50 a.m. the river crests. Their hard work seems to have paid off. Then it happens -- the Mississippi, fed by a hundred thousand surging streams and rivers, crashes through levee after levee. The long siege is over. The river wins.

(Flood damage)

Grafton's main street joins the Mississippi. In shock, the townspeople take to their boats and survey the damage.

**Townsperson #1**

It's not just the house its the whole town, the people. Its devastating.

**Townsperson #2**

Somebody pays the price. It may be up stream, and it may be downstream, and it may be both, but somebody will pay the price for the tampering.

Even before the waters recede, communities all along the Mississippi begin to re-evaluate plans for future development along this mighty river. For others it's too late. Inundated towns become reminders that nothing can stop a powerful river from trying to reclaim its rightful inheritance.

(Grafton today)

This time Grafton was lucky -- when the Mississippi slowly returned to its banks the town was still there. Every Sunday, Father Herkes still tends to the spiritual needs of his parish.

And Jim Beasley -- armed with a new respect for the river's power -- still hopes his sons will go into the family business.

(Brazilian spear-fishermen)

Forty-five hundred miles to the south of Grafton, the lives of the Brazilian spear-fishermen of Sao Miguel are also governed by the pulse of a great river -- the Amazon. They are stalking the Pirarucu, one of the largest freshwater fish in the world.

Since daybreak, the fishermen's attempts have been futile. They continue the hunt because one fish is equal to a week's wages. But deep within their silent vigil, the men sense that something is wrong with the largest river system in the world.

(River)

The Amazon River is enormous. Fed by the melting snow of the Andes -- three of its tributaries are larger than the Mississippi. The river discharges one sixth of the world's flowing fresh water -- and one day's release is enough to satisfy New York City's needs for 12 years.

(River journey)

As it enters the flatlands of Brazil, the river carves a maze of uncharted channels through the world's largest rain forest.

This is the primeval Amazon, the dark interior feared by early Western explorers. Today the indigenous people who once dominated these waters are experiencing a new darkness. Pushed aside by outsiders, they have almost disappeared.

(Rains begin)

Every year the Amazon undergoes a major transformation. For six or seven months, dense tropical rains dominate the landscape.

(Space visualization)

As the river rises -- satellites map the yearly cycle of water vapor circling the Earth. The whitest areas indicate severe thunderstorms. A pattern of intense activity emerges over the Amazon Basin of South America. For six months each year, rain is the driving force of the river.

(Flooded forest)

There are no vast engineering projects here, so the river is free to invade the floodplains, with as much as thirty feet of water. Such a deluge would torment the people of Grafton, but here along the Amazon, these yearly floods are a blessing.

(Underwater)

They give birth to an enchanting underwater forest. Fish swim among the trees -- snatching insects or fruit from limbs normally high above the forest floor. This rich -- almost inexhaustible feeding ground -- is the primary reason the Amazon is home to over three thousand species of fish -- three times more than in all of North America.

(Above water)

For centuries, the Indians who lived along these shores guarded the floodplain as a sacred source of food for their fish. Today, those who live here have forgotten that the fate of their fishery depends on the health of the flooded forest.

(Ranching)

For decades, these fragile lands have been plundered by ranchers and farmers -- outsiders who covet the fertile soil of the floodplain. Matching the loss of Mississippi wetlands, less than 30 percent of the trees along the lower Amazon River floodplain remain standing.

(Space visualizations)

Satellite radar images show the devastating changes to what was once an unbroken green carpet of trees flanking the Amazon River. The pink color indicates deforestation and the loss of aquatic feeding grounds. The large red area indicates intense human activity.

(Sea of faces)

Located in the heart of the Amazon, Manaus is a metropolis of over a million people. Years ago, a thriving rubber industry made it one of the wealthiest cities in the world. Today it's a free-trade zone and the economic capital of Amazonia.

(Manaus waterfront)

Almost everything that comes in and out of the Amazon passes through these waters.

**Carlos Miller**

We are right here in the fish market of Manaus. This is the interface of one of the major problems we have here in the Amazon, that a lot of people don't know about. A lot of people around the world when they talk about environmental problems in the Amazon region they talk about deforestation, they talk about burnings, about mining, but no one hardly talks about the problem of fishing that we have in the Amazon.

The fish arrive here, at the Port of Manaus in different sizes. Before we used to get very large fishes, and now we're getting very small fishes. This is a consequence of over fishing that we are having in this region.

(Slums)

It is the mismanagement of the city's natural resources that has created severe economic pressure. Overcrowded shanty towns are breeding grounds for disease and crime -- as poverty stalks those who once looked to the river for income.

(Port)

Along the waterfront, river boats are swollen with people on the move. Most are in search of a better way of life.

(Poor fishing village)

In villages all along the Amazon, there is debilitating tropical heat -- and an undercurrent of desperation. The decline in the fisheries has caused problems and pressures for almost everybody. Life is hard -- unemployment a reluctant reality.

(Boat building)

Nuovo Airao, the largest boat building community in the Amazon. Three years ago Francisco du Silva Bentes and his family moved here from the slums of Manaus in search of prosperity. Today, they barely get by.

(Lumber mill)

The town's saw mill is almost idle, as the demand for fishing vessels declines. Ironically, the source of their lumber is the deforested floodplains.

(Lonely fishermen)

They were once thriving commercial fishermen, but now they work the waters alone or with a neighbor. Their primary objective is not to earn a wage but simply to keep hunger away from their tables. The dream of a better life seems so far away.

(Spear fishermen)

Five hundred miles downstream, however, the fishermen of Sao Miguel are doing better. Their patience finally pays off. Quickly converging on their prey, they will share the prize. Because of newly-acquired resource-management skills along this part of the river, this year's catch has actually increased.

(Fish Market)

The fishermen of Sao Miguel bring their Pirarucu to the largest market on the lower Amazon.

**Toby McGrath**

We're here in Santarem, five hundred miles upstream from the mouth of the Amazon River part way between Belem and Manaus. Right now we're at the tablada, which is one of the local fish markets, and you see behind me here fishermen, mostly subsistence or small-scale artisanal fishermen who live on the flood plain and come here a couple of times a week to sell fish.

We've done some studies on the fisheries in this region, and we've found that the lake fishery here is twice as productive as the fishery in some of the other communities in the area, and this is a function of the management system.

(Toby in canoe)

Toby McGrath's study of fresh water fisheries has led him to the remote villages of the lower Amazon.

**Toby McGrath**

We're here in the Community of Ile de San Miguel, which is a community of about 35 or 40 families on a small island of the same name in the middle of the Amazon River. These guys are small holders mostly, mixing activities like agriculture, fishing, and small-scale animal husbandry, mostly chickens, pigs, and some cattle.

This is the time of year when agricultural activity gets going, the first crops are being harvested at this time of year, the fishing has gotten very productive, a lot of seasonal migrations of fish upstream occur at this time of year, and as the lakes contract with the dry season, the fishing in the rivers themselves gets more productive.

Sao Miguel is a major success story. Its fishery has now been completely revitalized. Farmers and ranchers were encouraged to work together to preserve the integrity of the floodplain forest.

The problem of a dwindling Pirarucu population was solved by controlling the catch -- by outlawing gill nets and having the fishermen return to the traditional ways of their ancestors.

(Kids singing)

Once each month the children of Sao Miguel gather outside so their classroom can become a meeting place for the community's leaders.

**Toby McGrath**

This is the kind of meeting they have once a month, and it's here that the basic issues, the day-to-day issues and the major issues, of the community are addressed. For example, fisheries issues, conflicts, people breaking the fisheries regulations that the community establishes.

(Village life)

The issue of the destruction of the Amazon floodplain forests is hardly unique. It's happening all over the world. This poses the most fundamental question underlying the destinies of all rivers -- what is the relationship of people to nature -- what are the obligations of this relationship?

The people of Sao Miguel have responded by taking control of their own destiny -- by treating their land and water as a shared commons -- and by balancing the needs of the farmers and the ranchers with the fragile feeding grounds of the floodplain forests.

(Sao Miguel's children)

The community's success is echoed by the children of the village. "Good morning sun," they sing. "Good morning earth, good morning river."

(Desert)

Unlike the Amazon, there is place in the world where the quest for water is never ending.

(Snow-covered slope)

In this place, snow is an almost forgotten treasure. These are the 9,000 foot slopes of Israel's Mount Hermon -- rising precipitously out of a barren wilderness.

(Enhanced satellite images)

Enhanced satellite images give us a new way of looking at the Middle East -- a new perspective on how the Earth works as a unified system.

(Surging river)

Mount Hermon is the source of the river Jordan. Soon joined by the streams of Lebanon and Syria -- the river gathers volume.

(Sea of Galilee)

When the Jordan finally enters the legendary Sea of Galilee it is almost 700 feet below sea level. The lake is also a reservoir -- supplying one third of Israel's water needs. Looming above the Galilee are the Golan Heights.

(Enhanced satellite images)

From space, the commanding military position of the Golan Heights is immediately clear. Syria's threat to divert the waters of the Jordan was one of the reasons for the 1967 Arab-Israeli war. With victory, Israel claimed the Heights and won complete control of the Jordan River and the Sea of Galilee.

(Helicopter aerial)

Today, very little of the lake's precious water is allowed to escape. What little that is released into the lower Jordan River winds slowly through isolated farms, all competing for the sustaining waters of the same thin blue line.

(Jordan and Dead Sea)

The Jordan river ends its hundred and twenty mile journey at the Dead Sea. More than thirteen hundred feet below sea level, this is the lowest point on the Earth. Seven times saltier than the ocean -- very little lives within its waters.

Compared to most of the world's rivers, the Jordan is insignificant. More water flows down the Amazon in an hour than flows down the Jordan in a year. But this river, marking the border between Israel and the Kingdom of Jordan, flows in a part of the world where the health of a river is influenced by politics as well as by the environment.

(Sea of Galilee)

Nowhere are the hardships of the Middle East more evident than along the Sea of Galilee on a Kibbutz called Ein Gev.

**Muki Zur**

Not everybody has the opportunity to see his home from the top. I live in this place and I feel everything from within--children, problems. And this kibbutz, my home really, was created by the conflict between the desert and the water, between the earthquake and the hope of the lake.

(Archival Kibbutz footage)

Sixty years ago, the people of Ein Gev had a dream they could turn their desert into a garden. It really wasn't all that long ago -- less than a lifetime.

(Sabbath service)

Today, these pioneers have good reason to celebrate.

(Harvesting bananas and dates)

Despite years of hostility and political unrest they have literally made the desert bloom.

(Fishing boat)

Like their biblical forefathers, the people of the kibbutz learned to work the waters of the Sea of Galilee. In the beginning they were tempted by the abundance of fish and almost depleted the lake. But they eventually saw their error. Today, the size of their catch is carefully managed and supplemented by an expanding fish farm industry.

**Muki Zur**

This perhaps reflects the whole Creation -- a small lake besieged by the mountains, a danger of desert, of desertation, and in the north, the very far north, a hope of winter.

(Desert)

Unfortunately, the people of Ein Gev can never change the geographic facts of their homeland. The desert covers almost ninety percent of the Middle East. This is the unforgiving wilderness of the Bible.

(Petra and Betshe'an)

It is also the home to the shrines of lost civilizations -- ancient cities and forgotten kingdoms.

(Ancient wheat fields)

Once, over two thousand years ago, parts of the desert were lush, when the Nabatean tribes found ways to support tens of thousands of settlers on very little rain. But over the centuries, these ancient technologies were lost. Recently, scientists discovered their secrets.

(Avdat)

**Pedro Berliner**

We are standing here in the ruins of the old city of Avdat. This city was built originally by the Nabateans, a tribe that lived in this area from around 300 BCE to 100 and 200 our era. The Nabateans were known for their abilities for collecting water, not only now for drinking water, but also water for agriculture in the lower parts of the valley.

The Nabateans discovered that the desert soil had an unusual property. When it rained, the soil formed a hard crust that allowed water to be channeled into cisterns. With as little as a fifth of an inch of rain, the equivalent of ten inches could be collected. Unfortunately, the water collecting methods of the Nabateans is no longer adequate to sustain the exploding population of the Middle East.

(Amman)

Amman is the sprawling capital of the Kingdom of Jordan. With a rich cultural history dating back six thousand years, it is now a modern city of just over a million people. The vitality of the street life gives no hint that a growing population is consuming water at an alarming rate.

But it is in Jordan's countryside that signs of a serious water crisis become apparent. Farmers desperately try to coax crops from the arid land. Deep wells are depleting much of the underground water supply -- and what little remains is often undrinkable.

Forty miles from these water-starved villages is the spiritual home of Western Civilization -- the city of Jerusalem.

(Jerusalem)

To enter the gates of the old city is to step back in time. For thousands of years, the holy land has suffered the stings of political fervor. Despite all its problems, Jerusalem continues to beckon the faithful of three great religions. It's still a cradle of hope. If lasting peace is to come to the Middle East -- those who decide its fate know that water must be a shared resource.

**Shimon Peres**

Water, contrary to land, is undisciplined in political terms. The water moves in the stomach of the land from one place to another place without following the borders, without following man's divisions. Even the rains don't go through the customs. Now, unless politics will attune itself to the demands of nature, namely to use correctly the sources of water, to distribute it as it is needed, to keep the land fertile our children will live in a desert and the desert is the father of poverty and of want.

Just a few miles from Jerusalem, are the rocky slopes of the Jordan River's West Bank. Occupied by Israel since the '67 War, it is home to three quarters of a million Palestinian refugees. Here, the quantity of water is so small, that it creates not only a struggle between the water and the desert, but a struggle between people.

(Riots)

For years, the West Bank has been a battlefield between Palestinians and Israeli soldiers.

(Streets of Jericho)

This is the ancient city of Jericho. Here, disputes over water are as old as its biblical walls.

**Lana Abu Hijaleh**

This is a city of 12,000 people, and now the expectations are so many Palestinian returnees will be coming back, a number of the ministries of the Palestinian authority are here, so there are a lot of restraints on the resources in Jericho City. One of that, of course, is water, because Jericho is one of the few cities in the Palestinian Territories where it depends on springs and on the underground water. In the past, it used to have access, of course, to the Jordan River, but after the '67 War this access was denied totally.

(Ayn Sultan Spring)

This is Ayn Sultan spring, it's one of the most ancient sources in Jericho. Water here is very important for all people. You can read about it repeatedly in the Koran, in the holy book for Muslims. It's mentioned by Prophet Mohammed. "From water comes everything that is alive."

(Arab village)

Like the early pioneers of the Kibbutz Ein Gev, those who live in the Arab villages of the West Bank know that without water, there will simply be no economic development.

**Lana Abu Hijaleh**

Water is considered a common commodity for people, they feel a right to use it, and nobody is allowed to restrict their access to it. So people are willing to protect it with their own lives, actually.

Though the Jordan River is little more than a creek compared to the Amazon or Mississippi, in a region so steeped in hostility and mistrust, equitable distribution of its waters may be the key to lasting peace.

**Shimon Peres**

We have to provide our children with the flow of water as a promise of their future and not to look anymore upon water as upon a gun, or a plane or a tank.

(Early morning along the Mekong River)

Unlike the Middle East, the guns along these shores have been silent for years. Deep in the heart of Vietnam's Mekong Delta, a flotilla of small boats cuts gracefully across the gentle current. It's a moment suspended in time -- rich, delicate, almost perfect.

Guided by first light -- each morning, Dao Hanh carries commuters across the Mekong River. Like all rivers the Mekong has many moods. Today's crossing goes smoothly. Hanh knows the cloudless sky signals a break in the seasonal rains that have visited these lowlands since time began.

(Buddhist temple)

Along the river's edge are artifacts of an ancient history shrouded in myth and legend. These are the sanctuaries of religious meditation.

(Buddhist service)

To cope with the mysteries of nature, the Vietnamese have always prayed to their ancestors for guidance. Who knows what their prayers might be today, if they knew that change is threatening their precious way of life -- their beloved river.

Fifteen million Vietnamese live in the tropical wetlands of the Mekong Delta. There is a world of water. The canals are their avenues; the irrigation channels -- their back alleys.

Nourished by the snows of the Himalayas, the Mekong is among the least developed of Asia's great rivers. Yet, it sustains people from six nations.

Since ancient times, the wetlands of the Mekong Delta have acted like sponges, storing and slowly releasing high water during the monsoons -- making it ideal for cultivating rice. The river not only irrigates, it refreshes the land with rich alluvial soil.

(Rice Paddies)

The work is hard -- the days long and steamy. But the land is so naturally fertile that Vietnam has become one of the world's leading exporters of rice.

(Can Tho)

Clearly, the delta is in the early stages of an economic boom -- and Can Tho, the provincial capital, is bursting with a new vitality. Each morning, thousands of people gather along the river to buy and sell the readily available goods that were once so scarce. New trade pacts between Mekong River nations have made this possible.

In many ways, the Mekong is similar to the Jordan River. Both rivers run through several countries -- each with a different economic and political agenda.

### Nguyen Xuan Thuan

Mekong River is also an important concern for the development of Vietnam. Because Vietnam occupies only the lower part of the Mekong, a lot of development activities have recently happened in the upper part of the Mekong like reservoirs for electric production, reservoir for irrigation.

(Rain & Floods and flooded village)

But recent upstream river engineering has also resulted in deforestation. Like the Mississippi and Amazon basins, the floodplains that helped regulate the ebb and flow of the Mekong are being cleared -- making the annual monsoon floods more severe -- and life more difficult.

(Fish farm)

For the fish farmers living near the ocean, the dry months present an even more serious problem. Upstream demands have reduced the river's flow -- allowing salt water from the South China Sea to invade the land.

Nuyen Van Dung recently filled his small fish pond with river water. When it's time to harvest his crop, he and his children drive the fish into gill nets. But the quality of the water is poor -- its salt content too high -- the family's harvest is meager.

(Water pumps)

To ease the growing problem, fresh water is now pumped from upstream locations into the farms of the lower delta. This has brought an uneasy truce with upstream development -- giving the six Mekong River nations desperately needed time to develop strategies for coping with the environmental threats that always accompany an increase in population.

(Fishing on river)

The silt brown river also nourishes one of the largest river fisheries in the world. For the people of the delta, fish is the primary source of protein.

(Fish market)

Not far from the Cambodian border -- Ha Hei Oanh sells shrimp in a local fish market. She does well -- earning about \$100 a month for her labors. At noon, Oanh leaves her stall, buys a few provisions and returns home to prepare lunch for her family. The shrimp business is merely a sideline. For her, prosperity literally begins at home, as it does for the other 600 houseboats moored along the river. These are the fish farmers of Chau Doc.

(Houseboat)

In large cages beneath Ha Hei Oanh's home, are ten thousand catfish. Her husband Tran and their children must feed the fish once a day for eight months -- until they are big enough to harvest.

The process of preparing fish food takes hours. Each farmer has his own secret recipe. Tran uses a combination of vegetables and rice bran. They cook the mixture for hours. When it's ready, they open a trap door in the middle of their living room, and initiate a feeding frenzy. A few minutes later the trap door is closed -- and it's the family's turn to eat.

(Family eating)

A television set and VCR advertise their newly-acquired wealth. In a country where the average yearly wage is under five hundred dollars per person, last year Oanh and her husband earned four thousand dollars.

Ironically, prosperity has brought a series of environmental threats to the fish farmers of Chau Doc.

Sewage systems struggle to keep pace with development. Run-off waters, tainted by fertilizers and pesticides drain into the river. If these waters become polluted, a newly-found prosperity could disappear. But for now, at least, the river is clean.

(Mekong River)

Clearly the Mekong has a major role to play in Vietnam's economic growth. But as with all great river systems, whenever there is a change, the lives of the people along its shores are also transformed. Here in Vietnam, it is still too early to determine whether their lives will be better or worse.

(New Orleans)

Unlike the villages along the Mekong, the delta city of New Orleans owes its very existence to the engineering transformations of its great river -- the Mississippi. Surrounded by water and wetlands, the city is ringed with a levee system that has been under construction for almost three hundred years..

Much of New Orleans lies below sea level. Without its twenty foot walls, the city would be devastated by periodic floods or a major hurricane.

Not very long ago, New Orleans almost became a backwater swamp when the Mississippi River showed signs of naturally changing its course. If the river was allowed to carve a new path to the Gulf of Mexico -- away from New Orleans -- the port would become a dry-dock.

Once again the Corps of Engineers was called in, this time to prevent the river from changing course. Their intentions were sincere -- and no one questions that New Orleans had to be saved. But, as the citizens of Grafton learned, the Mississippi can drive a hard bargain.

**Bob Meade**

I'm sitting next to the Mississippi River in New Orleans about a hundred miles from where the river discharges into the Gulf of Mexico, and I'm surrounded by things that have been brought down here by the river. On my right is a pile of mud and inside of which there are undoubtedly pieces of Montana, pieces of Upstate New York, pieces of Minnesota, West Virginia, all the states that are drained by the Mississippi.

This mud was brought in here on the last high water and left here, and you can see that it's beginning to gully on the edges because the river is gradually working it out of here, and come the next high water through here, it'll be flushed out of here and out into the Gulf of Mexico.

(Healthy wetlands)

In the past, the sediment-laden waters of the Mississippi were free to flow across the marshes of the Louisiana delta. Over time, the thick alluvial soils became fertile farm and ranch lands. The coastal marshes and wetlands became prime breeding grounds and nurseries for birds and animals.

(Lost wetlands)

Now scientists tell us that the levees are causing Louisiana's coastal wetlands to fall apart. Just a few years ago this bay was a sugar beet farm -- this marina, a pasture for grazing cattle.

**Denise Reed**

What would be happening in this area if we hadn't got levees all along the sides of the Mississippi River, over the next couple of hundred of years the Mississippi River would be building a new delta out into this area. By building the levees along the sides of the Mississippi, we've effectively excluded that expectation for areas like this, and really the future is just for it to turn to open water.

(Cypress swamps & dead oak trees)

The loss of wetlands along the Mississippi Delta is devastating. Ancient cypress forests are dying because of salt water intrusion. Dead oak trees are grim reminders of a once healthy coastline.

**Denise Reed**

So what we see now is salt marsh. Obviously, these trees did not grow in the situation that we now see them, they didn't grow with their feet in the salt water.

So they really are very good indicators of environmental change, and also, really of environmental change on the human kind of time scale

It is a serious abuse of a river system when each year over 25 square miles of Louisiana coastland are washed away.

**Bob Jones**

You know, if a foreign country was invading the United States, and it was taking 5 or 10 square miles a year, nothing would be spared to stop that foreign country from taking the land. But when it's a process like the Gulf of Mexico taking it, people say that's natural. I disagree. I think that when the river's course was channelized, we quit dealing with a natural system.

What we didn't take into account was the damaging impacts of what we were doing to the river. This land is not being allowed to go to full fruitation and maturity, and it's dying due to the interference of man.

(Cajun fishermen)

Louisiana is also home to a vibrant Cajun culture. Cajuns came down from Canada over two hundred and fifty years ago, in search of religious freedom -- they also discovered a way of life tied to a great river.

(Bayou boat traffic)

From the very beginning the Cajuns earned their living working the coastal waters of the delta.

(Shrimp boat)

Tommy Plaisance is a commercial shrimper. He owns his own boat and treasures his independent way of life. But the marine spawning grounds are disappearing as the nutrient rich Mississippi waters are channeled away from the fishing grounds. On some days, his nets bring up barely enough shrimp for him to break even.

(Sunken boats)

Lately, the bayous have become watery graves for an industry in peril. Also in jeopardy is the Cajun culture.

**Windell Curole**

The Mississippi River and the land that it has produced and formed here in south Louisiana has allowed the culture that's developed out here, the Cajun culture, mixed in with a lot of other cultures, to thrive. As it changes, as we lose the wetlands and our people can't make as good a living fishing as they did before, they have to look at other ways of making a living, and that inherently changes the culture of the area.

Tomorrow, Tommy Plaisance will be back on the water. Shrimping is what he loves -- it's what he does best.

(Closing Montage)

Tommy Plaisance is no different from the fishermen of the Amazon, the Jordan, the Mekong and the Upper Mississippi. The quality of their lives is controlled by the destiny of their rivers.

**Denise Reed**

We've put the levees on the Mississippi River to stop flooding and to maintain navigation. We didn't understand what the consequences of it might be. Now that we do understand those consequences, we need to take that lesson and apply it elsewhere and not make those same mistakes again.

Fortunately, scientists are beginning to understand how the Earth works as a unified system -- and world leaders are beginning to realize that environmental problems are blind to political boundaries.

**Shimon Peres**

What we have to do is replace the fire of hatred with the water of existence.

Though the challenge of balancing economic growth with the health of a river can be a difficult struggle - - no one questions that the time has come to strike a balance between what we want and what nature can provide.

**Bob Jones**

I believe we do have the technology. It's more a question of political will and finances and turf battles at the federal and state level that prevent effective restoration and preservation of what we do have here --- the natural system.

Despite all the change, the extraordinary thing about rivers is that they remain the heart, the soul, the cradle of civilization. They help feed nations -- they nourish the world.

And the people who work the rivers, who draw from their bounty -- they are anchored to their rivers by common ties -- ties that are renewed by the birth of each new generation -- bringing new ideas -- new attitudes -- new hope.

Planet Earth. This is our home -- this is where our journey of discovery must begin.

[Tail Titles]

#####