

**NARR:** The Black Sea separates Europe from Asia - but it connects as much as it separates, because this has always been an active trading area.

Seven nations share its coasts.

Over millennia, it has been a region where different peoples have met, fought, exchanged goods and ideas.

Religions and ideologies have come and gone, leaving their monuments and their myths.

Now, the collapse of the Russian empire has left a void filled by a discotheque in a mock temple to Zeus, blasting out pop music from the triumphant West.

The consumer economy has taken over, while the ghost of Lenin looks on in horror.

The downfall of Communism has left millions of people without a working economy or functional system of beliefs.

For centuries, the Black Sea served the people of its shores well, yielding an abundance of fish.

Its shoreline moulded pleasant beaches and wildlife sanctuaries.

But the great rivers that drain into it - the Danube and the Dnieper, the Dniester and the Don - carry the effluence of 170 million people from Europe's heartland.

Chemical wastes from industry and agriculture have poisoned the habitat, and there has been rabid overfishing.

In the space of ten years, the Black Sea's fisheries lost 21 out of 26 different species of fish.

At the end of the twentieth century, this sea that yielded such abundance is dying.

The Ecumenical Patriarch Bartholomew of Constantinople, of the Greek Orthodox Church, is one of the few religious leaders to have made a passionate commitment to saving the environment.

Because of this, he is known as "the Green Patriarch".

**NARR:** In the fall of 1997, Patriarch Bartholemew convenes a symposium on the Black Sea in Crisis - a crisis environmental, political, economic, above all, in the eyes of the Patriarch Bartholomew, spiritual.

For this Black Sea voyage, the organizer, Maria Becket, has gathered together an international group of environmentalists, scientists, economists, writers, and religious thinkers.

A floating think-tank of over 200 people who will be together for the 10 days of the voyage.

The Greek cruise-ship's discotheque has been transformed into an auditorium where the problems of the Black Sea are discussed.

**JANE LUBCHENCO:** Our voyage this week focuses on the Black Sea, but does so as a practical vehicle for dealing with the issues that are indeed global issues. The Black Sea is a microcosm of the environmental problems of the planet.

The crisis of the Black Sea mirrors the crisis of the Earth and the crisis of humanity. Perhaps solutions to the Black Sea crisis may enlighten, inform and inspire our global challenges.

**DAVID BELLAMY:** ...so we have contact with Nature.

**NARR:** Just as important as the information in the plenary session will be the contacts made, ideas swapped, networks created, on a personal level.

The passengers visit major ports in most of the countries of the Black Sea, looking at local conditions and meeting people.

Formerly part of the Soviet Union, Georgia broke away and became fully independent.

Trapped in the massive changes of the new global economy, it found that independence was no guarantee of prosperity.

**LAURENCE MEE:** We talk about this wonderful transition to a market economy, but of course the reality was that going from a system where an old economic regime, which was the centrally planned economy, was falling apart, to a successful market economy takes several years, and initially there has been a terrible financial collapse in many countries.

**NEAL ASCHERSON:** We take a country like Georgia - Georgia was the richest part of the whole Soviet Union. It produced fruit and vegetables which were sold to the whole of northern Russia and Siberia, produced wine and cognac, it had a rather artificial but very flourishing industrial economy as well, specializing in electronics, primitive first generation computers, and all this kind of thing - all that just collapsed overnight, you see, when the Soviet Union fell apart, so Georgia lost all its markets, all its communications, it plunged into civil war, there was no fuel, there was no electricity, people lived in darkness and in cold all through the winter, with practically nothing to eat and practically no money, and in different variations this spread all round the sea.

**NARR:** With the collapse of the economic and political system, people were filled with a sense of powerlessness, an inability to control and plan their lives.

Many turned to religion, which under Communism had been persecuted.

**His Holiness the Patriarch Elias welcomes the Patriarch Bartholomew to Georgia on his first visit.**

**Each Eastern Orthodox church has its own Patriarch - but as Patriarch of Constantinople, Bartholomew is recognized as first among equals.**

**As such, he is spiritual head of 250 million Christians.**

**Throughout eastern Europe, churches are being restored to their former glory, with new embellishments.**

**For many of the voyagers, this is their first encounter with the strength of religious feeling in the former Soviet republics.**

**METROPOLITAN JOHN OF PERGAMON: Religions can undoubtedly provide motivation for ethical behaviour, but science is not necessarily a source of ethical conduct.**

**NARR: In his speech, John of Pergamon is seeking to establish harmony between the religious and scientific disciplines, which have often been in conflict.**

**PERGAMON: What then is the use of religion in tackling such problems as the protection of the environment? Why not leave such matters to the scientists alone? Furthermore, how can science and religion work in common on such matters, given the fact that the former, that is science, has got the know-how, while the latter, religion, seems to dwell in celestial places detached from the realities of life.**

**HOWARD RIS: I think it takes a while for the scientific community and the religious community to get to know each other and to build up a level of trust where they can really begin to address issues such as those of the Black Sea in a meaningful way. They use a different language, they come at it from very different historical contexts, and often I think there's a great deal of suspicion.**

**PERGAMON: The ecological crisis facing humanity in our time cannot be overcome unless all human beings in every walk of life, join forces in an attempt to find a solution to it.**

**Neither science can respond to the challenge of the environmental crisis without religion, nor religion can do that without science.**

**RIS: When Metropolitan John says the two things that have motivated him and his concern for the environment are essentially the sanctity of the human being and the sanctity of the natural world, I think most scientists can find common ground fairly easily.**

**PAUL EHRLICH:** Scientists of the world are united in saying, We're in deep trouble, it's high time the religious community got together and spoke in a common voice on this, and worked with the scientific community and with other groups to get people to co-operate, there is no way, I repeat, no way that the problems of the Black Sea can be resolved unless everybody works together.

**GRAEME KELLEHER:** Science by itself is ineffective. Science will not be applied to cure the evils and problems of the world without inspiration and it is religion that can provide inspiration.

**NARR:** David Suzuki, scientist and environmentalist, has come to embrace a holistic perspective.

**DAVID SUZUKI:** ...incorporated into what anthropologists call a world view, the sum collective total of our understanding of the world around us. Everything is interconnected, and that's why the stars and the moon and the sun, that's why the forests and the clouds and the sky and the rivers and fish, have all had profound significance because it all is a part of a single piece. But we with very rapid speed have seen the tearing at those interconnections so that we now exist in a world in which it is very difficult to see the interconnections.

**NARR:** As the Venizelos steams north, along the eastern shore of the Black Sea, the interconnections between humankind and Nature, and the economic forces pulling them apart become clearer.

The passengers are making a shore visit to a dolphinarium.

The dolphinarium was originally intended for the rehabilitation of dolphins and returning them to the Black Sea.

**ELLIOTT NORSE:** Russia is one of the world's great nations, one of the world's great military and economic powers, of course. It has suffered from hard times of late, and this facility suggests the effects of those hard times. These animals are being kept in captivity, but there is almost no funding to maintain them and to rehabilitate them, and let them go in the wild as this facility was set up to do. So now it's a dolphin show, I suspect to bring in a few dollars or a few roubles.

It's symptomatic, I think, that these animals are being forced to pay their way in the world, justify their existence by generating dollars, rather than being able to live in the wild as they did for thousands, millions of years before. Our planet is quickly going from one dominated by nature in which human beings are one species of many, and quickly becoming something that has been termed a mega-zoo, a gigantic zoo, where instead of a matrix of nature, with scattered pockets of people, we have a matrix of humankind with very small scattered pockets of nature, such as this holding facility for dolphins.



**SADRUDDIN AGA KHAN:** Non, ils ne sont pas malades, ils n'ont pas de place pour pouvoir nager.

**NORSE:** I think we have to do a better job. I think we have to have a world that is safe for marine organisms outside of these facilities. We have to have oceans that have food for them to eat, water of sufficient quality so that they don't sicken and die, places where they can be as they were before we came on the scene and changed everything.

**NARR:** The plight of the dolphinarium reveals the impact of a devastated economy upon wildlife protection.

Novorossisk already suffers from major pollution problems.

But the latest threat to the wildlife and to the city comes from an economic boom - in oil.

An international consortium wants Novorossisk to be the main trans-shipment point for oil piped overland from the huge Caspian oil-fields to the east, ending in an underwater pipeline in the harbour.

**ASCHERSON:** People of Novorossisk in Russia seemed immediately to appreciate that the new design for an underwater pipeline leading to an oil buoy terminal was dangerous, and led to the possibility of really massive pollution if there was a big spill in that pipeline.

And they have started to oppose it, and thousands of signatures are being collected for a referendum against it. So, you get this kind of social conflict between local groups, local populations and the government.

**NARR:** That afternoon, local groups for and against the pipeline gather on board the Venizelos to present their points of view.

The first speaker is the public relations representative of the pipeline consortium.

**PIPELINE PR:** ...in the process. Plus our oil-producing companies will finance if something happens.

We can't guarantee 100%, you will laugh at me if I say, Hey, it's 100% guarantee. But oil-producing companies will guarantee to pay all cost estimates, if something happens, if we have any oil spill.

**NARR:** Opponents of the pipeline present their view.

**ANTI-PIPELINE SPEAKER:** The reason we are against this project is very simple, it's because it touches us directly, I don't go into the high politics, I don't go anywhere else, I look at the place where I live.  
(Russian speaks) Why are we so much against it?

**(Russian speaks)** The reason we are against it is we have a business plan of development that includes development of the aquaculture.  
**(Russian speaks)** The other component of this plan for development of the region includes tourism.

**RUSSIAN DOCTOR (in Russian):** The city of Novorossiysk is an ecological disaster.

It is one of 68 Russian cities that has 10 times the permitted rate of pollution.

The mortality rate is 7 times higher than the rest of Russia.

80% of the children born in Novorossisk have some kind of illness.

75% of young men are not healthy enough to do their military service.

There is an AIDS epidemic - an epidemic.

**CHAIRPERSON:** Can I just er - we are running out of time, and maybe if the Russian press...

**NARR:** For Russia's desperate economy, oil offers some relief. It is by far Russia's major dollar-earner.

**JOURNALIST:** Can I just ask a general question? What is the trade-off between the possible risks of environmental damage and the benefits to the the Russian economy as a whole, the Russian people as a whole, or local damages, compared to common, public policy good, if the oil terminal were not constructed, what would have been lost, you're filling what need for the country?

**PIPELINE PR:** Number one, Russia would lose the leadership in the Black Sea area as an oil country, number two, we should go to progress.

**ASCHERSON:** This is the population against the oil majors, the great international oil companies. The Novorossisk pipeline, the consortium is a list of, you know, the five or six richest oil corporations in the world, and up against them are a handful of local people who have no money and no resources. You could say it's unequal, but they still have a chance.

**NARR:** The men fishing on the jetty make an idyllic scene - but the fish they catch are already diseased, and a new oil terminal can only make matters worse.

**ERDAL OZHAN:** I will read this material and we will point out all together the important key words in each of the paragraphs we have here.

**NARR:** Much of the business of the voyage is done in workshops, each group brainstorming over specific problems.

This workshop takes up the question of environmental education

**OZHAN:** So, the important words here are people's attitudes and .... position. This is the task of environmental education.

Just befo-

**MAN:** What we're all leaving out is that good education and environment means becoming critical thinkers and problem-solvers in the domain related to the environment.

**WOMAN:** I think it would be a good idea to have a special study board specially for children who live in this region.

**MAN :** The Black Sea is not the only place where we have tried to confront these problems, we as humans, the human family. So I think when we break up and get to work, with the young children we can think in unjversal terms.

**OZHAN:** It's aim should be to produce socially responsible...

**NARR:** Centuries ago, the Eastern Orthodox Church was one united whole, under the patriarchate of Constantinople.

But Constantinople lost its power to competing nationalisms and clashing dogmas.

In Eastern Europe, the Church suffered 70 years of persecution under Communism.

Now, the floodgates are open, and even the most extreme religious sects are being experimented with.

**FATHER ALEXANDER:** After 70 years it's a pretty good test to see who, who is is who, who really has got what in his, in his soul.

The current position is fairly tragic in terms of religious reality.

Now, as far as the religious bodies are concerned, yes it is true that both groups are the ones that are running the show, but now, with the opening up of the Soviet Union, practically everybody that operates in the West that has ceased operating in the West, for that matter, has come and opened shop in these parts.

There is a market here for for the weird.

Of course the majority are still impressed by the colour of the traditional stuff, but it's unclear how the whole thing will develop in due course. Very much early days.

**ASCHERSON:** It's a programme really for the reinvigoration, revival of the Orthodox Church, nothing less or to continue restoring the unity of Orthodox Churches.

Learn to co-operate, learn to drop their old mistrusts and jealousies, learn to transcend the often very extreme nationalism which has been adopted by different Patriarchates, you know, and cooperate together and find each other.

**NARR:** On this Black Sea odyssey, the Patriarch Bartholomew is trying to heal ancient rifts in the churches of the region. The spectacle of Patriarch embracing brother Patriarch is a symbol of the new spirit of reconciliation.

On board the Venizelos, anchored in Yalta harbour, the talk turns to eco-tourism.

**TERRY DELACY:** Our environments, our ecosystems, our natural areas, have immense value. The majority of the values however are non-market values.

Environmental goods and services are not generally traded in the marketplace, hence our dominant market economy undervalues the environment and as a consequence is degraded.

A large part of our ecosystems and natural resources are public goods. That is, no individual can exclusively own them, and hence buy and sell them.

It is precisely these public goods, beaches, seas, landscapes, forests, wildlife etc. upon which tourism is built. They are the background elements. As too, I might add, are many of the cultural resources, the other great building block of tourism. One of the challenges we in conservation face, is to harness these values inherent in the environment, and to incorporate them into everyday economic activity.

**NARR:** Yalta is the jewel of the Crimean peninsula. Although it is now part of Ukraine, it is steeped in the cultural history of Russia.

**DELACY :** One of the great driving forces for conservation is tourism. We have to ensure that tourism is sustainable, that we put in sustainable management practices, the best management practices into tourism, um, that we ensure that tourism links to local communities and brings real benefit to local communities and it can do that.

People will value the environment if they see it's beneficial to them. And we've talked a lot about values in the conference, but that's a fundamental part of our world market consumer-based economy, so what we've got to do is extract that value and make people realize to preserve the environment, and they will do that.

**MEE :** This is an absolutely wonderful piece of the Black Sea, it has a fantastic climate, the air is clean, the environment is clean, except for the fact that partly because of the transition that this country is undergoing, difficulty in raising revenue, the tourist industry is badly run down, it's the principle source of income, and a lot of the facilities for example for treating sewage, human waste, are not working properly. And unless revenue is raised, and those facilities are reconstructed, then of course, it will be difficult to attract many of those tourists to swim in the otherwise very clean beaches, so there is one basic problem here, which the treatment of human waste, something which can be resolved by technology and tourism can be developed here in a very sustainable way, it has an enormous potential. But people here are aware that they have to be very careful how they develop not to destroy it, they realize the value of their own heritage, and that's, that's really important.

**NARR:** The local pilot guides the Venizelos to the port of Odessa. Odessa is a handsome and vibrant city that has fallen on hard times.

**ASCHERSON :** The collapse of Communism meant a number of things. First of all, it meant, of course, the collapse of the Soviet Union around the Black Sea. That was the overwhelming significance. And that meant the complete disintegration of an economic system which – shaky and unjust as it was – had survived for nearly eighty years around the north and the eastern shores of the Black Sea.

Odessa in the Ukraine, a tremendously noisy, self-confident port city, normally a kind of cosmopolis, and this was reduced to a grey, silent, stricken place, there was no fuel, there was very little to eat, there was certainly no money, the streets were filthy, buildings were falling apart. It was a desolate place.

The upswing is caused by the beginnings of the transition to capitalism, if you like, from a communist system to a private enterprise system. And it's like all these things, it's very mystifying and it's very unequal in its effect, so that while the street scene is absolutely transformed – I mean, Odessa is full of pavement cafes, all the buildings have been repainted, the harbour terminal has been rebuilt, everything seems to be new and flourishing and cheerful. At the same time, people's pay is inconceivably low, and frequently people just don't get paid at all.

But it works, it works. It slowly begins to acquire lift-off, and defy the force of gravity. Very hard to understand how it works, but work it very slowly does. In a very unfair, unequal, uneven way.

I mean, at least the old system, you could say it didn't lead anywhere, at the same time it provided a basic security – you went in to

the office or the factory, you worked a little, you got a little pay, but it was enough to pay for artificially subsidized goods and services that you required. There was very little choice in life, as in the shops, but it was a kind of low-level, reliable routine.

Now all that is gone, the safety net, the welfare state has completely disintegrated and vanished, everything is being privatized, some people are becoming grossly rich – the so-called New Russians in Russia, for example – whereas the majority of people live in insecurity. The fact is you have to hustle to keep up.

**NARR:** Even when the Soviet economy was a functioning one, devastation to the ecosystem was immense.

Now, with people desperate for work, there is little incentive, and no money, for protection of the environment.

The Patriarch Teoctist welcomes his brother patriarch Bartholomew to Romania.

The Romanian port of Constanta commands the delta where the Danube, one of the great rivers of Europe, reaches the sea

**AGARDY:** This is Constanta, the port that's right next to one of the biggest hot spots in the Black Sea.

A hot spot is a pressure area that contributes most significantly to the degradation of this whole sea and region. The pollutants that enter this area via the Danube River and the two rivers to the east, the Dniester and Dnieper, include nutrients from sewage and from fertilizers, pesticides and heavy metals, all forms of toxins. The pesticide level in this part of the Black Sea is some 2,000 to 5,000 percent greater than the European standards allowable. So this is an area that is extremely impacted by man, and the impacts are not just the impacts from people here in this region, but also the impacts from Europeans who pollute the Danube as it travels through their countries. Germany and Austria contribute most significantly to the pollution of this northwest portion of the Black Sea.

**NARR:** Starting from the river port of Tulcea, the visitors make a short tour of the Danube Delta.

**AGARDY:** We can't separate the Black Sea from the rest of the earth, and in fact what happens here may be a dramatic example of the worst-case scenario, but it's exactly what's happening everywhere in the world, and what we do here in the Danube ultimately affects the people in Trabzon, in Georgia, in fact, in doing that, effects eventually the whole planet, so that the science message is also that all people are connected.

**FATHER ALEXANDER:** This is a message we recognize, those of us who care about the religious experience, have recognized this message.

**AGARDY:** But the question is whether the collective humanity can learn from this experience.

**FATHER ALEXANDER:** That's right.

**NARR:** Once filled with fish and wildlife, the delta has been seriously damaged by pollution and grandiose damming and drainage schemes.

Machinery now rotting once employed 6,000 workers, and pumped one quarter of the delta dry.

**BELLAMY:** This is the Danube, and we are going to go into the kidney of Europe. All the crud comes down from Europe, or one-third of it, down this river. And when all these wonderful wetlands were working, they filtered it out and they purified the water. Some idiot civil engineer said *You drain that and you can grow crops*, and they drained it, and they couldn't grow crops because it was either too salty or they had to find nutrients and things, so they totally killed off the kidneys. We need a kidney transplant. We can't bring another one in, but thank goodness because the economy of what was Russia is going downhill there's not as much nutrients coming through, and they are starting to reflood their fields to put the kidney back into working order.

**NARR:** On the Ukrainian side of the Delta, Orthodox priests are persuading fishers to plant reeds and open blocked channels - helping to bring back the natural flow.

The World Bank and World Wildlife Fund are supporting local environmental groups backed by the Romanian government.

**MAN:** So you try to get some of the nutrients out, or - what form of restoration?

**ROMANIAN WOMAN:** This is surrounded by dams...

**NARR:** These projects often cross national boundaries, and force co-operation between countries.

**MAN:** ...area, and let it purify by itself.

**ROMANIAN WOMAN:** Purify by itself.

**NARR:** Some wetlands - the cleansing kidneys - are being restored, migrating birds are returning.

**ROMANIAN WOMAN:** ...the birds come -

**MAN:** It's a rehabilitation project. Well, it's very interesting, I'm working with that myself.

**SYLVIA EARLE:** The fact that there is an effort to preserve, set aside some areas as habitat: the mouth of the Danube River, the Delta area, in the greater scheme of things it seems like a small thing – to protect a certain part of the area – but it takes a lot of small things to make some big issues come into focus, and protection of specific areas is a giant step in the right direction.

One of the big worries as far as I'm concerned is that so much of our knowledge of any body of water is a surface view. We're not actually getting down in the Danube River to take the fish's point of view, to see what life is like, day in, day out, night in, night out, as a resident underwater.

I think if we had that perspective it would make us far more, well, knowledgeable, but also sympathetic about what happens when we do something to change the whole atmosphere of the river or the Black Sea or the oceans as a whole. When we sit on the shore and we look at it, and, hey, it looks okay from the surface, you can't see some of the worst pollutants because they're dissolved chemicals.

**MEE:** Crisis sometimes can bring opportunity. What has happened is that because of the fact that there has been an economic collapse, industries have closed down – they're no longer economically viable. And this means that a closed-down industry doesn't pollute. Farmers, unfortunately, haven't been able to continue any form of agricultural practice in many cases, and certainly haven't been able to afford the use of fertilizers and pesticides. So in many of the countries surrounding the Black Sea, there has been a decline in the run-off of those agro-chemicals. That has given a little bit of relief to the Black Sea ecosystem, and there is some evidence of a recovery. It's not a complete recovery. There are early signs: some endangered species are increasing in number; some ecosystems are becoming richer again. The concern is that this is only a window of opportunity because the countries will need industry and they will need to intensify their agricultural production once again.

**NARR:** Solution to the problems of the Black Sea demands co-operation from countries hundreds of miles from its coasts.

Back on board the *Venizelos*, Ritt Bjerregaard affirms Western Europe's commitment to the region.



**RITT BJERREGAARD:** ...I have stressed the interest and the importance which we in the European Union gave to the problems of the Black Sea.

**QUESTION:** I haven't quite understood, you said, We will work on our member-states, meaning Austria and German, and at the same time, you said, They are fulfilling their obligations, so what exactly would be the work on these two countries?

**BJERREGAARD:** We have the best directives, when we talk about waste-water treatment, I think, in the world, and both Germany and Austria are fulfilling their obligations in that, so there's absolutely no reason for saying those countries are not doing what they can.

**NARR:** Pressure is on the heavily industrialised countries of Western Europe upstream on the Danube to clean up their effluents.

At the same time, the prosperous states of Western Europe, because of their economic clout, can exert pressure on the Black Sea countries to improve their pollution control.

The port of Varna has a fishing fleet that is suffering badly from depleted stocks

The economy impacts directly on the environment - Bulgaria's environmental services, like its famous institute of Oceanography, have had to close down for lack of funds.

One of the country's few flourishing industries is shipbuilding and repair.

The current success of shipbuilding is based on cheap labour due to the depressed economy.

But shipping itself is another source of Black Sea pollution.

Vessels discharge directly into the ocean, leading to oxygen depletion, a major cause of fish loss.

Each year, Varna is visited by 25 hundred ships. Servicing these vessels offers an economic opportunity that is also helps the environment.

In Varna, the voyagers visit a treatment plant for bilge - the filthy water in the bottom of every ship.

**PLANT REP:** That means oily water...

**WOMAN:** This is the treatment, right.

**MAN:** Yes, yes.

**NARR:** Bilge water is collected from vessels in Varna harbour, stored in tanks, and treated before being returned to the ocean.

**QUESTION:** ...part of the same port fee?

**QUESTION:** So they pay to the Port Authority?

**WOMAN:** And they make money out of that.

**PLANT REP:** Er, yes.

**NARR:** This clean-up is a money-making activity for Varna's Port Authority.

The bilge plant is state-run. But with depleted finances, the Port Authority is looking for private investors for badly needed restoration.

It has received seed money from the Danish government, which sees it as a way of helping the Black Sea cleanup.

**OLE SINKJAER:** A waste treatment plant in Varna here in Bulgaria is a very good example of how we can catalyse a project and with a minor donation attract additional financial means which then can support a whole project.

**NARR:** Like other areas of the Black Sea, Varna's beaches are threatened by pollution from sea and from shore.

On the beaches, cholera is a constant threat - but stalwarts from the Venizelos decide to defy the warnings.

**BELLAMY:** We've been told it's a very polluted sea, we've been told that they have armed guards stopping people swimming when there's a cholera epidemic.

**MAN I:** Well we'll find out in two minutes time won't we.

**MAN II:** Bye then, nice knowing you!

**MAN I:** I'm a Protestant and I want my ashes sent back to Wales.

**BELLAMY:** The last time I swam here in the Black Sea was before the main pollutants, it was back in the 1950s, and you know, this has been and still is a great holiday resort in Bulgaria, and our local leader, a marine biologist here swims every day. So I decided we should show solidarity and all come in, because I think everyone is now convinced that the sea can be saved, we can clean up the pollutants, we can get the tourists back, we can get a really strong economy, and only that will really save the sea from ultimate death.

**NARR:** The simple act of swimming becomes an act of faith that the health of the Black Sea can be restored.

That night, the patriarchs and priests perform another act of faith - the blessing of the ocean.

By this ceremony, the church recognizes the ocean's vital contribution to human existence.

**ASCHERSON:** I think the whole point of trying to involve the Orthodox Churches in the ecology movement to save the Black Sea is to find an area in which the Orthodox Churches can learn to stand on their own feet in civil society, without the state, and say something independent - and even critical - about the way that society is run, and the ecology - marine ecology of the Black Sea - might be exactly the right area where the Orthodox Churches can slowly learn to be independent in the world.

**NARR:** The sea is an element common to all the people of its shores. If one country is afflicted, all are afflicted.

The hidden blessing of the Black Sea may be this - that it can only be nursed back to life with the co-operation of all its people.

The Venizelos ends its circumnavigation of the Black Sea at the great city of Istanbul.

As Constantinople, Istanbul has ancient ties with the Orthodox Church - despite being in a Moslem country, it is the seat of the Patriarch Bartholomew.

Istanbul has major pollution problems.

**NILUFER KUYAS:** This city is going to die of smog, exhaust fumes, pollution, noise.

I try to remember sometimes what clean air felt like when I was a kid, because autumns, especially - crisp autumns - it was just like you could touch it, it was like crystal, the colour, the light.

**NARR:** Istanbul's problems are caused mainly by an explosion in population - principally from the movement into the cities of people from the countryside seeking a better way of life.

The situation is so out-of-control that no-one knows what Istanbul's present population really is - somewhere between 8 and 14 million.

**KUYAS:** This city - all of Turkey, but especially this city - needs a Clean Air Act. Immediately! You know, get rid of cars, I don't know, there are a lot of environmental groups here trying to do that: Green, a Platform for Istanbul, last year, Habitat helped a lot because of the

other problems in other mega-cities, so there's a lot of awareness, there's a lot of poverty, and the municipality can't cope.

**NARR:** A vessel from Turkey's environmental movement comes to greet the Venizelos.

The wisdom of Islam has much to teach about protection of the environment

**SADRUDDIN AGA KHAN:** If you look at the Koran and related texts, and the sayings of the prophet Mohamed, you will find endless references to the environment. There is for instance a reference to man's responsibility as a steward of God's creation. This is the concept of the khalifa, that man is God's representative on earth and therefore he has to care for creation. He should not waste and squander. He should treat other beings with respect. There is a tremendous amount of biocentrism in this Islamic teaching.

So I think the message of Islam is very clear. The problem is that like many messages and principles, they are not implemented.

**NARR:** Istanbul is vital to the Black Sea. It commands the strategic strait of the Bosphorus, which links the Black Sea with the Mediterranean - its only outlet.

But by international treaty, it has no control over shipping - in the busiest waterway in the world.

**ASCHERSON:** During the Cold War half-century, traffic through the Bosphorus really was very light, in modern terms. Not a lot was going on. The economies of the Black Sea were really closed to the Western world, they weren't part of the global economy, and not a lot went in and out. Now it's totally and rather suddenly different. I mean, since the collapse of the Soviet Union, the Black Sea has again become a huge international waterway.

**OZHAN:** This will be even more significant with the development of the new oil terminals for the Caspian oil, as we saw in- near Novorossisk. We already have a great deal of traffic, tanker traffic, in the Black Sea, and that poses a great pressure for the straits, especially the Bosphorus.

Now, 1995 number for the tankers passing in and out through Bosphorus is about 1,500 - that's a great number. That means every day we have about five tankers at present passing through Bosphorus. This represents a great risk for the city of Istanbul and the Bosphorus and also contributes quite a bit to the oil pollution in the Black Sea, which is a major issue.

**ASCHERSON:** The Bosphorus really cannot carry much more traffic. They've had one or two nightmarish spills and accidents in recent years, and the idea of, let us say, ten... a hundred thousand ton tanker detonating under one of the great bridges at the narrows of the Bosphorus off Istanbul is just appalling. It's appalling in terms of the human calamity; it also would mean that the Bosphorus was blocked to shipping and the economic consequences of that would be incalculable for a long time. Something really has got to be done. And it is huge problem.

**NARR:** Istanbul was the last port-of-call.

The circumnavigation is complete, the circle of healing and of harmony accomplished.

The Venizelos heads home to Greece, carrying patriarchs from the different countries for further consultations.

There's time now to assess the lessons of the voyage.

**MEE:** We need people to fundamentally understand the value – and the value not just expressed in economic value – but the spiritual value of improving the environment, of maintaining and looking after the environment.

**EHRlich:** The critical issue isn't, What direction should we be moving, it's How do we get to move in those directions, and that's in the social, political, and spiritual sphere. And that's where the churches come in. They have got to help society understand the problems, they've got to help solve ethical issues which cannot be solved by science.

**RIS:** I think there became a magic moment at least that I detected for some of the two groups of people involved in this Black Sea conference – the religious community and the scientific community – where they began to get to a point where they speak a common language, they equate the biosphere on the one hand with God's creation on the other as the very same thing.