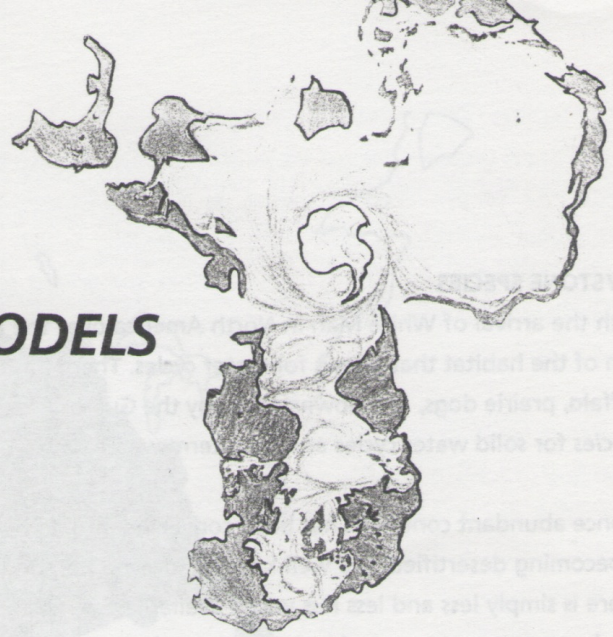


OCEAN EARTH: POLICY MODELS

August 24 – November 4, 2001
Rockford Art Museum

Sponsored by William Charles Investments



Circulatory System

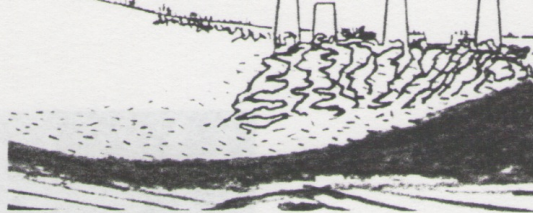
A view of the world from the standpoint of the seas, flowing over the lower parts of the earth's crust: Antarctica. Four basins are flung from there out: The Atlantic/Arctic, a north-south slump, the Pacific; the Indian Ocean; and further off, the interior basins of Eurasia. © 1998, Ocean Earth and Steirischer Herbst Kunst und Globaler Medien.

INTRODUCTION

A collaboration between artists, architects and scientists, Ocean Earth Development Corporation seeks to improve the public's habitat for sustainable living. Since 1980, Ocean Earth has targeted ecologically troubled zones throughout the world, devising solutions that can enact environmental and historical change. To achieve this goal, the company has been active in the fields of site monitoring, land/river re-engineering, alternative architectures, and the development of renewable energy technologies. Their work is guided by the premise that many of the world's environmental problems may be resolved by the rejuvenation of its natural water flows. As their name implies, Ocean Earth views the world not in terms of continental land masses with geopolitical divisions, but as a global circulatory system of rivers, regional seas and corresponding ocean basins.

Much of Ocean Earth's early prominence was gained from its satellite monitoring activities which yielded newsworthy discoveries, particularly in the Soviet Union and the Persian Gulf. Believing that satellite surveillance imaging should be public information, the company pursued wide-scale media services with this data, selling its analysis to major news services beginning in 1982. However, the team was eventually pressured to desist these activities due to government and corporate pressures. Even satellite data about agricultural practices and other non-military issues proved to be sensitive information as it was a potential source of power and wealth. The art world remained a responsive audience and a continuing means of support for Ocean Earth. A number of prominent artists such as Dennis Oppenheim and Paul Sharits have been involved in the work of the company, headed by Peter Fend.

In recent years Ocean Earth has turned its attention to the development of renewable energy technologies such as G.A.S. (Giant Algae System) which uses oceans and rivers as a clean fuel source. The company also proposes numerous structural engineering solutions, many derived from earth-art practices of the 60s and 70s, to revive the planet's circulatory system. Ocean Earth believes that these solutions, if successfully applied in North America, can be profitably exported to our Western Hemisphere neighbors who are experiencing similar disasters of drought, desertification, and species extinction.



KEYSTONE SPECIES

With the arrival of White Man in North America over the past several hundred years, there has been a destruction of the habitat that allows for water cycles. There has been a wiping out of most of the habitat for beavers, buffalo, prairie dogs, and downstream, by the Gulf of Mexico, alligators. These are all considered to be *keystone species* for solid water cycles and long-term water flow.

A once abundant continent has been converted into an over-farmed, over-urbanized sprawl which is very rapidly becoming desertified. We well know that even here in Illinois there is a very serious drop in the water table. There is simply less and less water available. Such alarms have been ringing for decades. Since the 70s there has been a grave worry about the draw-down of underground aquifers throughout the Great Plains and, similarly, throughout the Colorado River Basin and the Pacific Northwest.

It has been calculated that while agricultural practices work in Europe, a well watered continent, they do not work well in Africa, in most of Asia, in the Middle East, or in the Americas. The U.S. has never been conducive to large scale farming as we have known it. It has recently become evident that farming will largely become a bygone pastime in much of the Great Plains which will begin to revert to wild animal systems. Using already known technologies, we can restore, where possible, natural habitats, natural levels of the species, and the flow of rivers to the sea. Offshore we can develop systematic harvesting and collecting of nutrients with non-eutrophication algae which are conducive to large quantities of fish.

SITE TECHNOLOGIES

Ocean Earth develops what could be regarded as hydrological technologies. These include offshore rigs for methane production or processes for conversion of urban-industrial wastes to keratinized proteins for introduction into marshes. The company has also devised large-scale structures for river re-engineering as part of a comprehensive system for marsh renewal.

The team proposes to take an arid or infertile basin and restore its water cycles, including evapotranspirative circulation from marshes and the ocean. Bluntly put, one circumvents the use for dams for river control, of fossil waters for water supply, or mineral fuels for energy. The final technologies here presented, such as a Double Convex Marsh for any sloping river bed, can be built in place of dams, taking advantage, for example, of accumulated silt behind dams.

In tandem with constructions for keystone species renewal, these marsh systems can allow a pyramid of species to build up. Grasslands can begin to take hold outside the marsh, particularly with nutrient transfer by animals and pollination by insects.

North American Basins

The three main regional seas of the U. S.: the Alaska Current, the Gulf of California and the Gulf of Mexico. Waters flowing from these land masses impact the oceans, and, consequently our Western hemisphere neighbors in Europe and Asia. This method of mapping devised by Ocean Earth is guided by the geology and hydrology of the continent. It is remarkably similar to the first maps of the New World created by early explorers.



PARALLEL SEA PROPOSALS

The U.S. State Department has developed, for diplomatic and scientific purposes, a relationship with China which parallels the Rio Grande with the Yellow River and Mississippi/Missouri with the Yangtze. Following through on this mutually beneficial "sister river" relationship, Ocean Earth proposes that a larger framework, the regional sea, be adopted to allow for Parallel Sea Projects which would include the water basins fed by the continent's major river systems.

The regional seas of North America presented here include three main seas of the United States: the Gulf of Mexico, the Gulf of California and the Alaska Current. These seas impact our Northern Hemisphere neighbors in Asia and Europe. Weather, pollution or ecological breakdown in North American seas, including the lands draining into them, effect our neighboring continents, and similar events in those continents impact our own.

Ocean Earth proposes that the U.S. become a model of river engineering and marine energy production that can be exported overseas to revive the overall health of our planet. The enactment of such an international relationship of environmental cooperation will require ecologically sound engineering and official policy that transcends traditional geopolitical perspectives.

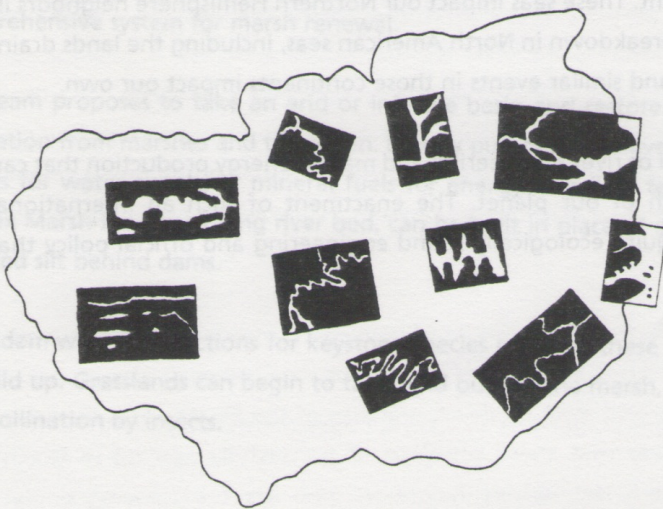
GULF OF MEXICO / EAST CHINA SEA & YELLOW SEA

The U.S. State Department has established a parallel between the Mississippi/Missouri and Yangtze and the Rio Grande and Yellow Rivers. However, as the Rio Grande is a trans-boundary shared with Mexico, the State Department initiative should include Mexico, or at least have its diplomatic permission. Also, the Mississippi/Missouri and Rio Grande together comprise a preponderance of the freshwater flow and soil/pollutant/detritus flow into the Gulf of Mexico. So, any understanding of their physical impact must include the entire Gulf.

In the High Plains of the Mississippi/Missouri river valleys, close attention must be paid to the depletion of ground-water due to current agricultural practices and the desiccation and saltification of the high prairie resulting from large dams and irrigation. Additionally, the loss of keystone species has caused the rivers to become unstable, oscillating violently between drought and flood. Offshore, where excess agricultural nutrients go, is a vast "dead" area with no oxygen and no life. Land use practices can be changed.

As in North America, so in East Asia. The partly-surrounded waters of these parallel seas are part of a larger circulatory system, joining one or the other of the two most powerful and voluminous ocean currents of the world: the Gulf Stream (Atlantic) and the Kuroshio Current (Pacific). The effects of changes upstream in the Mississippi/Missouri or Rio Grande valleys can therefore be seen in the flows of the Gulf Stream across the ocean to northern Europe. The same is true of the Yangtze and Yellow Rivers. Huge sums have been invested on the construction of giant dams like Three Gorges, and on the construction of related giant earth engineering schemes, such as a diversion of Yangtze River waters into the Yellow River, now seriously lowered due to drought. Beginning in 1994 Ocean Earth has studied ways of applying the logic and structure of various earth artworks to the hydrology and oceanography of China.

Another river-use practice being tested by Ocean Earth near Cincinnati would replace dams with sustainable small water-wheel systems. The technology being tested involves advanced fluid-dynamics engineering. Energy production, by a wide range of means, be that wind, direct solar, freshwater algae, or micro-hydro can be conducted on a local scale, the true ecological scale, rather than the giant, ocean-damaging scale of projects like Three Gorges or, closer to home, the Missouri River Dams.



MODELS: East China Sea and Yellow Sea Basin

This earthen model includes Y-tong stone inserts showing proposed earthworks to maintain the health of the Yellow and Yangtze rivers. These structures shown include diversions, offsets, meanders, cuts, estuaries, salt/mud flats and spiral ramps. These solutions can reduce flooding, revive habitat and supply water to growing populations. Many of these structures were prefigured by earthworks art of the 60s and 70s.

GULF OF CALIFORNIA / PERSIAN GULF

Ocean Earth follows through on the natural similarity of the heads of the two Gulfs, the respective mouths of the Tigris-Euphrates and the Colorado Rivers, to propose a joint US-Mexican project for the head of the Gulf of California using the same Iraqi/Russian engineering practiced in the Persian Gulf in the 1980s. While petroleum may be necessary for income and future investment it cannot be the long-term foundation of the economy. With what might one replace it? We propose Water.

To prove this, we start in a region with rather few fossil-fuel reserves, even though the alluvial downflows and deposits are similar, but with an extreme need for new supplies of fresh water: the Gulf of California Basin, fed chiefly by the Colorado River. Over a century ago all the region was described as "arid". While there may have been great fertility where the river approaches the sea, and where other rivers flow in from both flanks, the confluence has been clogged up with hundreds of feet of sand, silt, boulders, and gravel. A natural dam has formed. The flows to the sea are blocked and the sea waters become rich in salt and poor in oxygen. This alluvial pileup has been accelerated by human activity. Ocean Earth proposes to break up that clogging.

Also, far upland, riverworks could be blasted through the giant alluvial barriers which block waters from flowing out of Nevada and Utah into the Colorado River Basin. We focus on a valley, now blocked by alluvia and salts, like the Pahrnatagat River. The valley slopes towards the Colorado River, but its flows are currently blocked, and it also faces the prospect of water-sucking suburban sprawl. Ocean Earth recommends property development schemes that are far more conservative and leave the lowlands open not to farming but to wild animals. Similar practices could be introduced in the upper reaches of those now blocked rivers which slope towards the head of the Persian Gulf such as in the oasis town of Bardaia. Establishing a giant river in line with similar projects for valleys like the Pahrnatagat could also help restore political stability to that region.

Earthworks art could be promoted throughout all the regional sea basins. Alternative technologies such as G.A.S.™ could provide energy obtained from stable river-ocean relations. The Gulf of California, together with the Persian/Arabian Gulf, can become an earthworks laboratory in a relatively closed saltwater-sea catchment for the transition from arid to savannah-like terrain.



MODEL: Alluvial Channels

Continuation of channel systems begun by Iraq in 1986, diverting the Tigris and Euphrates rivers. Further cuts to the sea are proposed to revive through-flow to the sea and rejuvenate desertified lands. Similar constructions proposed for the Colorado river.

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RISK LOCAL / ACT GLOBAL

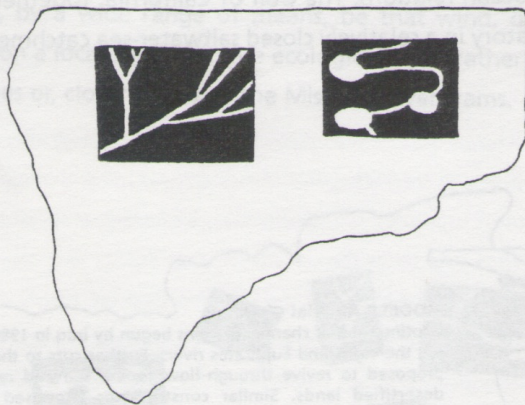
ALASKA CURRENT / IBERIAN CURRENT

If one looks at the ocean as the most important necessity, then we must ask what are the negative influences on the ocean? What should we correct and how damaged is the ocean- due to nitrates from farming, excessive pollution from coastal cities, and dams?

Dams hold up sediments and essentially cut off the supply of nutrients to the sea. Imagine what would happen if your body's blood flow was constricted. A dam is essentially a tourniquet on the rivers of the world causing its waters to be relatively sediment free, resulting in a serious malnutrition of the ocean. The result can be seen in Newfoundland, located downstream from dams in Labrador, where there are a lot less fish and less corresponding bioproductivity- less plankton, fewer birds, fewer sea mammals, the general degradation of an ecosystem.

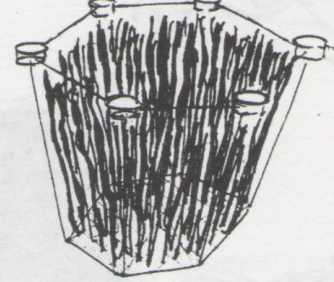
We know that dams, such as those in the Pacific Northwest the long term losses are much greater than the short term gains. Dam technology has boomed in the past century and a half, but like the oil industry and the nuclear energy industry, they are now under wide criticism, even by major institutions like the World Bank. All the areas in this show have serious distress caused by dams. There is a need to find replacements for such technologies in the long-term. And soon.

The large dam of the 30s has been discredited by experience; they do not control flooding in the long term and have long-term drought results as they break down the water cycle between the land and the ocean. This is very clear in Spain and the Pacific Northwest where the dams break down the fertility of the sea, the phytoplankton and the zooplankton capacity - the respiration so to speak. This reduces the cloud formation and the rainfall capacity which eventually results in drought.



MODELS: River Structures

Shown is a complex of meanders and Convex Disk Marshes installed at the bends of steeply sloped lands. Flood control is far more effective, if conducted systematically in the uplands as opposed to the damming of back waters far downstream. Closer to the coast where desertification has set in due to the loss of nutrient flow, a Desert Pierce is proposed. This multi-channel pathway focuses the flow of rapidly descending waters and prevents the river from fading into rivulets and ponds somewhere amidst dunes. Small pathways are constructed to converge on larger, wider pathways, all flowing with concentrated force to the sea, rejuvenating desiccated lands. Corresponding sites are marked in red on maps.



MARINE ENERGY

The bulk of fossil fuels are falling under control of countries that are either hostile or competitive with the U. S. Furthermore, the amount of such fuels is declining, and the wisdom of burning them at all has become suspect. Many believe that global warming is upon us, with an increase in floods, storms, aberrant temperatures and ecological stress.

In the course of queries on how the City shall be supplied with fuel, or how Industry shall be supplied with the raw stuff for production of steel, plastics and numerous chemical goods, Ocean Earth has reasoned that algae would be a reliable source. Algae can yield non-polluting fuel, either methane or hydrogen. Ocean Earth has focused its attention on giant brown algae, to be grown in the open sea in what are recognized to be the world's fastest rates of carbon absorption and solar-energy conversion, or growth.

Taking a large-cycle view of the movement of soil and water, Ocean Earth has focused on developing, in collaboration with French Naval engineers, what has been termed a G.A.S.[™] rig or Giant Algae System rig. The rig is designed for the growth and easy harvesting of giant macrocystis algae. Any harvest offshore is a return to upland sites of soil nutrients accumulated or upwelled from sea bottoms.

Ocean trials for the submersible rig have been approved around the globe. An exhibition called SEA CHANGE in Exeter, United Kingdom is being held concurrent with POLICY MODELS. That show overseas focuses on the G.A.S.[™] rig and its first-ever ocean trials in the English Channel.

Persons engaged in the investigations or surveys which have informed this presentation of three parallel ocean-basin or regional sea projects.

Chaikin, George

Dolson, Bill*

Fend, Peter

Fitzgibbon, Colleen

Glazer, Kate

Gunther, Ingo

Oppenheim, Dennis

Scardillo, Sante

Staehle, Wolfgang

Suzuki, Taro*

Templin, Susa

Vaterlaus, Eve*

Vieille, Sophie

Waltemath, Joan*

*1982-3 original era researchers of Ocean Earth

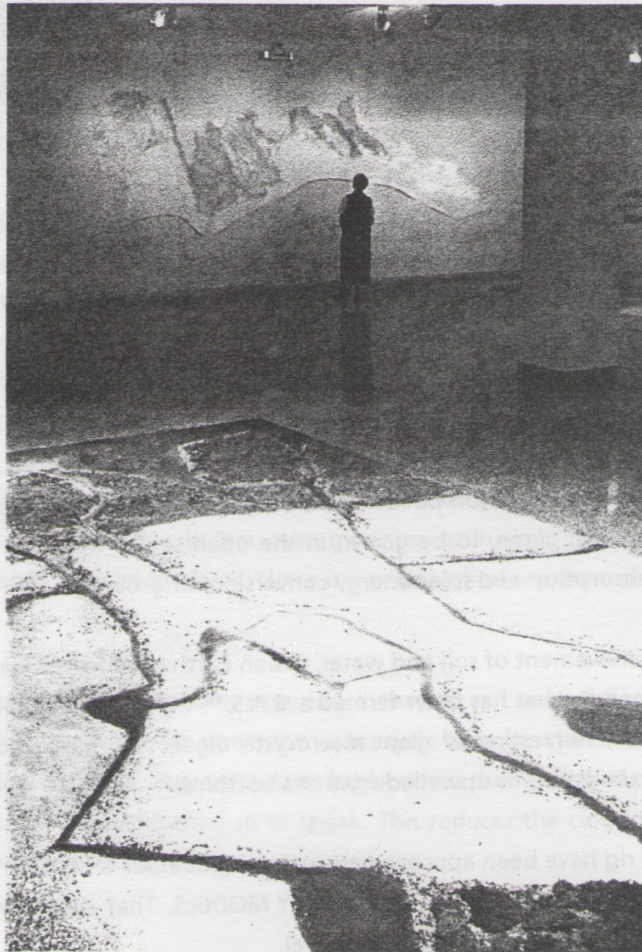
Ocean Earth: POLICY MODELS was curated by Joe Houston for Rockford Art Museum.

This exhibition is being held in conjunction with *SEA CHANGE* at Spacex Gallery, Exeter, U.K., September 15– November 10, 2001 and *MEDIATION* at Roger Smith Gallery, New York, September 4–21, 2001.

Ocean Earth is represented in the art world by American Fine Arts Company, New York.

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