

THE UN ATLAS OF THE OCEANS

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UN Atlas of the Oceans

Welcome to the United Nations Atlas of the Oceans
 The Atlas is an information system designed for use by policy makers who need to become familiar with ocean issues and by scientists, students and resource managers who need access to underlying data bases and approaches to sustainability. [Learn more about the Atlas...](#)

Partners

UN, UNEP, FAO, IOC, WHO, IMO, IAEA, CBD, NOAA, WRI

UN Atlas of the Oceans
A Partnership led by UN Agencies for sustainable use of the world oceans

What is the UN Atlas of the Oceans?

- A contribution to UNCED - the Earth Summit - and instrument of collaboration among UN agencies with ocean mandates;
- An entry point to organised, selected, reliable and up-to-date information on sustainable development of oceans and coastal areas;
- CD-ROMs and other products produced in collaboration with a publisher to facilitate access to the Atlas and enhance the use of its content.

What are its features?

- Based on FAO Community Directory Server (CDS), with development shared by 5 programs;
- Dedicated collaborative network on global oceans;
- Information is organised and maintained by a hierarchy of editors from the ocean community;
- Web-based publication by UN and partners;
- An organised database on ocean information;
- Integrated source of knowledge and policy advice;
- Communication support for ocean communities;
- Intuitive user and management interface;
- Rapid downloads to CD-ROMs.

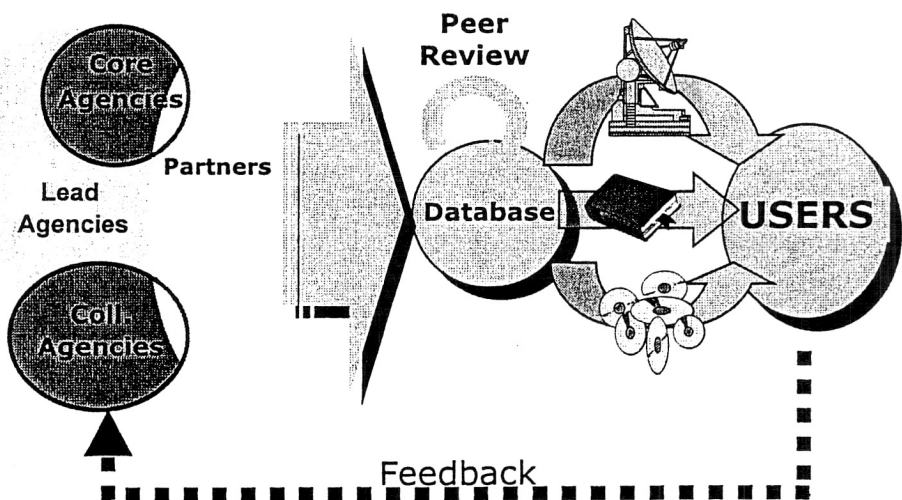
By whom is it being operated?

- Initiated by UN S/Cmte on Oceans and Coastal Areas;
- Developed by 6 UN Agencies with mandates on oceans plus CBD;
- Led by FAO Fisheries Department;
- Co-funded by UN Foundation and the 7 UN agencies with NOAA support;
- In collaboration with non-UN Partners: e.g., NGOs, private sector, NOAA, HDNO;
- Editors are mostly staff from partners with some volunteers from the ocean community.

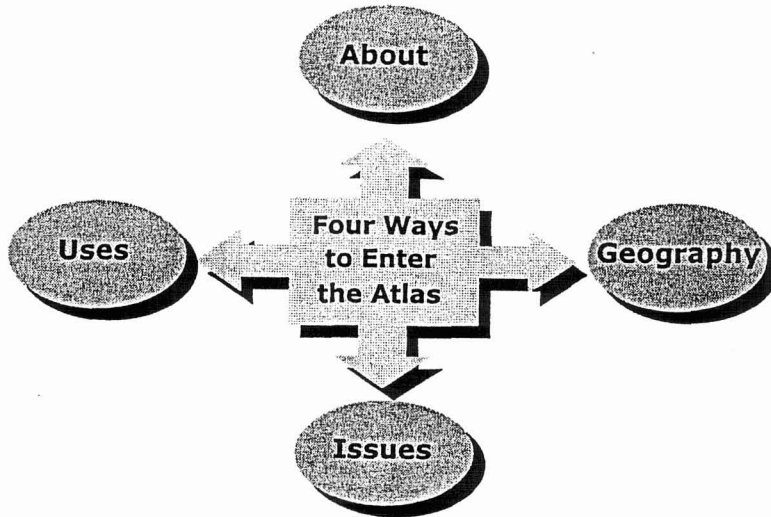
What does it contain?

- A stable thematic structure for ocean info;
- Documents uploaded to server;
- Published or grey literature and drafts;
- Fact sheets, images, maps, data, statistics;
- Links to databases, web sites, documents;
- Info on UN and other projects;
- Contact points;
- News events, discussions and polling.

The Atlas process & products



How is it used?



About the Oceans

Information important for understanding the oceans.

The focus is an encyclopaedia of information relevant to sustainable development.

- Biology;
- Coasts and coral reefs;
- Early explorations;
- Ecology;
- Education and training;
- How oceans are changing;
- How oceans were formed;
- International cooperation;
- Maps, statistics, databases;
- Monitoring & observing sys.;
- Ocean-atmosphere interface;
- Ocean dynamics;
- Physical & chemical properties;

Uses of the Oceans

Information on the uses of the oceans

The focus is on information relevant to sustainable development, resources, technology, management, sector issues.

- Disposal of waste from land;
- Energy;
- Fisheries and Aquaculture;
- Human Settlement on Coast;
- Marine biotechnology;
- Non-consumptive uses;
- Ocean dumping & ship wastes;
- Offshore Oil, Gas and Mining;
- Recreation & Tourism:

Issues in the Oceans

Broad, cross-cutting ocean issues - such as sustainability, food security, global change, and pollution.

The focus is on information relevant to sustainable development of the oceans.

- Climate Change;
- Economics;
- Emergencies;
- Food Security;
- Governance;
- Human Health;
- Pollution & Degradation;
- Safety at Sea;
- Sustainable Develop.

UN Atlas of the Oceans

English - 1 | All Topics | Search | login | join now | site map

Navigate the Atlas
USES RELATED PROGRAMS

Welcome to the United Nations Atlas of the Oceans
 The Atlas is an information system designed for use by policy makers who need to become familiar with ocean issues and by scientists, students and resource managers who need access to underlying data bases and approaches to sustainability. [Home](#) [About the Atlas](#)

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Home | **USES**

USES

The Uses section of the UN Atlas of the Oceans contains information on the uses of the oceans - such as for food, shipping, mining, energy, and coastal habitation. The focus is on information relevant to sustainable development of the oceans. (Images courtesy of FAO and NOAA)

3552 Rawater Knowledge - 1369 Normans - 43 Editors - 1547 Tracks
 Christa Stankovic

UN Atlas of the Oceans

English

All Topics

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Navigate the Atlas

USES ISSUES ABOUT GEOGRAPHY

IN THIS TOPIC:

Energy

Introduction

Maintained by NOAA

| Year | Consumption (Quadrillion Btu) |
|------|-------------------------------|
| 1970 | 207 |
| 1975 | 210 |
| 1980 | 215 |
| 1985 | 220 |
| 1990 | 225 |
| 1995 | 230 |
| 2000 | 235 |
| 2005 | 240 |
| 2010 | 500 |
| 2015 | 544 |
| 2020 | 608 |

As we begin a new century, world energy consumption is projected to increase by 60 percent from 1997 to 2020 [1]. Much of the growth is projected for regions of the developing world [2]. The major bottleneck for the energy sector could result from the future growth of energy demand in the developing countries. Developing countries are experiencing rapid growth in population, energy demand, and the environmental degradation that often results from industrial development. This highlights the paramount need for new energy producing ideas and methods to achieve sustainable energy growth and minimal environmental impact. The oceans of the world represent a relatively untapped resource for both hydrocarbons and renewable sources of energy.

Many of the world's potential reserves of hydrocarbons lie beneath the ocean. The hydrocarbon industry has developed techniques suited to conditions found in the offshore, both to find oil and gas (known as exploration) and to successfully extract it for human use. The past fifty years have witnessed ever expanding exploration for and exploitation of offshore oil and gas resources. Originally the focus of these activities was on near-shore and shallow-water prospects. It has since widened to include areas of deeper water, areas where environmental conditions are severe, and environmentally vulnerable areas such as enclosed and semi-enclosed seas. At present, there are more than 6,000 offshore oil and gas installations operating worldwide: 4,000 in the Gulf of Mexico, 950 in Asia, 700 in the Middle East, 400 in Europe.

UN Atlas of the Oceans

English

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USES ISSUES ABOUT GEOGRAPHY

Background

How it works

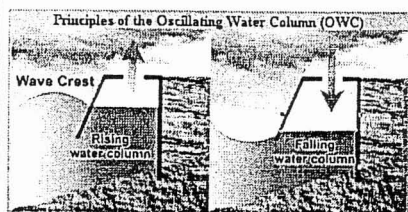
Arrive at the Introduction

Winds are generated by the differential heating of the Earth's surface. Wind energy is a form of kinetic energy that is transferred to the water surface by the friction of the wind. Wind energy is a form of renewable energy that is available in most parts of the world. Wind energy is a form of energy that is generated by the friction of the wind against the surface of the water. Wind energy is a form of energy that is generated by the friction of the wind against the surface of the water. Wind energy is a form of energy that is generated by the friction of the wind against the surface of the water.

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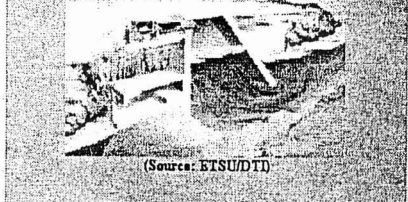
There are many different approaches to extracting energy from the waves. In the patent literature there are more than a thousand different proposals for the utilization of wave energy [4]. Some methods use the vertical rise and fall of successive waves in order to build up water, or compress it, to activate turbines. Others take advantage of the up and down, or rolling wave motions of waves by vanes or combs that rotate turbines, while still others concentrate incoming waves in a converging channel allowing the buildup of a head of water that is used to operate a turbine [2]. At present, the most common wave energy devices are of relatively small scale to provide electricity for navigational buoys in harbors and in other waterways. Developed in the 1960's, these buoys are the only wave-activated devices to see common usage world-wide with some in operation for 20 years [5]. One of the more developed wave energy systems is Oscillating Water Chamber (OWC).

Currently, a commercial scale OWC powerplant called LIMPET (Land Installed Marine Powered Energy Transformer) produced by the company Wavgen on the island of Islay, Scotland is connected to the UK's national grid. Built into the shoreline and relying on existing cliff edge for support, this modular OWC forms a partially submerged shaft into which seawater is free to enter and leave. As the water enters or leaves, the level of water in the chamber rises or falls in sympathy. A column of air, contained above the water level, is alternately compressed and decompressed by this movement to generate an alternating stream of high velocity air in an exit duct. This air stream is allowed to flow to and from the atmosphere via a pneumatic turbine. Energy can be extracted from the system and used to generate electricity. The plant is expected to have a 60 year structural design life [6].



(Images courtesy of Wavegen)

Cutaway diagram of a bay shoreline wave energy device, UK



(Source: ETSU/DIT)

How it works continued...

Another notable example of an OWC is the "Mighty Whale." It is the world's largest offshore floating OWC and was launched in July 1993 by the Japan Marine Science and Technology Center. This prototype, moored facing the predominant wave direction, has a displacement of 4,400 tons and measures 30m long. The Mighty Whale has three air chambers that convert wave energy into pneumatic energy. Wave action causes the internal water level in each chamber to rise and fall, forcing a bidirectional flow over an air-turbine to generate energy. The resulting electricity is supplied mainly to the island of Hokkaido.

Another promising type of wave energy device is the Tapered Channel (Tapchan). The system consists of a tapered channel, a collector funnel, and a collector chamber. As the wave travels down the narrow tapered channel, the water is trapped in the elevated reservoir. The water trapped in the reservoir is then used to generate electricity. The advantage of this particular system lies in its ability to generate electricity during both the rising and falling phases of the wave cycle. However, the Tapchan system does not require a large concrete structure. It was developed since 1985 and plans are under construction.

Advantages

The primary advantages of wave energy systems are that they are a renewable energy source, offshore wave energy systems can be incorporated into harbor walls and coastal protection, thus reducing the cost of such systems, and providing dual use.

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850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000

fisheries and aquaculture

On select Related Knowledge

 **UN Atlas of the Oceans**

 **Fisheries**

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Highlights

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Code of Conduct For Responsible Fisheries

Page u
 Intro
 duction to the Code



Fisheries, including aquaculture, provide a vital source of food, employment and income for millions of people throughout the world. Sustainable fisheries and aquaculture should be managed in a manner that ensures the long-term health of the resource and the well-being of the communities that depend on it. This Code sets out principles and objectives for the management of fisheries and aquaculture, and provides a framework for the development of national legislation and policies. The Code recognizes the nutritional, economic, social, cultural and environmental importance of fisheries and aquaculture, and the need to take account of the biological characteristics of the resource and the environment, and the interests of consumers and other users. States and all concerned are encouraged to apply the Code. The Code is an integral part of the Agreement (see below) is an integral component of the Code.

**And enjoy
 Illustrated texts
 Scientific diagrams
 Charts
 Maps**

Code of Conduct for Responsible Fisheries

Text of the Code and the background on its elaboration, as adopted by the Twenty-eighth Session of the FAO Conference on 31 October 1995. Also included is the preface of the original issue.

Where do we stand?

- The software is operational and tested, but still advancing as more programs join its use;
- The overload during the opening weeks is solved;
- The information structure is stable;
- UN, NOAA and NGO staff are principal editors;
- Much information is in place but more arrives daily;
- The CD-ROM generator prototype (for mirrors of the site) is developed;
- Routine maintenance began November 2002;
- UN Partners have signed long-term agreements.

On the First Anniversary

- All reviews have been positive. Stories have run in major languages, all over the world;
- Many educational and ocean sites have linked;
- Russian Atlas of the Ocean Maps are uploaded;
- Most empty outline topics have been filled in;
- Membership has grown from 30 to about 1400;
- Over 1,000 pages per day are served on average;
- There are 3,100 knowledge items in addition to the 1050 Topic Pages and their See Mores;
- UN Partners have signed long-term agreements.

What are the plans?

- Recruiting Topic Editors outside the UN system to maintain and improve the Atlas
- Initiate series of CD-ROMS for consumers and educators by publisher
- Pursue linking throughout the ocean and educational community

Issues for the future

- Further institutional mainstreaming within the UN and the Partners
- Securing long-term funding
- Keeping pace with technological progress
- Equitable access (web, CD, languages)
- Expanded collaboration across all sectors to further develop the Atlas
- Co-operation with other global projects

An exciting challenge!

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