

EEA Briefing

Eye on Earth

Summary: *Eye on Earth* is a 'global public information network' for creating and sharing information. All are invited to participate in the new and dynamic online 'environmental community' facilitated by EEA, technology leaders, cutting-edge innovations and cloud technology. It represents a good practice for implementing the principles of a Shared Environmental Information System (SEIS) for Europe. EEA will use *Eye on Earth* to support its expanding role as an agent of change that facilitates information sharing, and to strengthen its effectiveness and efficiency in collecting and providing environmental information. Users can choose to share information with closed groups or everyone. Data and information will come in a variety of formats alongside various tools. Maps can be viewed, created, interacted with, add custom features and shared. EEA will also use *Eye on Earth* to engage citizens.

What is Eye on Earth?

Eye on Earth is a 'global public information network' for creating and sharing information. Its potential users include policy makers, environmental organisations, emergency responders, GIS professionals, communities and citizens. All are invited to participate in the new and dynamic online 'environmental community' facilitated by EEA, technology leaders, cutting-edge innovations and cloud technology.

Eye on Earth represents one of EEA's many initiatives which apply the principles of a 'Shared Environmental Information System (SEIS)' for Europe. SEIS aims to improve the collection, exchange and use of environmental data and information and is based on SEIS principles such as: managing information as close as possible to its source; collecting information once, and sharing with others for many purposes; and using open software standards for sharing.

Eye on Earth significantly strengthens EEA's effectiveness and efficiency in collecting and providing environmental information, by reducing resource needs and integrating functions and products. It will not replace all that EEA does now, but it will definitely make information production, use and dissemination easier.

The service first appeared in May 2008 through the launch of *WaterWatch*, an online interactive map of Europe that presents the latest available official water quality data from 28 countries. This was followed in November 2009 with the launch of *AirWatch* providing near real-time air pollution data from 32 European countries. This was followed by *NoiseWatch* in 2011. *NoiseWatch* users can measure noise levels with the *Noise Meter*¹ mobile app. Through the upcoming *NatureWatch*, EEA aims to engage users in citizen science to observe and report environmental data to fill important knowledge gaps.

How does Eye on Earth support information sharing?

Information in *Eye on Earth* is available to everyone through open standards. A user can visit *Eye on Earth*, explore information, and then embed, for example, a map in an email, website, blog or share it via different social media channels. The user can also choose to share the map within the *Eye on Earth* environment itself. This could be done either through exclusive groups, or to everyone – as with YouTube – allowing access to a potential audience of millions. An organisation can have its own group, space and 'face' with its own style. Other users within a shared system can also then opt to use the information and add to it according to their interests, opening the door to countless and subsequent uses of the same source information (thereby strengthening SEIS).

¹ <http://www.eea.europa.eu/mobile>

Because of the power of built-in web services, communicating in real time, any change made to source environmental information in one location will lead to an automatic update of the same information found in downstream locations on the website. For example, if an EU country changes its figure for greenhouse gas emissions, then that would automatically change the overall figures for Europe (i.e. as calculated by EEA).

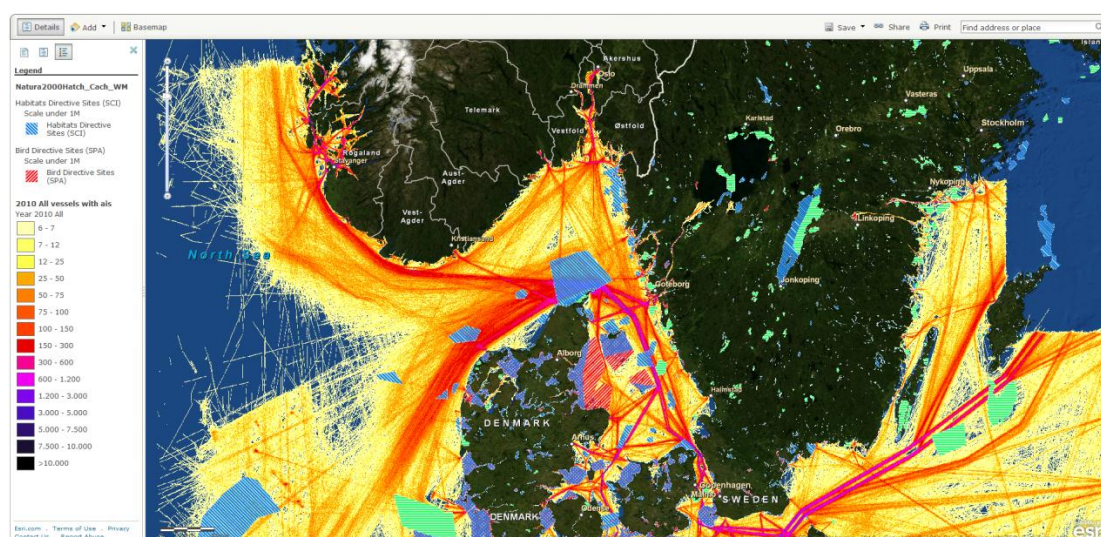
Tracing information back to the original sources is important in Eye on Earth. There are built in descriptive fields that a data provider can add information to as metadata or user constraints.

How Eye on Earth can be used?

Data and information available in Eye on Earth come in a variety of formats alongside various tools. An 'intelligent map' service allows users to view, create, interact with, explore and share maps.

Users can either simply use the information provided through the website as it is, or they can choose to add custom features. The user can apply their own tools (e.g. stored in their computer), or they can use one or more of the many web tools that Eye on Earth offers online for free. For example, a national agricultural institution can transform an Excel table listing soil quality and location into a map, creating in this way, new maps. Eye on Earth helps to create maps without additional need for software developers' expertise.

Figure 1: A recent example of use was overlaying an EEA map of Natura 2000 protected areas in Europe with a map of high shipping activity at sea. The result was new information showing that the highest volume of traffic is going right through protected areas.



How can Eye on Earth facilitate citizen participation?

Citizens are currently engaged in the *Watches* through their feedback about Eye on Earth and personal ratings of environmental quality at specific locations (e.g. beaches). In the future, citizens will be able to provide their own data to the *Watches* through citizen science activities, defined as: Public involvement in projects or on-going programmes of scientific work by which individual volunteers or networks of volunteers, many of whom may have no specific scientific training, perform or manage research-related tasks such as observation, measurement or computation. EEA's vision here is to engage the public in the observation and reporting of environmental data and information to fill important gaps in our knowledge of Europe's environment. For example, citizen scientists will be able to track invasions of alien species by submitting observations, pictures and sounds with smart phone applications. EEA further hopes that Eye on Earth will be a valuable aid to increase the environmental awareness of citizens acting as stewards of the environment.