

ORBIT is an artistic Internet project, which visualises data from four National Oceanic and Atmospheric Administration (NOAA) satellites – so-called polar satellites - which are part of a greater system of satellites orbiting the polar regions.

The data used in the project is collected via two infra-red channels from two antennae, one at Kangerlussuaq (Greenland), the other just north of Copenhagen (Denmark). This means that the data is being received from an area which stretches from roughly north of Alaska to Central Europe. As data is being used from four satellites (NOAA 15-18) - all transmitting data at different times and from different positions - we are dealing with quite large geographical area.

As already mentioned, it is infra-red data that is picked up from these areas, i.e. temperature, land/water, cloud/non-cloud. To these must be added time, position and satellite identification. The amount of data is huge and in an art project it would be impossible to make use of so much data, therefore the ORBIT project is designed in such a way that every single satellite's orbit – at a given time and position – only makes use of a previously agreed amount of data. One pixel is equal to 1 X 1 km. In all about 1,000 pixels are used. As the measurement/number values go from 0-255 the visualization process makes use of 256 colours. There is, therefore, a defined relationship between the number value and the colours utilized.

At each orbit, which lasts about 75 minutes, each satellite transmits its data which is continuously received and visualised over the Net as soon as it is picked up. The four satellites transmit their data at different times which means a continuously changing configuration of the visualisations; the data used are visualized in four different versions. It is also possible to view the data visualizations from the previous 24 hours.

Our understanding of reality is, to a very large extent, based on technically produced images without us being conscious of what is actually behind these images. Furthermore, we often don't realize that such images are seldom an accurate illustration but are an artificial construction. When the images/visualizations are based on data produced using instruments which register a relationship that cannot be picked up by the human senses – as is mostly the case with satellite technology - then this argument is even more valid.

At the same time, there is a very real difference between whether images are based on sense data or instrumentally produced data because our sense organs function rather differently than instruments do, even if one cannot immediately see the difference. It is really a question of two essentially different modes of functioning and it is in this interaction – this interface – that one can say we are dealing with what has been called instrumental cognition, an understanding of which will bring a great deal of new knowledge but which, just as with any other knowledge, is - and becomes - representation.

(Programming: Mikal Bing)

This project is supported by the DANISH ARTS COUNCIL (their logo).