REMOTE SENSING IN FISHERIES

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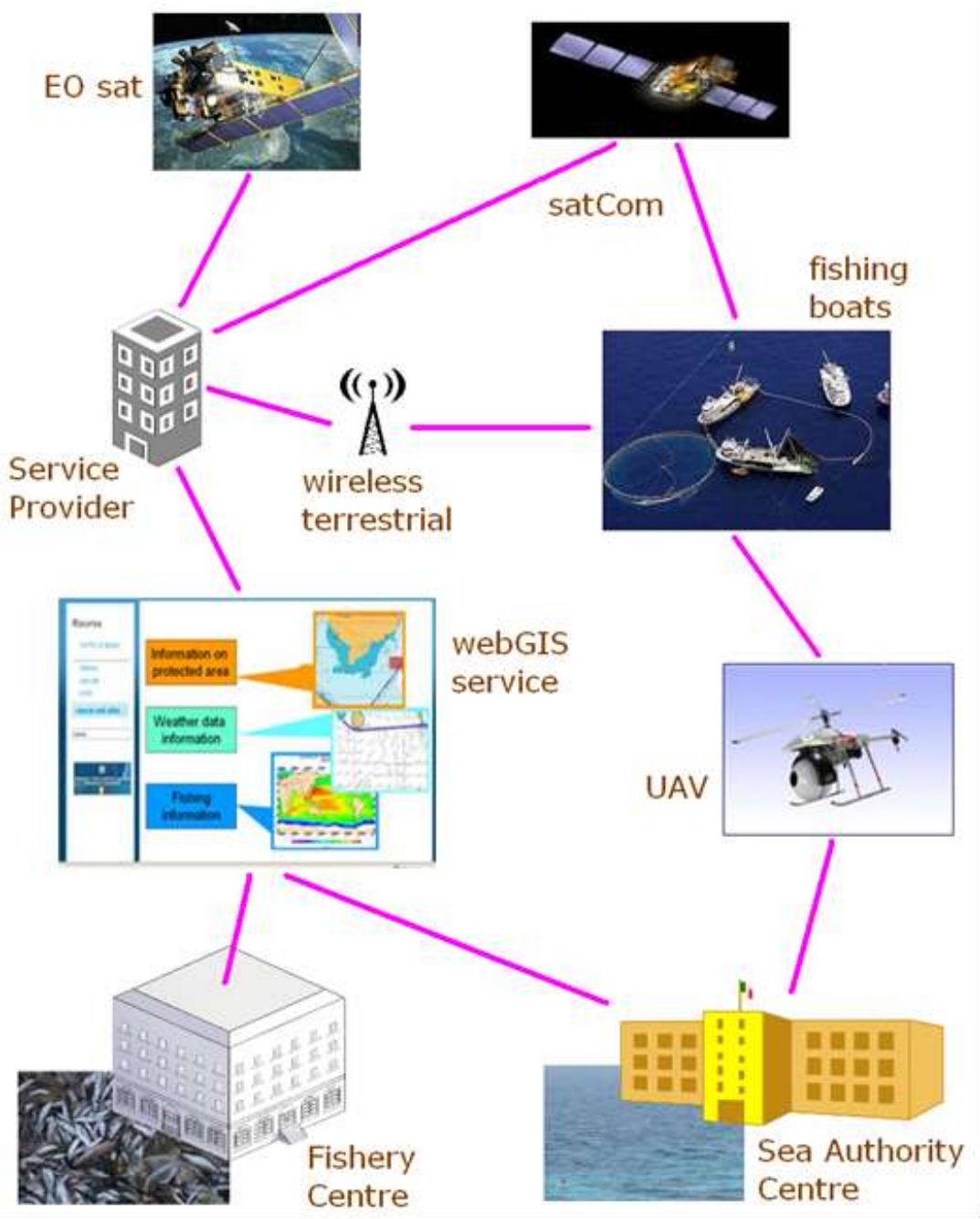
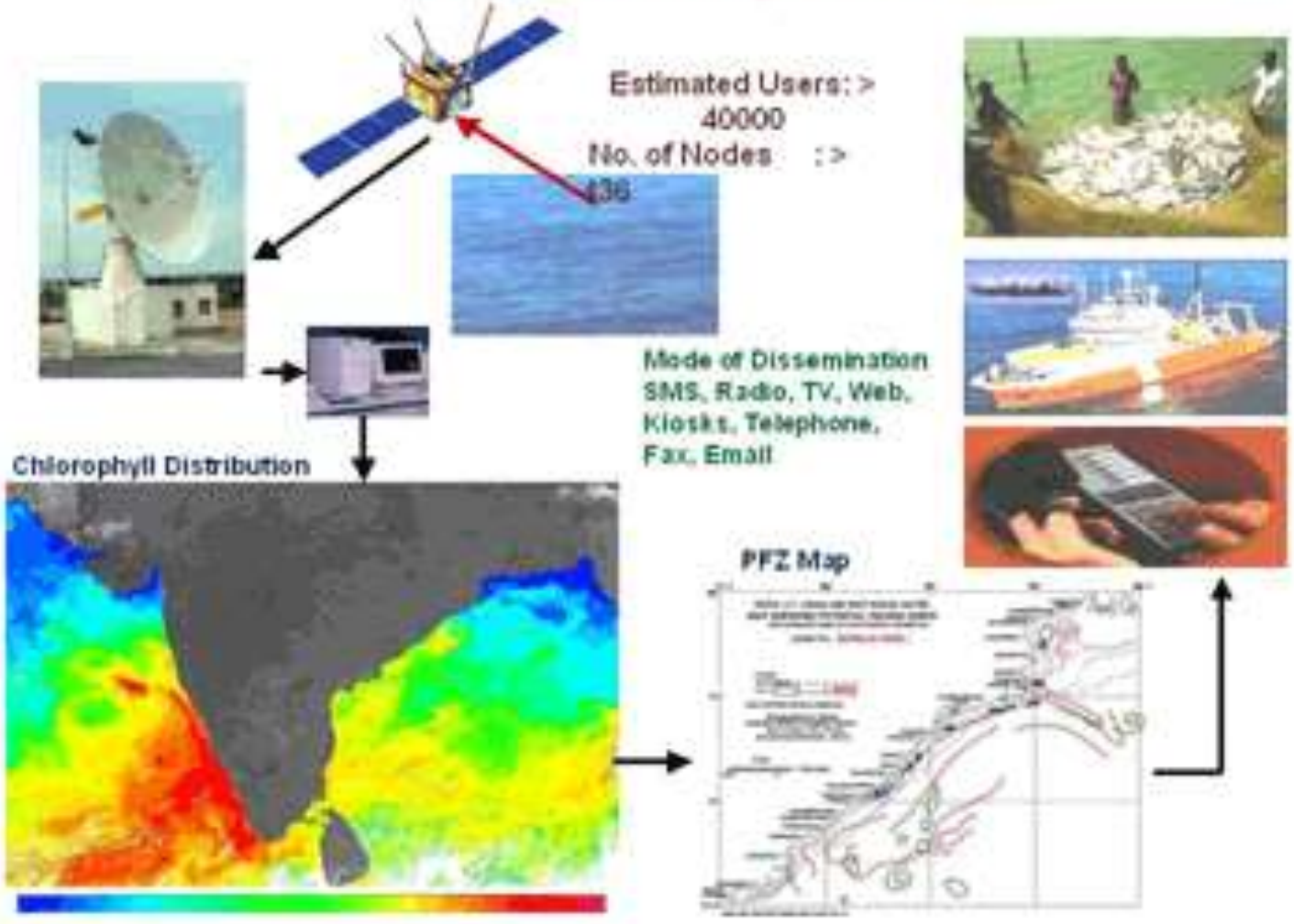
- The term “remote sensing” was coined in 1960 by Evelyn Pruitt of the U.S. Office of Naval Research. The history of remote sensing, however, is considerably older. The first aerial photographs were taken from a captive balloon near Paris in 1858. During the next fifty years significant advances were made in camera design and film emulsions. Photographs were taken from such diverse platforms as kites, rockets and even carrier pigeons. The first photograph taken from an airplane was a motion picture shot over Centocelli, Italy, in 1909, in a plane piloted by Wilbur Wright. Most of this early photography provided an oblique rather than a vertical view of the ground. Popular illustrative pictures of a number of large cities and other scenic attractions were also produced using this means. Scientists, however, recognized the potential of aerial photography as a mapping tool and gradually the science of photogrammetry was developed.


EO sat
satCom
fishing boats
Service Provider
wireless terrestrial
webGIS service
Information on protected area
Weather data information
Fishing information
UAV
Fishery Centre
Sea Authority Centre

- It was not until the First World War that aerial photography was acquired and utilized on a large-scale, systematic basis. Cameras were specifically designed for aerial reconnaissance and associated processing facilities were developed to produce thousands of photographs per day. Equally as important as the technological advances was the development of photo interpretation techniques to obtain intelligence information from the images. By observing the deployment of men and material over a period of time, it was possible for strategists to anticipate military manoeuvres. By the end of World War I, there had been substantial improvement in aircraft, cameras and processing equipment and a relatively large number of people had gained experience in different aspects of airphoto acquisition and utilization.

Potential Fishing Zone



- As improved photogrammetric equipment was introduced in the 1920 's and 1930 's, vertical aerial photography became the standard information source for the compilation of topographic maps. Aerial photography was used to a limited extent by geologists, foresters and planners in Europe and North America and by cartographers and geographers for small-scale geographic studies in Africa and South America. Colour film was first developed during this period, although it saw little aerial application until the Second World War. Several areas of scientific research were also initiated which would later form the foundation of modern remote sensing techniques.

- World War II provided another catalyst for rapid technological development inthe field of remote sensing. Once again the acquisition of reconnaissance photography for military intelligence was the primary application. Photo interpretation techniques became highly sophisticated. One aspect of value to later coastal zone studies was the use of aerial photography inplanning amphibious assaults. The water penetration capability of aerial film, particularly colour film, made it possible to obtain reliable information on bathymetry and bottom materials when navigational charts were inaccurate or non-existent. The first colour infrared films were also developed during the war for camouflage detection. Large radar networks were erected in the 1940's to provide an early warning system for aircraft detection.

- Advances in radar technology permitted the development of smaller transmitting and receiving equipment appropriate for airborne use. Included in this class were plan position indicator (PPI) radars which provided an image of the terrain below the aircraft, independent of weather conditions or light availability. The PPI radar, which was used mainly for target detection during nighttime bombing missions or high altitude bombing through cloud cover, also proved useful for coastal navigation.