



Innovative technology for nature conservation

DIGITAL TOOLS TO IMPROVE DECISION MAKING

In the Mole National Park in Northern Ghana, satellite data are helping to track the migratory routes of elephants. In the Bugoma Forest in Uganda, we have been monitoring the movements of apes between two forest areas, so that reforestation projects can be adjusted accordingly. For IUCN NL, digital tools have become a fundamental method for carrying out measurements in nature.

ACQUIRING MORE ACCURATE INFORMATION, FASTER

We make it possible for our local project partners to use high-tech equipment, including drones, satellite imaging, spatial data analyses, mobile apps, camera traps and noise detection systems.

Thanks to these new tools, NGOs are able to obtain more accurate information from the landscape, more quickly, that for example helps them monitor illegal logging or the first use of a planned migratory route by wild animals. In this way, we are able to more precisely monitor biodiversity and biodiversity threats, in a shorter timescale, and flag these to government, businesses and communities.

STRATEGY AND TRAINING

As well as by offering financing, we support civil society organisations with strategy and training to establish innovative monitoring projects. By analysing and sharing the resultant reliable information, local nature conservation groups can encourage government, businesses and communities to take better decisions on ecosystem management.

SOLUTIONS FOR CHALLENGING AREAS

Environmental monitoring technologies such as satellites and drones also improve information provision in inhospitable areas such as mountain ranges, jungles and wetlands. In areas where the personal safety of environmental defenders is at risk, monitoring techniques of this kind make it possible to avoid dangerous fieldwork. At the same time, it is possible to use digital tools to help local residents. Following floods in Indonesia, drones were deployed to identify which local communities needed emergency assistance.

“Digital tools are used in co-creation with our local partners. We offer our knowledge and ask pointed questions, so organisations are able to make appropriate proposals. The result is better outcomes, with more impact.”

Maxime Eiselin, expert Innovative technology for nature conservation at IUCN NL

Example of our work

Using big data to map migration routes

Many wild animals migrate over huge distances, every year. A safe passage between their habitats is of crucial importance for their continued existence and to make it possible to adapt their environment to climate change. Changing land use is leading to fragmentation of the corridors through which these animals pass. For nature conservation groups, identifying those areas that are essential for migration routes on the basis of a whole raft of information sources is a complex task.

To assist them in this process, IUCN NL developed a free access software toolkit, with step-by-step instructions. The software for Geographical Information Systems (GIS) can be used to visualise a series of different data sets on a map. This enables local nature conservation groups to identify the best areas for a wildlife corridor.

Example of our work

Mapping land use in Indonesia using drones

The Kayan river basin in the Indonesian district of Bulungan is increasingly threatened by floods. Those same floods have a huge impact on the people in the densely populated Kayan delta. Their homes and businesses are flooded and agricultural harvests are lost. To bring about a change in this situation, IUCN NL partner organisation Sawit Watch is using drones to map out land use in the area. Using this information, the local government can develop spatial plans in such a way that sufficient woodland is preserved in the river basin area to guarantee the natural water regulation so essential for reducing flood risks.

More examples of our work

More digital technology for nature conservation

- In Ecuador, together with local partner organisation Third Millennium Alliance, we logged the migration routes of animal species using satellite images. The resultant information was essential in securing areas of woodland crucial for the migration of capuchin monkeys.
- We supported local partner organisations in Bolivia and Paraguay in the use of artificial intelligence to automatically track the disappearance of tropical forest and wetlands, in large wilderness areas. The information helps the authorities to intervene in time.
- We have worked alongside civil society organisations in various countries in Africa and Asia to track illegal logging and illegal fishing, using drone images. The information enabled local government to halt these destructive practices.

COLLABORATING WITH IUCN NL

It is essential for nature organisations to be able to use new technologies to monitor biodiversity more quickly, more safely and more accurately. IUCN NL initiates projects and advises and assists parties in the Netherlands and abroad on the use of digital methods for nature conservation.

Do you want to join IUCN NL in facilitating the use of technical tools for nature conservation? Visit our [website](#) for detailed information or contact our expert [Maxime Eiselin](#).