

3 – Good Health and Wellbeing



Goal 3: Ensure healthy lives and promote well-being for all at all ages >

EO Products/Services supporting the SDGs



MEE0_ESA...race.pdf



MEE0_atm...comp.pdf



Aratos_SSLM.pdf



Dipteron_...qitos.pdf



GreenUrb...SaaS.pdf



mayday_d...sk_3.pdf

Goal: Ensure healthy lives and promote well-being for all at all ages.

EO data offer an invaluable opportunity for better-informing development policies and quantifying various targets. How can EO be used to help countries achieve specific targets? *Source: [ESA compendium of EO contributions to the SDG Targets and Indicators](#)*

Target 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

This target aims to end three of the world's major epidemics, which combined claim millions of lives per year (Murray et al., 2014). This makes this target one of the SDG targets with the greatest potential impact in terms of reducing mortality.

The utility of EO methods for improving the understanding, prevention, and control of vector-borne diseases has been extensively demonstrated, particularly for malaria (Gebreslasie, 2015). EO data has been used, for instance, to derive environmental data to feed malaria risk models, identification of potential vector habitats and to inform the development of early warning systems. Some of the EO-derived data that have been applied to malaria epidemiology include: land cover, land and sea surface temperature vegetation indices such as NDVI and enhanced vegetation index, precipitation and actual evapotranspiration. Results of the models developed with EO-derived data can be useful to identify locations where the risk of disease is highest and direct resources to the population most in need. EO-derived data can also be applied to develop risk models for other tropical diseases such as dengue or schistosomiasis, among others.

(eo services focus on Assessment of diseases)

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

EO data can be used to monitor the level of air quality data (e.g. PM2.5, CO2, CO, NOx, SO2) (van Donkelaar et al., 2010) water quality data (E.g. Chlorophyll-a, turbidity) (Mohamed, 2015), as well as soil pollution data (e.g. concentration of hydrocarbons) (Karkush et al., 2014). These can be correlated with census data on human health and mortality to monitor progress towards reducing the number of deaths and illness from hazardous chemicals and air, water and soil and contamination. In order to reduce the number of deaths by creating public awareness, a wider forecasting system based on modelling EO data for the likely risk of danger from hazardous chemicals and air, water and soil pollution and contamination is needed.

(eo services focus on Monitor the level of air quality data)

Relevant Success Stories

- [Future climate projection of heat indices for Austrian major cities](#)
- [Harvester Season](#)
- [EOs adding value to historical water availability and quality information services](#)
- [Successful Integration of EO-Based Observations and Machine Learning in Spring Peak Flow Forecasting](#)
- [Draft](#)
- [The GOS4M Knowledge Hub designed for end-users to assess the effectiveness of measures undertaken under the Minamata Convention on Mercury.](#)
- [Improving waste management practices](#)
- [DMCii supports the fight with illegal logging in the Amazon](#)
- [Sea turbidity monitoring](#)
- [Satellite based detection of oil spills](#)