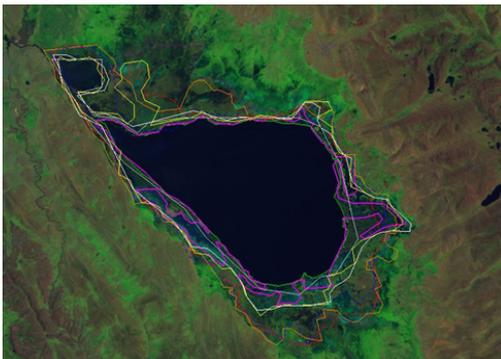




# RESERVOIR CAPACITY CHANGES



Reservoir siltation is an issue for most of the dam reservoirs of the world. The management of the siltation processes is therefore of high importance for reservoir owners. Increased soil erosion due to climate change and population pressure will make reservoir siltation an even bigger issue within the next few years.

Field survey of the reservoir bathymetry is expensive and therefore many reservoir owners do not conduct surveys on a regular basis.

## PRODUCT

COWI and the danish company, DHI, provide a new and very affordable service either as a stand alone service or as a supplement to traditional field surveys.

The method is to combine satellite imagery and water level measurements provided by the reservoir owner. COWI and DHI can georeference the satellite input and digitize the reservoir perimeter at different water levels throughout the year. The yearly reservoir capacity is calculated on this basis. When the capacity is calculated for several years it is possible to quantify the sedimentation. Satellite data has been available for a long period of time. LANDSAT TM data has for instance been available since 1984.

COWI and DHI can tailor this service for each single reservoir. Depending on the size and nature of the reservoir different satellite data may provide the best information. COWI and DHI have the knowledge how to analyze what satellite data gives the best match for each reservoir.

## USE OF RESERVOIR CAPACITY CHANGES FROM SATELLITE DATA

- › Reduce survey costs
- › Better tools for long term planning and operation decisions
- › Better operation efficiency
- › Improved flushing strategy

These applications can be of high value for such reservoir owners as water supply companies, electrical companies and irrigation associations.

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