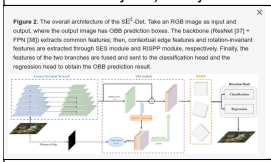
Year	Title	Link	Idea
2017	Analysis of Artificial Neural Network in Erosion Modeling: A Case Study of Serang Watershed	https://iopscience.iop.org/article/10.1088/1755-1315/98/1/012027/pdf	Added additional parameters factors of erosion control as erosivity (R), erodibility (K), length and slope (LS), land cover management (C), factors supporting erosivity (R), erodibility (K), length and slope (LS), land cover management (C), factors supporting land conservation practice (P) and four additional layers of remote sensing data. Here 4 bands:RGB standard and NIR (not included in image for detection for task)
2019	A Remote Sensing Based Method to Detect Soil Erosion in Forests	https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj2qL7ahPz5AhUHqYsKHZ9ECA0QFnoECAwQAQ&url=https%3A%2F%2Fwww.mdpi.com%2F2072-4292%2F11%2F5%2F513%2Fpdf-vor&usg=AOvVaw3OBCM8F7jFIzNFfjWje6Zp	1.FVC Regional FVC is usually computed using remote sensing based models based on NDVI(Normalized Difference Vegetation Index); 2.Nitrogen Reflectance Index -> NRI = NIR/Green (NIR band deleted on value in Green Band); 3.Yellow Leaf Index (YLI) ->Yellow = (Green + Red)/2: 4. Soil Exposure Index -> NDSI = (MIR1 − NIR)/(MIR1 + NIR) - here we need another additional info about MIR1 band
2020	Application of A Remote Sensing in Monitoring of Erosion Processes	https://www.earthdoc.org/docserver/fulltext/2214-4609/2020/geoinf2020/GEOINF_2020_18400.pdf?expires=1662373399&id=id&accname=guest&checksum=2B84964A74D7F520E6E3FBA3FB35708B	Normalized Difference Soil Index (NDSI), Tasseled Cap Transformation (TCT), along with Linear Spectral Unmixing Analysis (LSMA). Changes in the color, structure of soil,processes, to investigate soil exposure, to measure soil reflectance, to evaluate soil erosion placement in space can be the indicators of their degradation. Therefore, spectral indices based on the reflectivity of the soil surface such as form index (FI), coloration index (CI), brightness index (BI) are used to characterize the soil condition.
2022	Application of Deep Learning in Land Use Classification for Soil Erosion Using Remote Sensing	https://www.frontiersin.org/articles/10.3389/feart.2022.849531/full	The DeeplabV3+ (Zhang et al., 2019) adopted in the project was derived from a fully convolutional network. As backbone use ResNet152 - it good idea use image recognition model, thsa give model idea what happen in image overall 1) Grid splicing: Because the output must be divided into administrative regions, this step splits the previously input and cropped image prediction results into an entire grid image in the unit of administrative regions. 2) Adding spatial coordinates: Because the output raster image has no coordinate information, it is necessary to inherit the spatial coordinate information from the input image. 3) Filtering of small spots: Because the network predicts the image pixel-by-pixel, there are some small spots in the output result. According to the requirements of soil and water conservation projects, a spot area threshold of 400 m2 can be set, and the spot whose pixel point is less than this threshold can be filled with the pixel value of the nearest spot.
	Semantic-Edge-Supervised Single-Stage Detector for Oriented Object Detection in Remote Sensing Imagery	https://www.mdpi.com/2072-4292/14/15/3637/html	Using one-shot object detection idea of grids can help for predicting small areas, that help with iou-coef problems(to pessimistic prediction beause of small area of objects) of objects.RNN is good too but slow  In this paper, we propose a novel feature enhancement network base on a semantic edge supervision module (SES), which aims to guide the network to pay attention to the contextual features of the target from complex backgrounds, thereby giving the network more regression clues. Besides benefiting from its unique semantic characteristics compared with binary edge detection, the proposed semantic edge supervision can achieve the effect of an attention-like mechanism, which guides the network more pertinently in the channel, space, and pyramid levels Here intresting mechanism of attention, we can use some fundamental parameters of soil erosion(NDVI, FVC, etc.) that was above, to make attention on them