Abstract

In recent days, the impact of satellite image processing in various researches is greater because of the wide variety of applications in astronomy, GIS, Agriculture monitoring and Disaster management. Besides other, the disaster management is important, since it is very useful in protecting the living beings. In this paper, river water level identification is done using support vector machines. In order to achieve this, the input satellite image is preprocessed and subsequently the segmentation is carried out with the aid of the anisotropic diffusion segmentation. Support Vector Machine (SVM) is utilized to identify the river spot in the input image in which contains land also and then the morphological operation is utilized to smooth the image. Consequently, in the testing phase, the image is tested with the SVM for water region identification and also another one SVM is utilized for the identification of the river stage.

References

- Frederic Frappart, Fabrice Papa, James S. Famiglietti, Catherine Prigent, William...
- Michael T. Coe; Calculation of river discharge and prediction of lake height from satellite radar altimetry: Example for the Lake Chad basin; Water Resources Research, Vol. 40, 2004
- Jean-François Cretaux, Muriel Berge-Nguyen, Marc Leblanc, Rodrigo Abarca Del Rio, Francois Delclaux, Nelly Mognard, Christine Lion, Rajesh Kumar Pandey, Sarah Tweed, Stephane Calmant, and Philippe Maisongrande; Flood Mapping Inferred From Remote Sensing Data; In proceeding of the Fifteenth International Conference on Water Technology, Alexandria, Egypt, 2011
- Frederic Frappart, Frederique Seyler, Jean-Michel Martinez, Juan G. Leon, Anny Cazenave; Floodplain water storage in the Negro River basin estimated from microwave remote sensing of inundation area and water levels; Elsevier, Vol. 99, pp. 387 – 399, 2005
- Cazenave A. Milly, Douville H., Beneveniste J., Lettenmaier D. and Kosuth P.; International workshop examines the role of space techniques to measure spatio-temporal change in terrestrial waters; AGU Trans., Vol 85, No. 6, 2004
- Hahn Chul Jung and Doug Alsdorf; Repeat-pass multi-temporal interferometric
- Michael T. Coe, “Calculation of river discharge and prediction of lake height from satellite radar altimetry: Example for the Lake Chad basin”, Water Resources Res
- Pradeep K. Rawat, P. C. Tiwari and Charu C. Pan, “Morphometric Analysis of Third order River Basins using High Resolution Satellite Imagery and GIS Technology”.
- Kalaivani and Thangaraj, “An Effective Technique to Identify River’s Stage through Satellite Images by Means of RBFNN”, Computational Intelligence and

Index Terms

Computer Science

Keywords
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