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Estimation of River Bathymetry and Spatial Distribution of Precipitation and Their Uncertainties

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Abstract

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Abstract

Hydrological modeling required essential input data such as river bathymetry, discharge, topographic and floodplain elevation values, manning's n values, and precipitation. In this study, river bathymetry and spatial distribution of precipitation were focused because of challenges in their estimation and associated uncertainties. These input data are also important in accurate flood risk and vulnerability assessment. Previous studies developed several models for their estimation using remote sensing and GIS. However, further improvement is required for their accurate estimation. This study will be helpful in accurate spatio-temporal estimation of these two input data. Furthermore, it was suggested the use

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-
- 1 Joshi, L.M., Singh, A.K., Kotlia, B.S.
Rivers of Uttarakhand Himalaya: Impact of Floods in the Pindar and Saryu Valleys
(2018) *The Indian Rivers*, pp. 413-427. Cited 4 times.
Springer, Singapore
-
- 2 Colonnello, G., Medina, E.
Vegetation changes induced by dam construction in a tropical estuary: The case of the Manamo river, Orinoco Delta (Venezuela)

(1998) *Plant Ecology*, 139 (2), pp. 145-154. Cited 34 times.
www.wkap.nl/journalhome.htm/1385-0237
doi: 10.1023/A:1009785118019

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-
- 3 Casagrande, L., Tomasella, J., dos Santos Alvalá, R.C., Bottino, M.J., de Oliveira Caram, R.
Early flood warning in the Itajaí-Açu River basin using numerical weather forecasting and hydrological modeling ([Open Access](#))

(2017) *Natural Hazards*, 88 (2), pp. 741-757. Cited 30 times.
www.wkap.nl/journalhome.htm/0921-030X
doi: 10.1007/s11069-017-2889-0

[View at Publisher](#)
-
- 4 Anees, M.T., Abdullah, K., Nawawi, M.N.M., Ab Rahman, N.N.N., Piah, A.R.M., Zakaria, N.A., Syakir, M.I., (...), Mohd. Omar, A.K.
Numerical modeling techniques for flood analysis ([Open Access](#))

(2016) *Journal of African Earth Sciences*, 124, pp. 478-486. Cited 37 times.
<http://www.sciencedirect.com/science/journal/1464343X>
doi: 10.1016/j.jafrearsci.2016.10.001

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-
- 5 Brandt, S.A.
Modeling and visualizing uncertainties of flood boundary delineation: algorithm for slope and DEM resolution dependencies of 1D hydraulic models ([Open Access](#))

(2016) *Stochastic Environmental Research and Risk Assessment*, 30 (6), pp. 1677-1690. Cited 25 times.
<http://link.springer-ny.com/link/service/journals/00477/index.htm>
doi: 10.1007/s00477-016-1212-z

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-

- 6 Liu, J., Shao, W., Xiang, C., Mei, C., Li, Z.
Uncertainties of urban flood modeling: Influence of parameters for different underlying surfaces ([Open Access](#))

(2020) *Environmental Research*, 182, art. no. 108929. Cited 68 times.
<http://www.elsevier.com/inca/publications/store/6/2/2/8/2/1/index.htm>
doi: 10.1016/j.envres.2019.108929

View at Publisher
-
- 7 Hilldale, R.C., Raff, D.
Assessing the ability of airborne LiDAR to map river bathymetry

(2008) *Earth Surface Processes and Landforms*, 33 (5), pp. 773-783. Cited 210 times.
doi: 10.1002/esp.1575

View at Publisher
-
- 8 Legleiter, C.J., Roberts, D.A.
A forward image model for passive optical remote sensing of river bathymetry ([Open Access](#))

(2009) *Remote Sensing of Environment*, 113 (5), pp. 1025-1045. Cited 75 times.
doi: 10.1016/j.rse.2009.01.018

View at Publisher
-
- 9 Legleiter, C.J.
Calibrating remotely sensed river bathymetry in the absence of field measurements: Flow RESistance Equation-Based Imaging of River Depths (FREEBIRD) ([Open Access](#))

(2015) *Water Resources Research*, 51 (4), pp. 2865-2884. Cited 46 times.
[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1944-7973](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1944-7973)
doi: 10.1002/2014WR016624

View at Publisher
-
- 10 Pilotti, M.
Extraction of cross sections from digital elevation model for one-dimensional dam-break wave propagation in mountain valleys ([Open Access](#))

(2016) *Water Resources Research*, 52 (1), pp. 52-68. Cited 10 times.
[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1944-7973](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1944-7973)
doi: 10.1002/2015WR017017

View at Publisher
-
- 11 Almeida, T.G., Walker, D.T., Warnock, A.M.
Estimating river bathymetry from surface velocity observations using variational inverse modeling

(2018) *Journal of Atmospheric and Oceanic Technology*, 35 (1), pp. 21-34. Cited 13 times.
<https://journals.ametsoc.org/doi/pdf/10.1175/JTECH-D-17-0075.1>
doi: 10.1175/JTECH-D-17-0075.1

View at Publisher
-

- 12 Legleiter, C.J., Overstreet, B.T., Kinzel, P.J.
Sampling strategies to improve passive optical remote sensing of river bathymetry

(2018) *Remote Sensing*, 10 (6), art. no. 935. Cited 15 times.
<https://res.mdpi.com>
doi: 10.3390/rs10060935

View at Publisher
-
- 13 Hwang, Y., Clark, M., Rajagopalan, B., Leavesley, G.
Spatial interpolation schemes of daily precipitation for hydrologic modeling

(2012) *Stochastic Environmental Research and Risk Assessment*, 26 (2), pp. 295-320. Cited 43 times.
doi: 10.1007/s00477-011-0509-1

View at Publisher
-
- 14 Castro, L.M., Gironás, J., Fernández, B.
Spatial estimation of daily precipitation in regions with complex relief and scarce data using terrain orientation

(2014) *Journal of Hydrology*, 517, pp. 481-492. Cited 33 times.
www.elsevier.com/inca/publications/store/5/0/3/3/4/3
doi: 10.1016/j.jhydrol.2014.05.064

View at Publisher
-
- 15 Guan, H., Wilson, J.L., Makhnin, O.
Geostatistical mapping of mountain precipitation incorporating autosearched effects of terrain and climatic characteristics

(2005) *Journal of Hydrometeorology*, 6 (6), pp. 1018-1031. Cited 91 times.
doi: 10.1175/JHM448.1

View at Publisher
-
- 16 Anees, M.T., Abdullah, K., Nawawi, M.N.M., Ab Rahman, N.N.N., Mt. Piah, A.R., Syakir, M.I., Ali Khan, M.M., (...), Mohd. Omar, A.K.
Spatial estimation of average daily precipitation using multiple linear regression by using topographic and wind speed variables in tropical climate (Open Access)

(2018) *Journal of Environmental Engineering and Landscape Management*, 26 (4), pp. 299-316. Cited 10 times.
<http://journals.vgtu.lt/index.php/JEELM/about>
doi: 10.3846/jeelm.2018.6337

View at Publisher
-
- 17 Akhtar, M.N., Khan, S.A., Mohamed, M., Janvekar, A.A.
Automated image analysis and improvisations to manage palm oil plantation (Open Access)

(2020) *IOP Conference Series: Materials Science and Engineering*, 1007 (1), art. no. 012082. Cited 3 times.
<https://iopscience.iop.org/journal/1757-899X>
doi: 10.1088/1757-899X/1007/1/012082

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-

- 18 Akhtar, M.N., Ahmed, W., Kakar, M.R., Bakar, E.A., Othman, A.R., Bueno, M.
Implementation of Parallel K-Means Algorithm to Estimate Adhesion Failure in Warm Mix Asphalt

(2020) *Advances in Civil Engineering*, 2020, art. no. 8848945. Cited 5 times.
www.hindawi.com/journals/ace/
doi: 10.1155/2020/8848945

[View at Publisher](#)

- 19 Akhtar, M.N., Saleh, J.M., Awais, H., Bakar, E.A.
Map-Reduce based tipping point scheduler for parallel image processing

(2020) *Expert Systems with Applications*, 139, art. no. 112848. Cited 12 times.
<https://www.journals.elsevier.com/expert-systems-with-applications>
doi: 10.1016/j.eswa.2019.112848

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- 20 Danish, M., Akhtar, M.N., Hashim, R., Saleh, J.M., Bakar, E.A.
Analysis using image segmentation for the elemental composition of activated carbon ([Open Access](#))

(2020) *MethodsX*, 7, art. no. 100983. Cited 6 times.
<http://www.journals.elsevier.com/methods/>
doi: 10.1016/j.mex.2020.100983

[View at Publisher](#)

- 21 Akhtar, M.N., Anees, M.T., Bakar, E.A.
Assessment of the Effect of High Tide and Low Tide Condition on Stream Flow Velocity at Sungai Rompin's Mouth

(2020) *IOP Conference Series: Materials Science and Engineering*, 920 (1), art. no. 012014. Cited 4 times.
<https://iopscience.iop.org/journal/1757-899X>
doi: 10.1088/1757-899X/920/1/012014

[View at Publisher](#)

- 22 Ahmed Janvekar, A., Abdullah, M.Z., Arifin Ahmad, Z., Abas, A., Hussien, A.A., Bashir, M., Azam, Q., (...), Ziad Desai, M.
Assessment of porous media combustion with foam porous media for surface/submerged flame ([Open Access](#))

(2018) *Materials Today: Proceedings*, Part 1 5 (10), pp. 20865-20873. Cited 9 times.
<https://www.sciencedirect.com/journal/materials-today-proceedings>
doi: 10.1016/j.matpr.2018.6.473

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