

CHAPTER V

CONCLUSION AND SUGGESTION

5.1. Conclusion

After research analysis, the result concluded as follows:

1. Canals around Kaligawe street did not adequate to accommodate inundation. Inundation reaches 4.21 meters on existing condition.
2. Sea level rising give zero impact to inundation along observation area, while land subsidence contributes 0.98-meter inundation.
3. Under sea level rising and land subsidence scenarios on forecasting simulation, inundation reaches 4.23 meters.

5.2. Suggestion

After research result found, suggested decision detailed below:

1. Widening canals dimension in certain drainage areas, so water can easily drain to downstream.
2. Maintenance on canal regularly to maintain optimum canal conditions.
3. Build pumping house to distribute overflow discharge to another canal that have bigger capacity to accommodate overflowing water.

REFERENCES

- Abidin, H. Z., Andreas, H., Gumilar, I., Sidiq, T. P., & Fukuda, Y. (2013). Land subsidence in coastal city of Semarang (Indonesia): Characteristics, impacts and causes. *Geomatics, Natural Hazards and Risk*, 4(3), 226–240.
<https://doi.org/10.1080/19475705.2012.692336>
- Antara Foto. (2018). FOTO: Banjir Rob Terjang Semarang. *CNN Indonesia*. Retrieved from <https://www.cnnindonesia.com/nasional/20180204160300-22-273719/foto-banjir-rob-terjang-semarang/6>
- Badan Standardisasi Nasional. (2016). SNI 2415:2016 - Tata cara perhitungan debit banjir rencana.
- BBC Bitesize. (2020). River processes. Retrieved from <https://www.bbc.co.uk/bitesize/guides/zq2b9qt/revision/5>
- Cahyadi, M. N., Jaelani, L. M., & Dewantoro, A. H. (2016). STUDY OF SEA LEVEL RISE USING SATELLITE ALTIMETRY DATA (A case study: Sea Of Semarang). *Geoid*, 11(2), 176.
<https://doi.org/10.12962/j24423998.v11i2.1263>
- Finnemore, E. J., & Franzini, J. B. (2009). *Fluid Mechanics with Engineering Applications* (10th Editi). Mc Graw Hill Education.
- Floodsite Project. (2008a). Catchment Area. Retrieved from <http://www.floodsite.net/juniorfloodsite/html/en/student/thingstoknow/hydrology/catchmentarea.html>
- Floodsite Project. (2008b). Intensity of rainfall. Retrieved from <http://www.floodsite.net/juniorfloodsite/html/en/student/thingstoknow/hydrology/rainfallintensity.html>
- Goel, M. K. (2011). Runoff Coefficient. In V. P. Singh, P. Singh, & U. K. Haritashya (Eds.), *Encyclopedia of Snow, Ice and Glaciers* (pp. 952–953). Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-90-481-2642-2_456
- Hoffman, J. S., Keyes, D., & Titus, J. G. (1990). Sources: BEnvironmental

- Protection Agency, reported in, 138–153.
- HydroCAD Software Solutions LLC. (2019). Time of Concentration. Retrieved from <https://www.hydrocad.net/tc.htm>
- Ige, E. P. (2018). Gerhana Total Bikin Semarang Banjir Parah, Kemacetan pun Mengular. *Liputan 6*. Retrieved from <https://www.liputan6.com/regional/read/3253844/gerhana-total-bikin-semarang-banjir-parah-kemacetan-pun-mengular?source=Search&medium=InstantSearch>
- Indrawan, D., Hana, M. A., Zulfan, J., & Bachtiar, H. (2011). Pemodelan Banjir Perkotaan Di Kota Semarang, (December), 1–14.
- Jain, S. K., & Singh, V. P. (2003). Chapter 4 - Statistical Techniques for Data Analysis. In S. K. Jain & V. P. B. T.-D. in W. S. Singh (Eds.), *Water Resources Systems Planning and Management* (Vol. 51, pp. 207–276). Elsevier. [https://doi.org/https://doi.org/10.1016/S0167-5648\(03\)80058-8](https://doi.org/https://doi.org/10.1016/S0167-5648(03)80058-8)
- Marfai, M. A., & King, L. (2007). Monitoring land subsidence in Semarang, Indonesia. *Environmental Geology*, 53(3), 651–659. <https://doi.org/10.1007/s00254-007-0680-3>
- Marfai, M. A., & King, L. (2008a). Coastal flood management in Semarang, Indonesia. *Environmental Geology*, 55(7), 1507–1518.
- Marfai, M. A., & King, L. (2008b). Potential vulnerability implications of coastal inundation due to sea level rise for the coastal zone of Semarang city, Indonesia. *Environmental Geology*, 54(6), 1235–1245. <https://doi.org/10.1007/s00254-007-0906-4>
- Marfai, M. A., & King, L. (2008c). Tidal inundation mapping under enhanced land subsidence in Semarang, Central Java Indonesia. *Natural Hazards*, 44(1), 93–109. <https://doi.org/10.1007/s11069-007-9144-z>
- Nurdin, N. (2018). Banjir Rob di Semarang Tak Kunjung Surut, Ini Kata Menteri Basuki. *KOMPAS.Com*. Retrieved from <https://regional.kompas.com/read/2018/02/12/19354111/banjir-rob-di-pantura-semarang-tak-kunjung-surut-ini-kata-menteri-basuki>
- Pemerintah Kota Semarang. (2017). Peraturan Daerah Kota Semarang Nomor 11

Tahun 2017 Tentang Perubahan Atas Peraturan Daerah Kota Semarang Nomor 6 Tahun 2016 Tentang Rencana Pembangunan Jangka Menengah Daerah Kota Semarang Tahun 2016-2021. Retrieved from <https://bappeda.semarangkota.go.id/rpjmd>

Ramadhany, A. S., Ds, A. A., & Subardjo, P. (2012). Daerah Rawan Genangan Rob di Wilayah Semarang. *Journal Of Marine Reserach*, 1, 174–180.

Retrieved from <http://ejournal-s1.undip.ac.id/index.php/jmr>

Rosenberg, M. (2019). What Is Sea Level and How Is It Measured? Retrieved from <https://www.thoughtco.com/what-is-sea-level-1435840>

Wahyudi SI. (2007). Tingkat Pengaruh Elevasi Pasang Laut Terhadap Banjir Dan Rob Di Kawasan Kaligawe Semarang, 1(1), 27–34.

