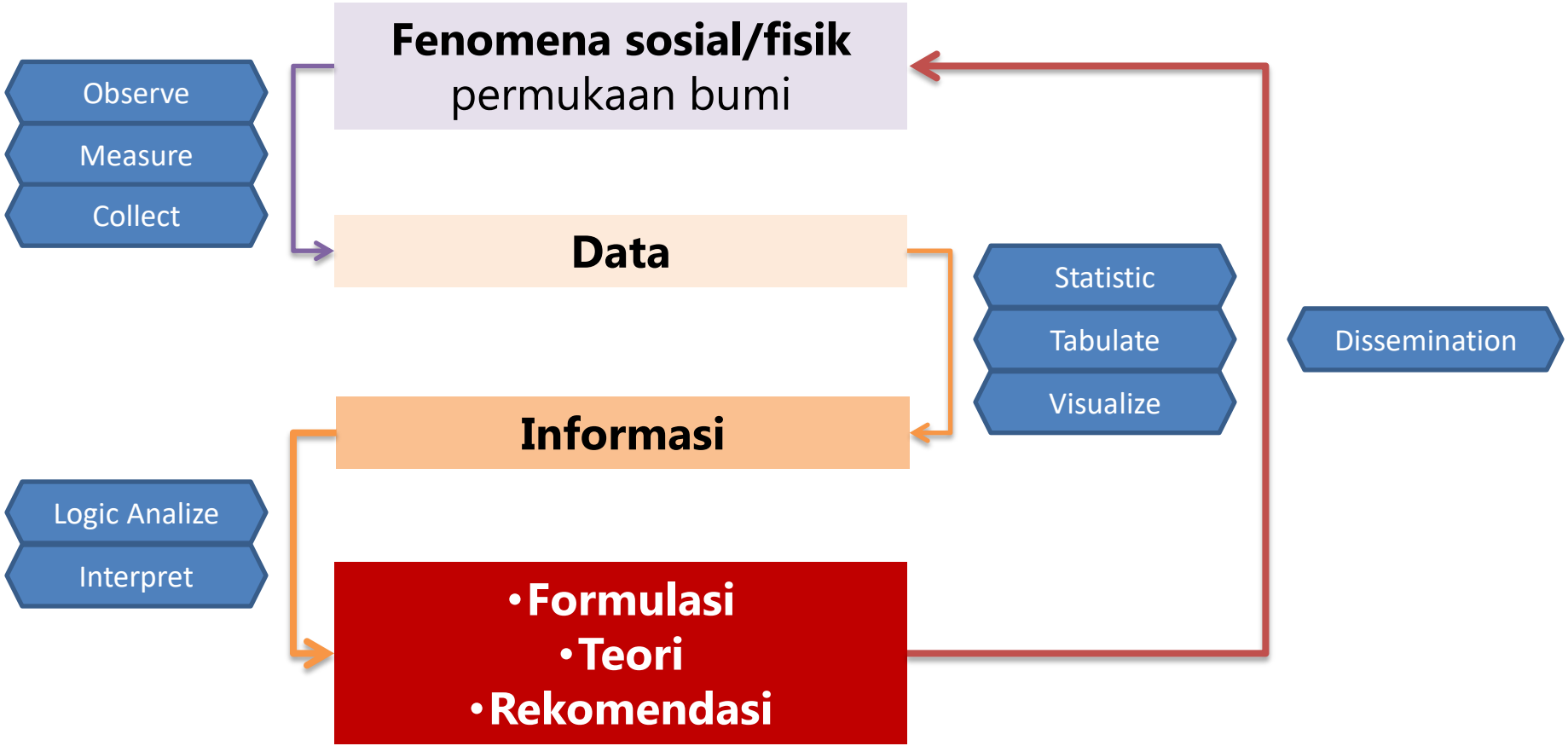
Perolehan dan Pengolahan
Data Kewilayahan

Dr. Eko Budiyanto, M.Si.

Metode Sains



Fenomena Sosial / Fisik

Data Informasi Geografis

Data Spasial

- Kadastral Survey
- GPS
- Theodolith
- Sensor

Terestrial

- Drone
- Foto Udara
- Satelit

Aerial

Data Non Spasial

Plotting

Interpolate

Mapping

Mozaic

Mathematical

Classification

GWR, AHP, MCDA, Index, Overlay, etc

Spatial Method

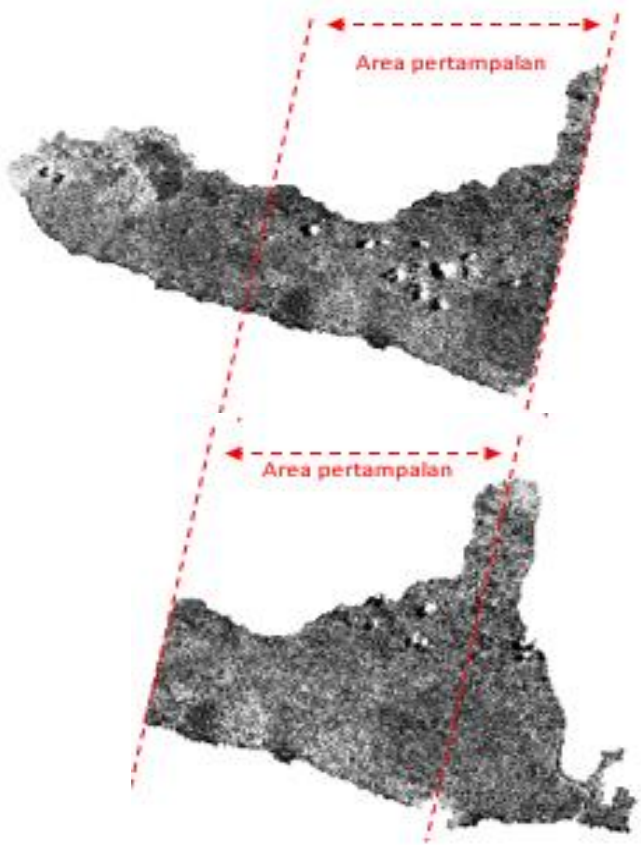
Statistical

Correlation, Regression, Product Moment, etc

IOT

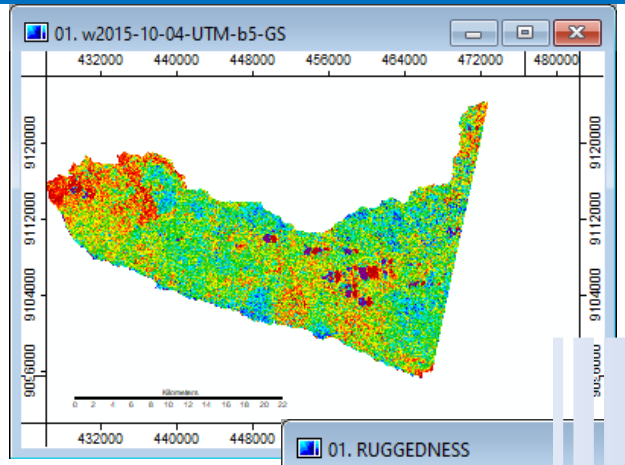
Peta / Citra Zonasi

Model

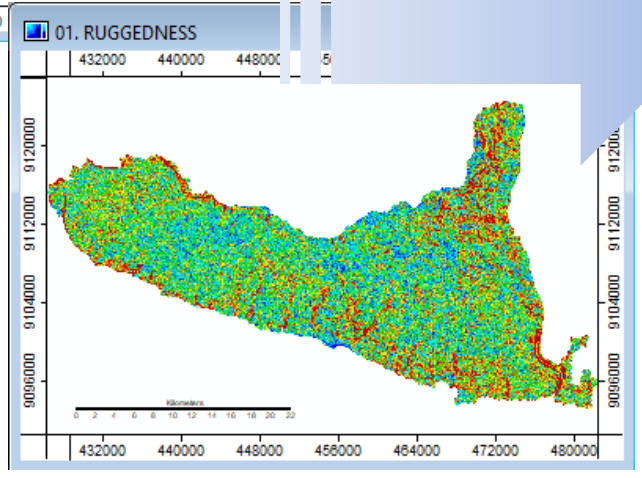


Band	Regression
Band 2	Y = -0.014653 + 1.053567 X
Band 3	Y = 0.003241 + 1.056769 X
Band 4	Y = -0.0045632 + 1.183726 X
Band 5	Y = 0.054388 + 0.974324 X
Band 6	Y = 0.041282 + 0.962750 X
Band 7	Y = 0.019551 + 1.002011 X

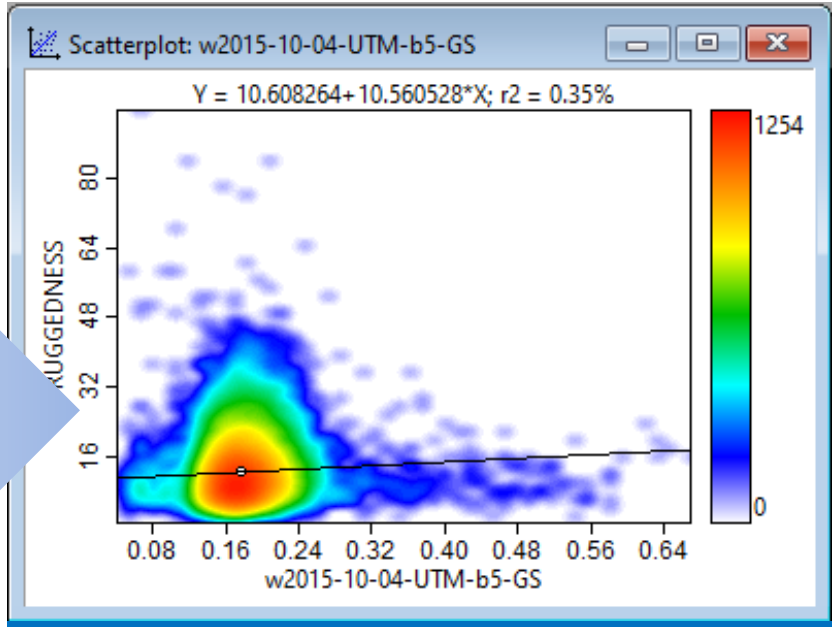
Korelasi Spasial



Satelit Landsat Band 5



Roughness Index



Korelasi spectral citra dengan kekasaran permukaan

Mathematical Modeling

Vulnerability Assesment Step 1

$$z1 = -2{,}735 + 104{,}670(B2) + 6{,}797(B5) - 0{,}672(IB) - 0{,}177(IK)$$

$$z2 = -3{,}078 + 86{,}004(B2) + 17{,}366(B5) - 4{,}268(IB) - 0{,}337(IK)$$

z1, z2 : Logistic regres value

B2, B5 : spectral band in band 2 and 5

IB : rock index

IK : roughness index

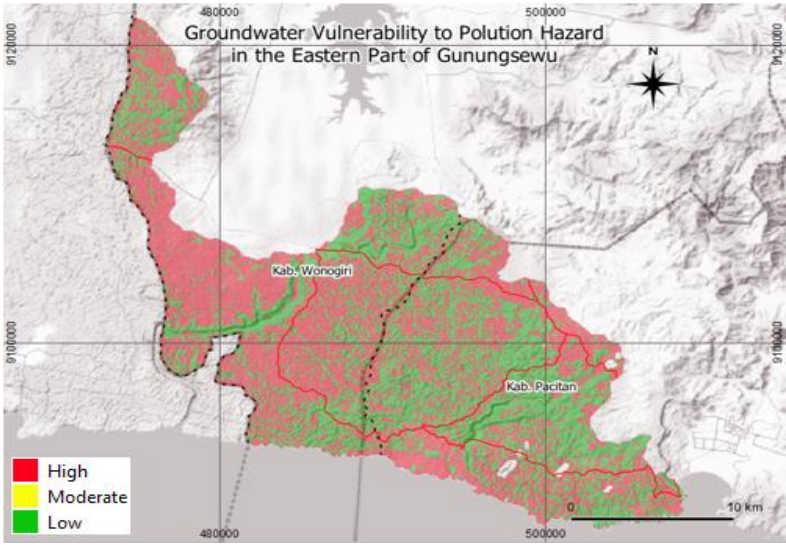
Vulnerability Assesment Step 2

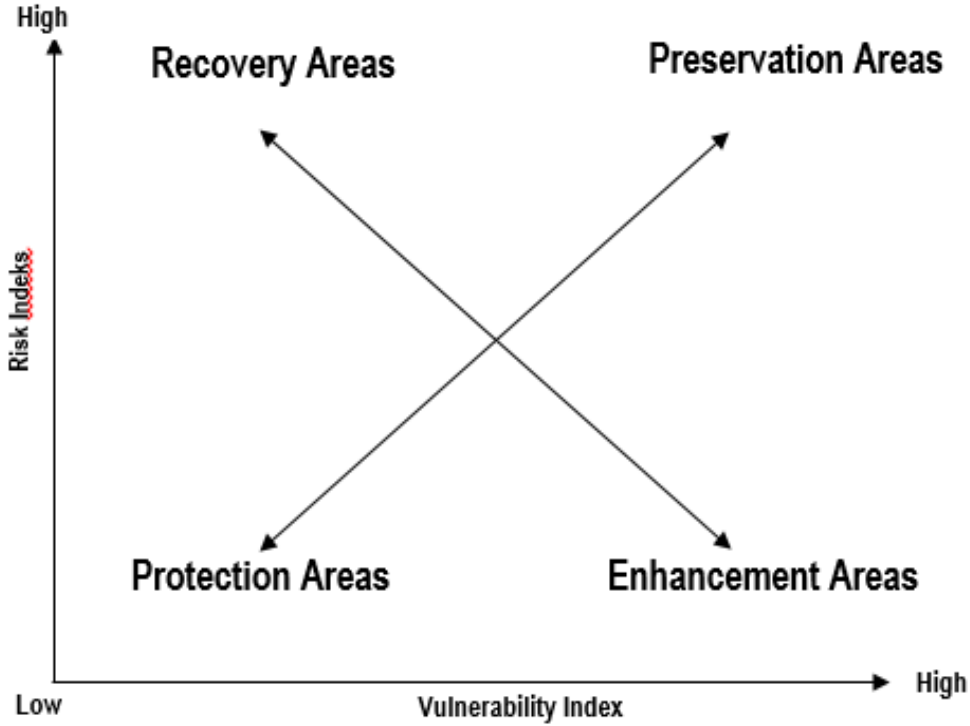
$$P(y_i = 1) = \frac{e^{Zi}}{1 + \sum_i^j e^{zi}}$$

P(yi) : Logit value in the i-th category

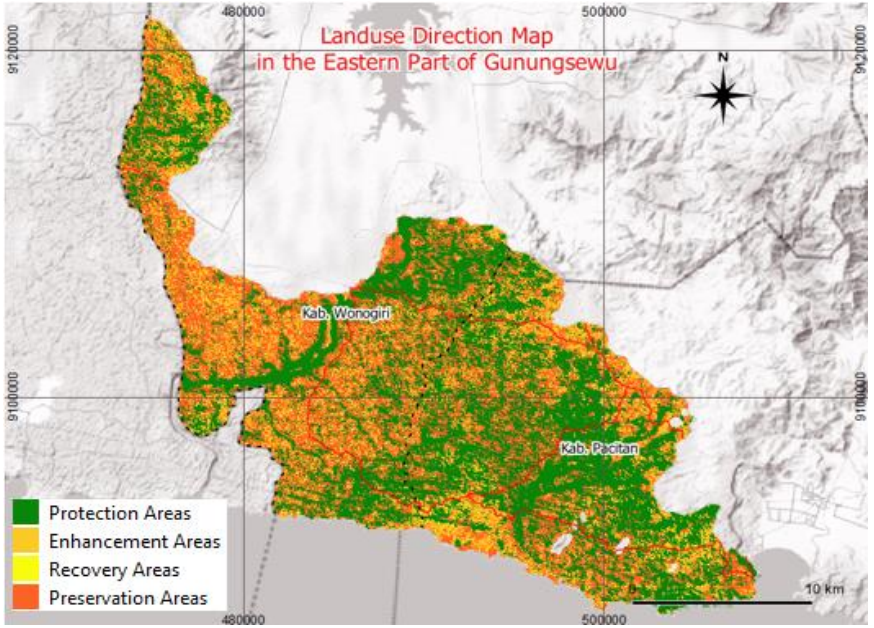
zi : logistic regres value for the i-th category

e : natural log number = 2.718





According to Republic of Indonesia Law No. 34 of 2014 concerning Land and Water Conservation



The vulnerability and risk based direction model for land use management

Sekian

lanjut pada pertemuan berikutnya