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## Kota Jambi

Kota Jambi, sebagai salah satu pusat perkotaan yang berkembang pesat di Indonesia, memiliki potensi besar untuk mengadopsi dan memperluas jaringan 5G. Dengan kepadatan penduduk yang terus meningkat dari tahun 2017- 2021 sehingga dikategorikan sebagai wilayah *urban* dalam perancangan nantinya di kota ini, implementasi jaringan 5G di Kota Jambi dapat memberikan manfaat yang signifikan dalam meningkatkan konektivitas, kecepatan, dan kapasitas komunikasi.

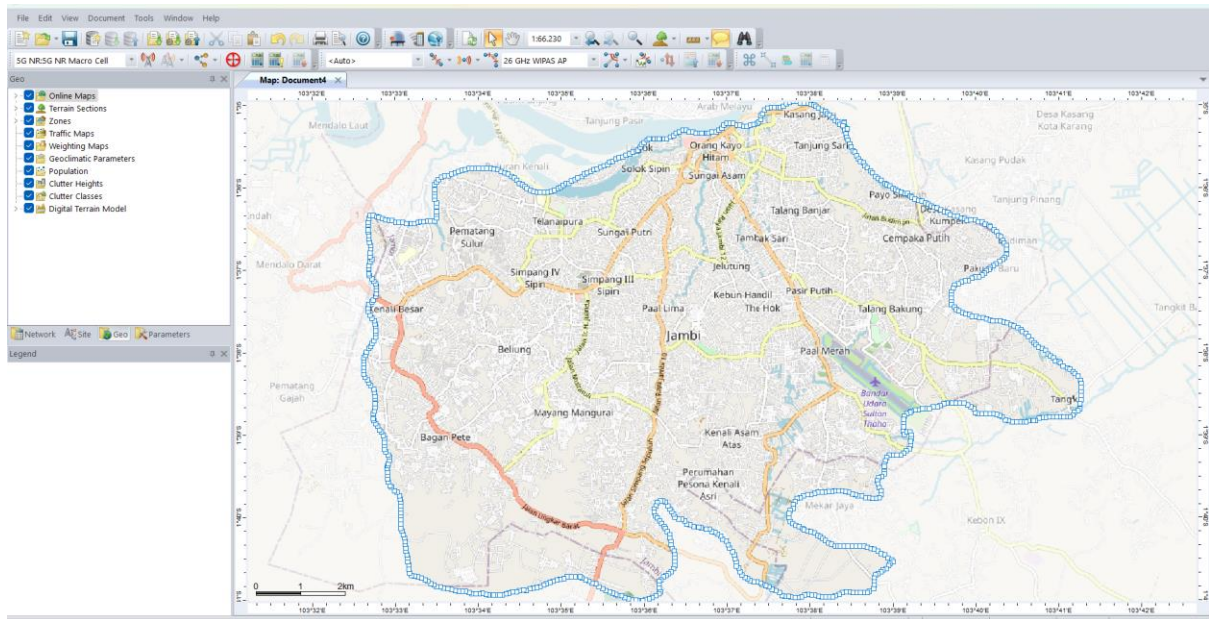
### USGS dan Global Mapper 24.1

The screenshot displays the USGS EarthExplorer web application. The top navigation bar includes the USGS logo, "EarthExplorer", and "Manage Criteria". A system notification bar shows "System Notification (1)", "Item Basket (0)", and user options like "Help", "Feedback", and "Logout [afriady18]".

The main interface is divided into a left sidebar and a right main panel. The sidebar, titled "4. Search Results", contains a "Data Set" dropdown menu set to "Landsat 8-9 OLI/TIRS C2 L1". Below this, it shows a list of search results with details such as ID, Date Acquired, Path, and Row. The first result is LC08\_L1TP\_125061\_20211226\_20211230\_02\_T1, acquired on 2021/12/26. The second result is LC09\_L1TP\_125061\_20211218\_20230504\_02\_T1, acquired on 2021/12/18. The third result is LC08\_L1GT\_125061\_20211210\_20211215\_02\_T2, acquired on 2021/12/10.

The main panel, titled "Search Criteria Summary (Show)", displays a satellite map of the study area. The map shows a winding river and surrounding land. A blue location pin is placed on the map, labeled "Jambi". The coordinates displayed at the top right of the map are 01° 30' 16" S, 103° 37' 30" E. The map also shows a label "Muaro Jambi" near the river.





Frekuensi Operasi (f)	Hz
Jarak (Km)	Km
Gain Antena Pemancar (Gt)	
Gain Antena Penerima (Gr)	
Noise Figure (NF)	
Path Loss	Path Loss (PL) = $20 * \log_{10}(d) + 20 * \log_{10}(f) + (\text{Urban, Suburban, Rural})$
Gain dan Loss Antena	Total Gain Antena Pemancar (Gt_total) $Gt\_total = Gt - \text{Loss Antena Pemancar}$  Total Gain Antena Penerima (Gr_total) $Gr\_total = Gr - \text{Loss Antena Penerima}$
Transmit Power (Pt) *Tentukan <i>Link Budget Margin (LBM)</i> dalam dB	$Pt = PL + Gr\_total + Gt\_total + LBM$
Noise Power (Pn)	$Pn = k * T * B * NF$
Link Budget (LB)	$LB = Pt - Pn$