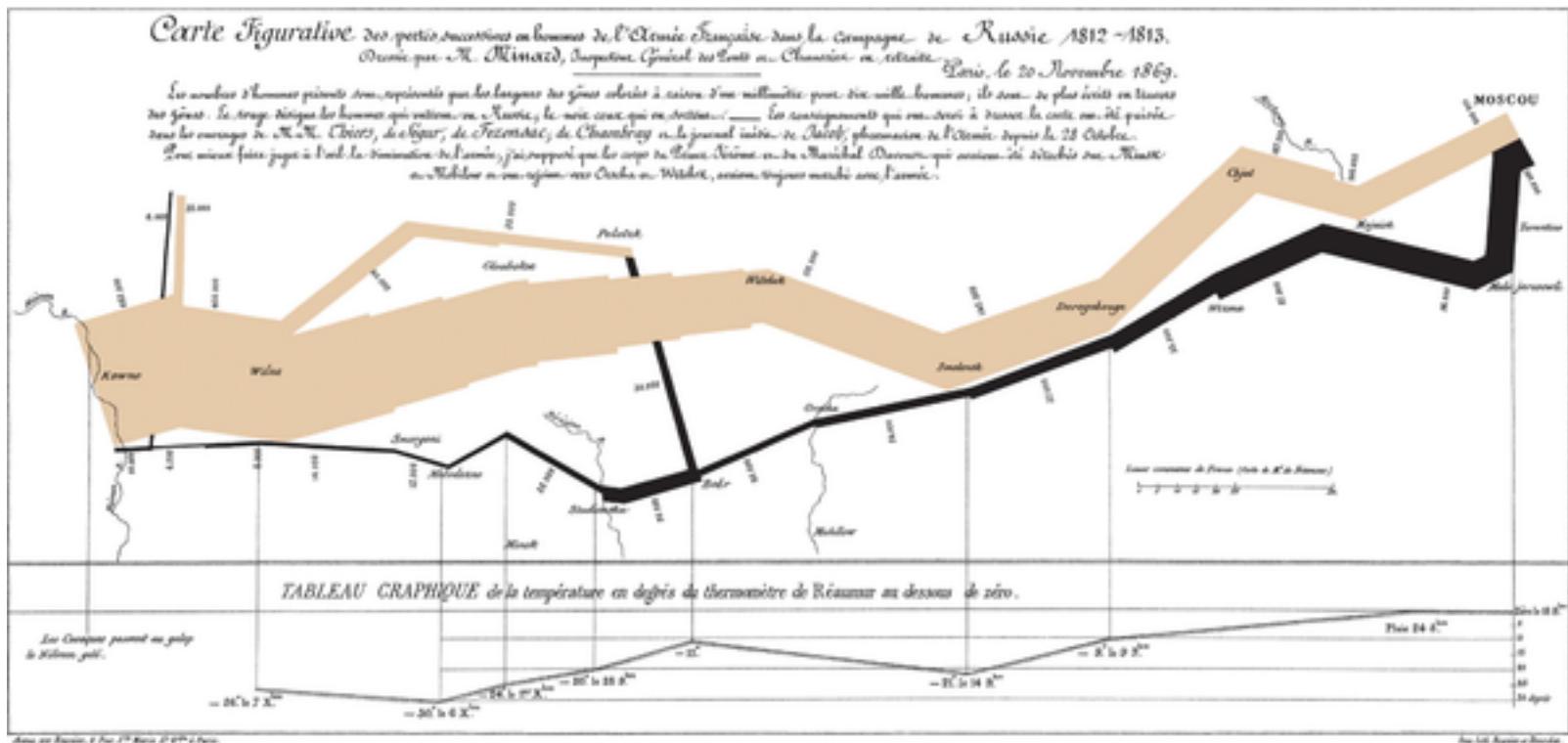


# Minard's Chart of Napoleonic's Campaign

**Charles Joseph Minard** (French: [minar]; 27 March 1781 – 24 October 1870) was a French [civil engineer](#) recognized for his significant contribution in the field of [information graphics](#) in civil engineering and statistics. Minard was, among other things, noted for his representation of numerical data on geographic maps.



Charles Minard's map of [Napoleon's disastrous Russian campaign of 1812](#). The graphic is notable for its representation in two dimensions of six types of data: the number of Napoleon's troops; distance; temperature; the latitude and longitude; direction of travel; and location relative to specific dates.<sup>[2]</sup>

Wikipedia (n.d.). *Charles Minard's 1869 chart showing the number of men in Napoleon's 1812 Russian campaign army, their movements, as well as the temperature they encountered on the return path.* File:Minard.png. <https://en.wikipedia.org/wiki/File:Minard.png>

The original description in French accompanying the map translated to English:<sup>[3]</sup>

*Drawn by Mr. Minard, Inspector General of Bridges and Roads in retirement. Paris, 20 November 1869.*

*The numbers of men present are represented by the widths of the colored zones in a rate of one millimeter for ten thousand men; these are also written beside the zones. Red designates men moving into Russia, black those on retreat. — The informations used for drawing the map were taken from the works of Messrs. Thiers, de Ségur, de Fezensac, de Chambray and the unpublished diary of Jacob, pharmacist of the Army since 28 October.*

## Recognition

Modern information scientists say the illustration may be the best statistical graphic ever drawn.<sup>[2]</sup> French scientist, physiologist and chronophotographer Étienne-Jules Marey first called notice to Minard's dramatic depiction of the fate of Napoleon's army in the Russian campaign, saying it "defies the pen of the historian in its brutal eloquence".<sup>[4]</sup>



Noted information designer Edward Tufte says it "may well be the best statistical graphic ever drawn"<sup>[5]</sup> and uses it as a prime example in *The Visual Display of Quantitative Information*.<sup>[6]</sup> Howard Wainer identified Minard's map as a "gem" of information graphics, nominating it as the "World's Champion Graph".<sup>[7]</sup>

Arthur H. Robinson wrote that Minard was 'a cartographic pioneer in many respects' and pointed out that his famous map (of Napoleon's march) was only one of 51 thematic maps he created during his lifetime.<sup>[8]</sup>

# References

1. <sup>^ a b c d</sup> *Chevallier, V. (1871). ["The Life of Charles Joseph Minard \(1781-1870\)"](#). Finley, Dawn (translator). From "Notice nécrologique sur M. Minard, inspecteur général des ponts et chaussées, en retraite". Annales des ponts et chaussées (in French). 2: 1–22. 1871.* Posted by Edward Tufte.
2. <sup>^ a b c</sup> *Corbett, John. ["Charles Joseph Minard: Mapping Napoleon's March, 1861"](#). Center for Spatially Integrated Social Science. Retrieved 21 September 2014.*
3. <sup>^</sup> *["Charles Joseph Minard: Napoleon's Retreat From Moscow \(The Russian Campaign 1812-1813\) An Interactive Chart"](#). Retrieved 21 September 2014.*
4. <sup>^</sup> International Statistical Congress. Emploi de la cartographie et de la methode graphique en general pour les besoins speciaux de la statistique. In Proceedings, pages 192–197, Vienna, 1858. 3rd Session, August 31-September 5, 1857. Cited in: [MINARD, CHARLES JOSEPH](#) by [Michael Friendly](#) at datavis.ca. Accessed 09.2014
5. <sup>^</sup> *[Edward R. Tufte \(2001\). The Visual Display of Quantitative Information.](#) p. 40*
6. <sup>^</sup> *["Poster: Napoleon's March"](#). Edward Tufte. Retrieved 21 September 2014.*
7. <sup>^</sup> *[Howard Wainer \(1984\). "How to Display Data Badly". In: American Statistician 38 \(2\): p 146 \(pg 136 – 147\).](#)*
8. <sup>^</sup> Arthur H. Robinson (1967), 'The Thematic Maps of Charles Joseph Minard', *Imago Mundi*, Vol. 21, (1967), pp. 95-108