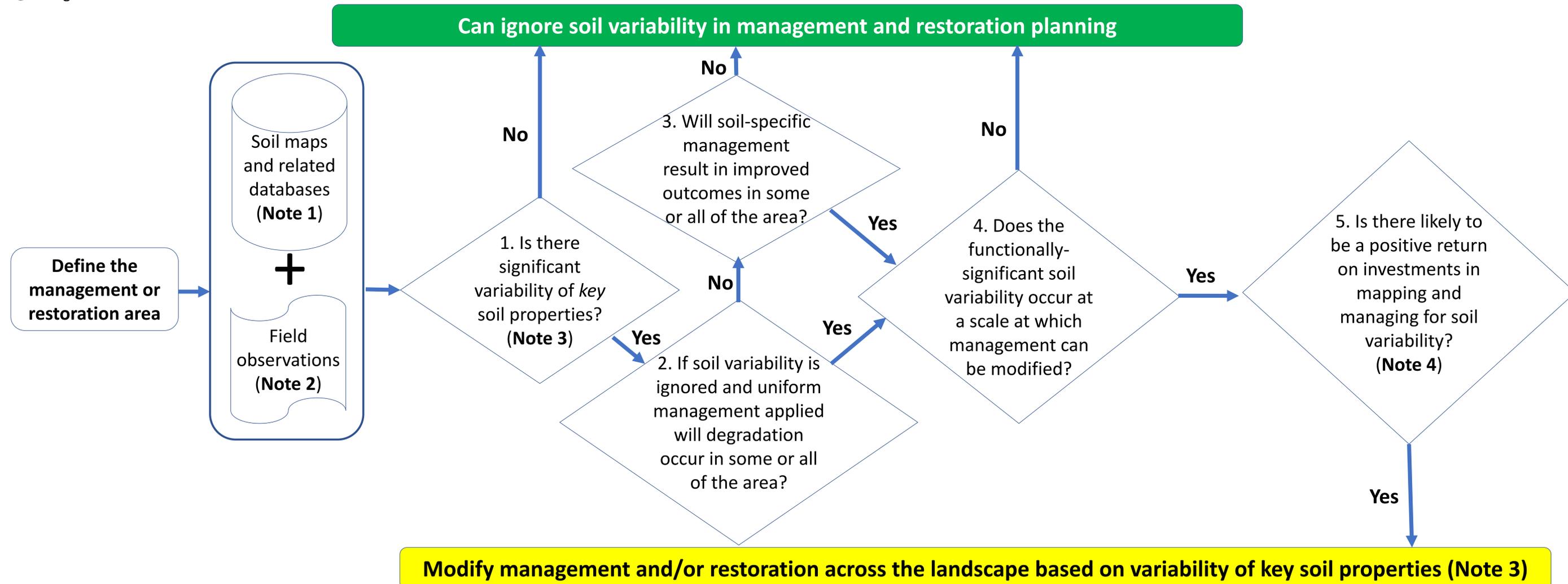


# Simple Guidelines for Deciding When Soil Variability Does – and Doesn't – Matter for Rangeland\* Management and Restoration

\* Flow chart is also relevant to other land use and land cover types.

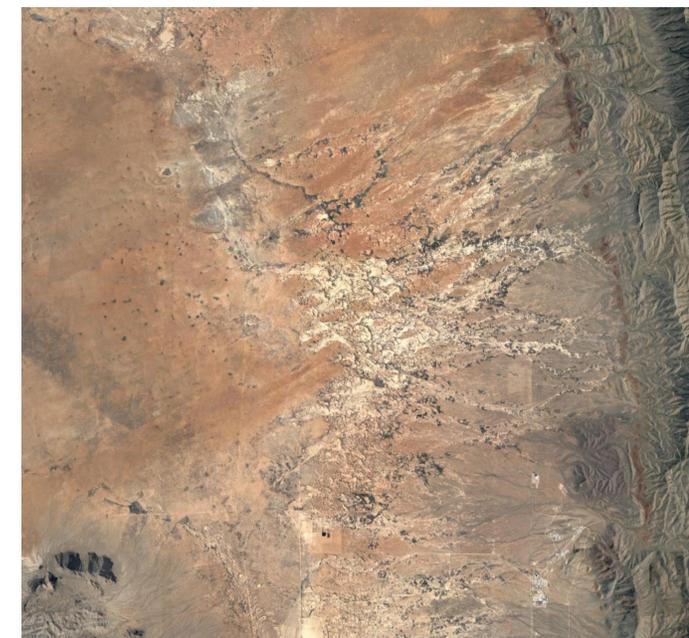
Herrick, J.E.<sup>1\*</sup>, Maynard, J.<sup>2</sup>, Bestelmeyer, B.<sup>1</sup>, Ganguli, A.<sup>3</sup>, Glover, J.<sup>4</sup>, Johnson, K.<sup>4</sup>, Kimiti, D.<sup>5</sup>, Neff, J.<sup>2</sup>, Peacock, G.<sup>6</sup>, Peters, J.<sup>4</sup>, Salley, S.<sup>7</sup>, Shaver, P.<sup>8</sup>, Shepherd, K.<sup>9</sup>, Stewart, Z.<sup>4</sup>, van den Bosch, R.<sup>10</sup>

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## Notes

1. When using traditional soil maps, the diversity of soils listed for a single polygon can be an indicator of potential variability. For digital soil maps, the diversity of soil properties associated with pixels in the management unit can be a helpful indicator. However, soil maps alone are rarely sufficient to define soil variability – field observations of differences in soil texture, color and vegetation composition and production are essential
2. The  LandPKS app provides a ranked list of probable soils based on location AND the ability to improve predictions with on-site observations of soil texture and slope.
3. Key properties are those that will influence restoration or management success.
4. Where return on investment (ROI) is defined, where possible, based on all of the ecosystem services affected by the management or restoration action. See also:
  - [International Resource Panel. 2019. Land Restoration for Achieving the Sustainable Development Goals: An International Resource Panel Think Piece.](#)
  - [Herrick et al. 2019. Prioritizing land for investments based on short- and long-term land potential and degradation risk: A strategic approach. Environmental Science and Policy 96: 52-58.](#)



**Figure 1.** Google Earth image of an approximately 700km<sup>2</sup> area in southern New Mexico, USA including a relatively uniform area of sandy soils in the upper left and a complex mosaic throughout the rest of the image.