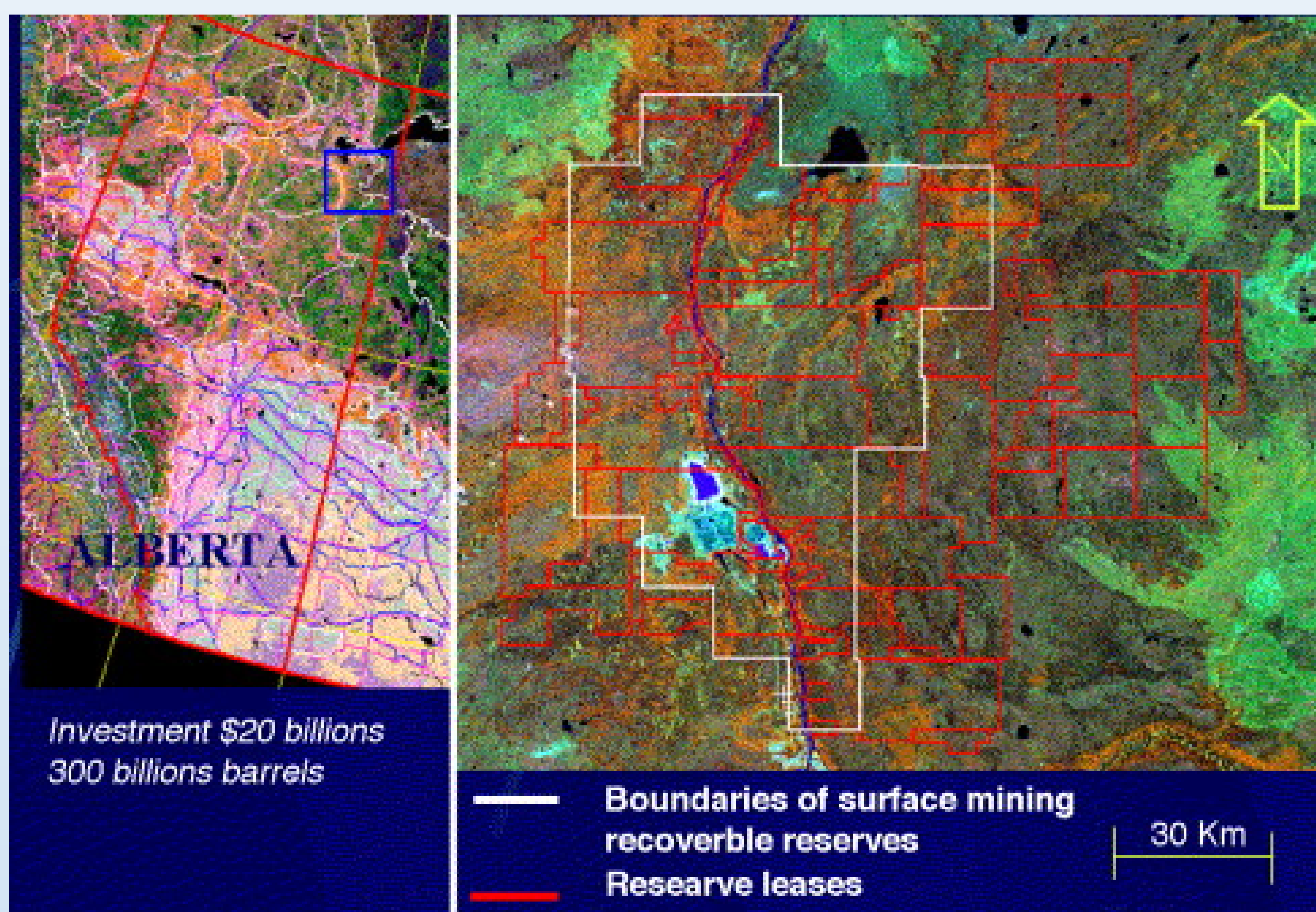


Quantifying Surface Disturbance from Mining Infrastructure Using Remote Sensing

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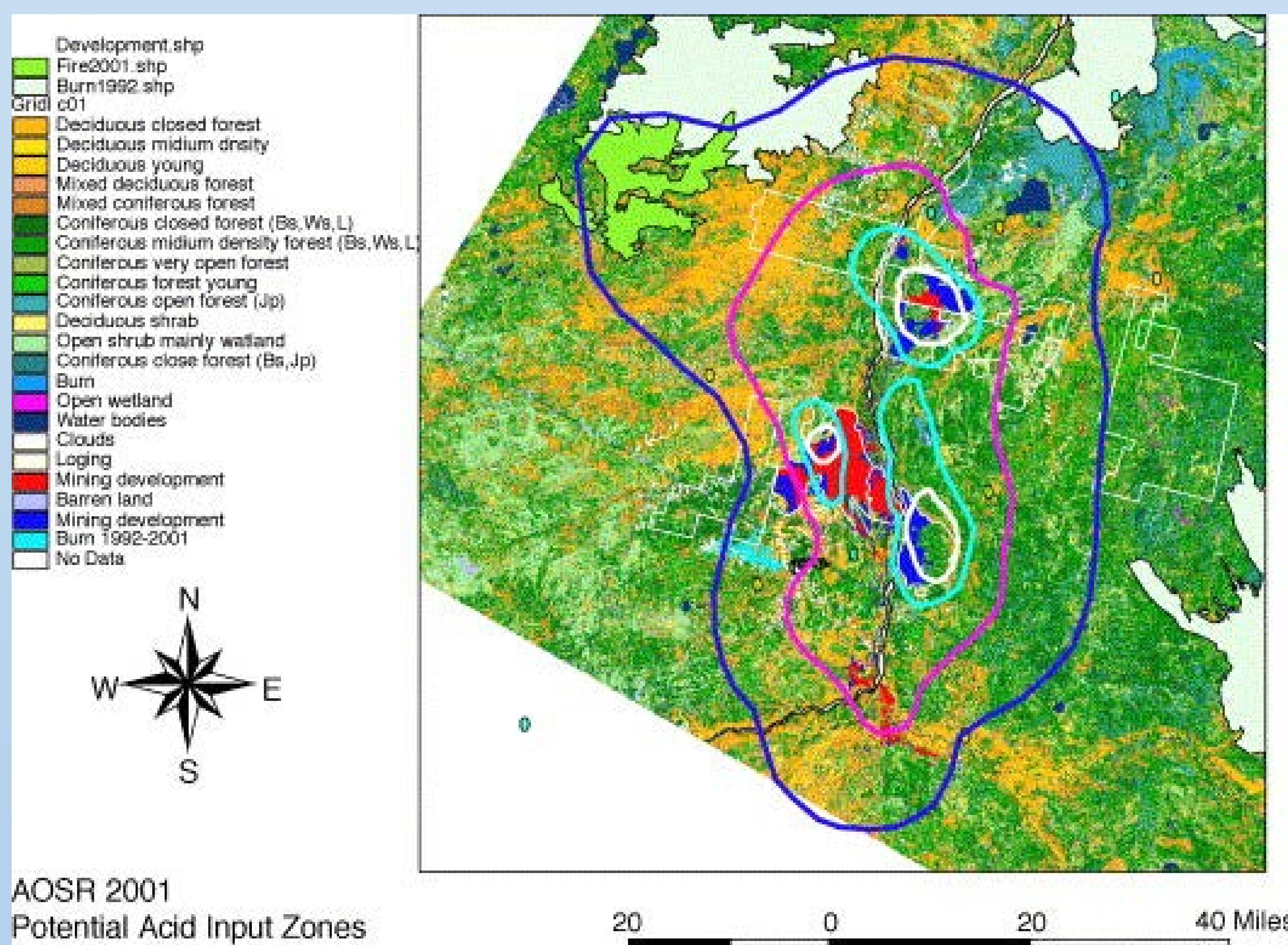
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<http://www.sciencedirect.com/science/article/pii/S0303243404001047>

*Extent of a mining operation proposed for assessing land cover change.

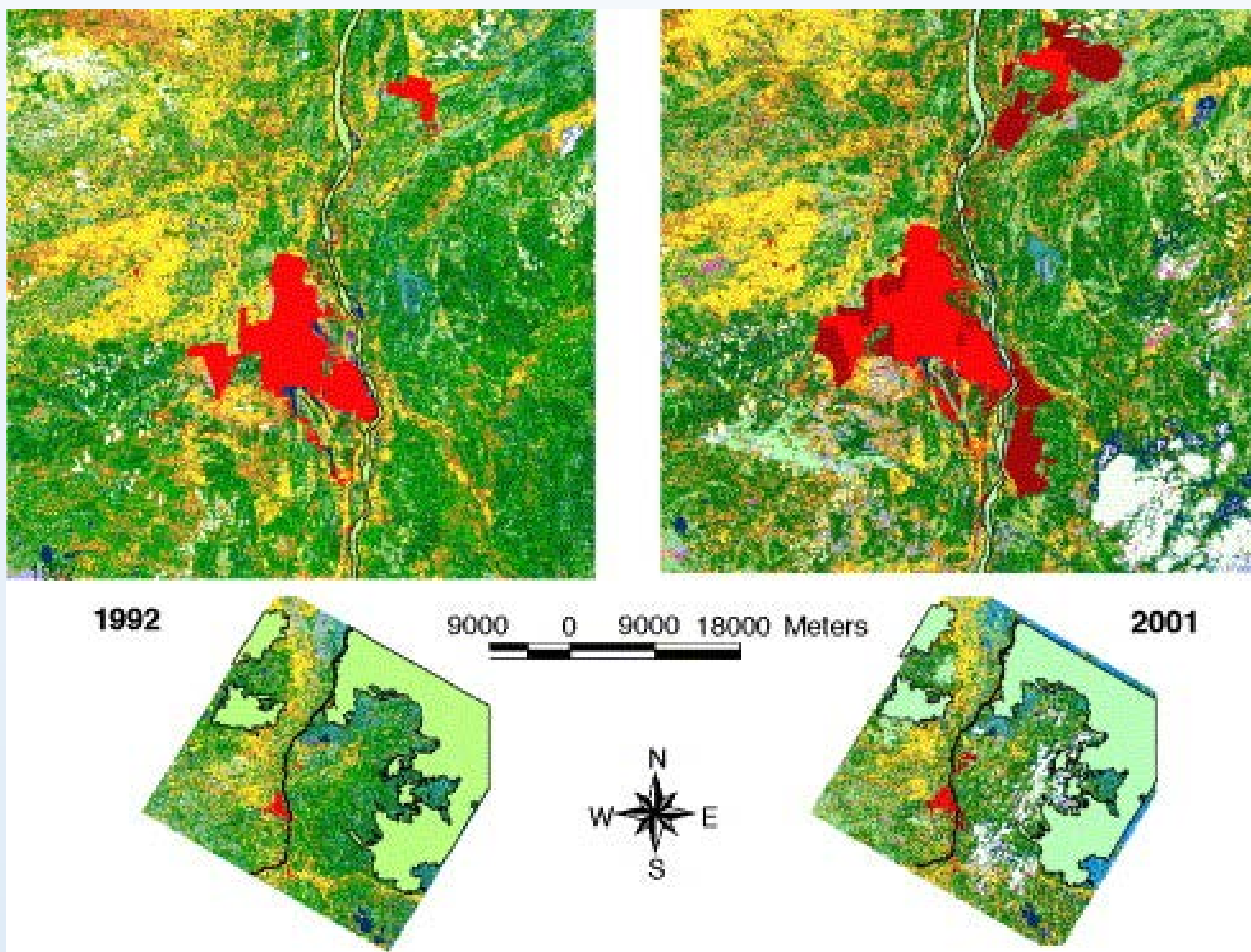
The high temporal frequency of remotely sensed imagery lends itself to analyzing changes over time. Evaluating different types of disturbance requires pre-processing and classification to determine different categories of surface disturbances. Land use and land cover change (LULC) can occur due to varying reasons, so determining landscape classes is useful for quantifying surface disturbance.



<http://www.sciencedirect.com/science/article/pii/S0303243404001047>

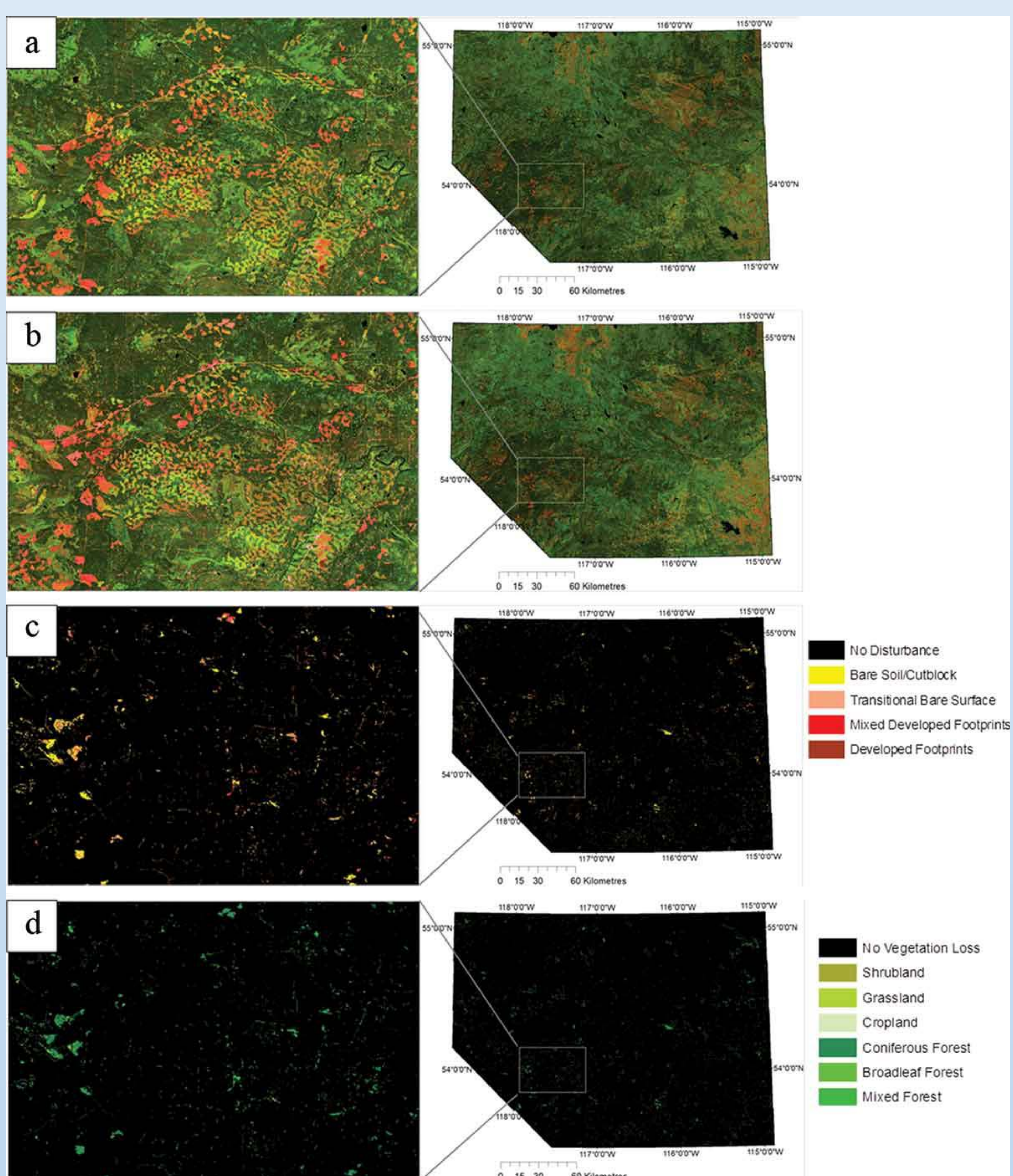
*Pre determined landscape classes.

Now that landscape classes are determined, a post classification change detection method can be used to assess LULC. This study, Latifovic et al., 2005, determined surface changes between 1992 and 2001 by detecting the difference between pixels' labels. This is one method for determining surface disturbance or land use change over time.



<http://www.sciencedirect.com/science/article/pii/S0303243404001047>

*Red is mining development



<http://www.tandfonline.com/doi/full/10.1080/15481603.2017.1317453>

False color composite (SWIR 1, NIR, Red) of (a) 2005 and (b) 2006 Landsat annual BAP data. (c) Types of land disturbances and (d) types of vegetation loss from 2005 to 2006.

A fused LULC classification can be done for each year in a given period to analyze land disturbance. Above, total disturbance is compared to disturbance of oil and gas disturbance.

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