Introduction:

As humans impact their environment, it is likely to change the manner in which the natural system behaves. Land use is likely to impact many natural phenomena. One such effect is seen in changes in the hydrologic cycle and hydrologic behaviors. The effects of land cover change have been shown to impact hydrologic and geomorphic qualities in various studies (Price 2006, Bercher 2007, Kliment 2009, Chen 2005, et al.). In order to better understand the impact land cover change has on stream characteristics, a dataset must be created. Unfortunately, the Blue Ridge physiographic province has not received much attention with respect to the impact humans have had on stream channels (Price 2006). In order to analyze how streams have been impacted by land cover change, a dataset must be developed. This data must include a high spatial resolution elevation layer to allow for further watershed delineation as well as land cover data for the time period being studied. Once created, this data could be used for various hydrologic modeling, baseflow analysis, or other applications. In this study, the subbasins chosen were: the Lower Catawba, Saluda, Seneca, Tuckasegee, Upper Broad, Upper Chattahoochee, Upper French Broad, Upper Ocmulgee, and Upper Oconee (Figure 1).

Objectives:

- Create an Elevation Dataset for Watershed Delineation
  - Delineate 10 Subbasins
- Create a Land Use Dataset for Analysis of Land Cover Change
  - Create a map of:
    - 1977 Land Use
    - 1992 Land Use
    - 2001 Land Use
- Clip Land Cover for Each Subbasin

Methods:

<table>
<thead>
<tr>
<th>Creation of Database</th>
<th>Land Cover Maps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1977 NLCD Map</td>
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<tr>
<td></td>
<td>1992 NLCD Map</td>
</tr>
<tr>
<td></td>
<td>2001 NLCD Map</td>
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</tbody>
</table>

Table 1. These tables demonstrate the reclassification values for each NLCD Map

References:


For projection and data sources, please see:
N:\users\shannon\GIS\LandCoverData\POSTER\projdata.doc

Acknowledgements:

I would like to thank the following people for all of their help with this project:
Weston Dripps
Seash Muthukrishnan
Amidle Y. Davis

Without them, this would not have been possible.