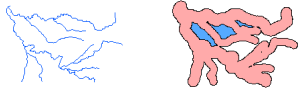
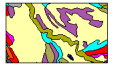


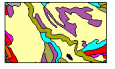







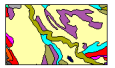







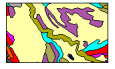







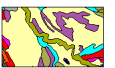

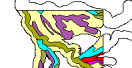

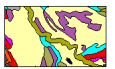





TNTmips® Vector Analysis Operations

Some of the topological vector operations available in TNTmips® and TNTlite™ are illustrated in the chart found on both sides of this sheet. The topological data structure and these operations are similar to those found in ARC/INFO, except topology is automatically created and maintained. TNTmips and TNTlite differ from ARC/INFO by providing topological vectors and GIS operations in integrated combination with raster, CAD, and TIN data types. All of these data types can be stored in the same project file in TNTmips, and a variety of methods are provided for interconversion of data types (raster to vector, CAD to vector, raster to TIN, and so on). Moreover, TNTmips and TNTlite perform these operations interactively with an easily used, windows-oriented interface.

Operation Application	Description	TNTmips Feature (ARC/INFO command)	Example (TNTmips menu path)
Generate buffers (setbacks)	<ul style="list-style-type: none"> generate buffer zones around selected elements 	Buffer Zones (<i>BUFFER</i>)	 (Process/Vector/Compute/Buffer Zones)
Update object	<ul style="list-style-type: none"> merge new features with a "cut and paste" operation remove elements in part of an object prior to updating 	Replace (<i>UPDATE</i>) Subtract (<i>ERASECOV</i>)	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  +  =  (Process/Vector/Combine/Replace) </div> <div style="text-align: center;">  -  =  (Process/Vector/Combine/Subtract) </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  All Operator </div> <div style="text-align: center;">  By Element* </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  All Operator </div> <div style="text-align: center;">  By Element* </div> </div> <p style="text-align: right; font-size: small;">*Islands not selected as part of operator</p>
Extract, subset, or reduce elements	<ul style="list-style-type: none"> select elements to be retained cut out part of an object with "cookie cutter" 	Extract (<i>RESELECT</i>) Extract Inside and Clip (<i>CLIP</i>) Extract Partially Inside Extract Partially Outside Extract Completely Inside Extract Inside Add Border Extract Outside Add Border	<div style="text-align: center;">  (Process/Vector/Extract) </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  +  =  All Operator </div> <div style="text-align: center;">  By Element* </div> </div> <p style="text-align: center; font-size: small;">(Process/Vector/Combine/Extract Inside and Clip)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  +  =  All Operator </div> <div style="text-align: center;">  By Element* </div> </div> <p style="text-align: center; font-size: small;">(Process/Vector/Combine/Extract Partially Inside)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  +  =  All Operator </div> <div style="text-align: center;">  By Element* </div> </div> <p style="text-align: center; font-size: small;">(Process/Vector/Combine/Extract Partially Outside)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  +  =  All Source </div> <div style="text-align: center;">  Polygons Only </div> </div> <p style="text-align: center; font-size: small;">(Process/Vector/Combine/Extract Completely Inside)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  +  =  All Operator </div> <div style="text-align: center;">  By Element* </div> </div> <p style="text-align: center; font-size: small;">(Process/Vector/Combine/Extract Inside Add Border)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  +  =  All Operator </div> <div style="text-align: center;">  By Element* </div> </div> <p style="text-align: center; font-size: small;">(Process/Vector/Combine/Extract Outside Add Border)</p> <p style="text-align: right; font-size: x-small;">*Islands not selected as part of operator</p>

Additional TNTmips Vector Analysis Operations

Operation Application	Description	TNTmips Feature (ARC/INFO command)	Example (TNTmips menu path)
Spatial join (merge feature attributes)	<ul style="list-style-type: none"> • overlay polygons and keep all elements in both objects • retain only those elements that fall within the source and operator • retain only those elements in the source and operator without overlap 	<p>Union (OR) (UNION)</p> <p>Intersect (AND) (INTERSECT)</p> <p>Exclusive Union (XOR)</p>	
Merge polygons	<ul style="list-style-type: none"> • drop borders between neighboring polygons with the same values for selected attributes 	<p>Dissolve (DISSOLVE)</p>	
Merge adjacent maps	<ul style="list-style-type: none"> • merge polygons in adjacent objects and rebuild topology • merge the same feature classes from adjacent objects 	<p>Merge (MAPJOIN)</p> <p>Merge (APPEND)</p>	
Merge overlapping maps	<ul style="list-style-type: none"> • merge various feature classes to create new features 	<p>Merge (APPEND with the NOTEST option)</p>	

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