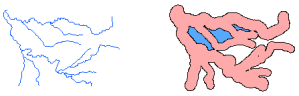
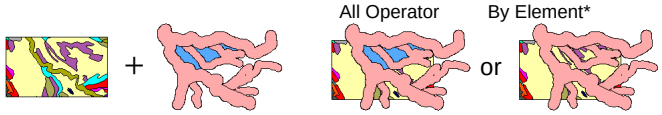
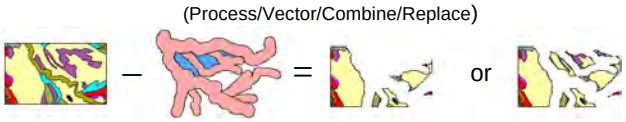
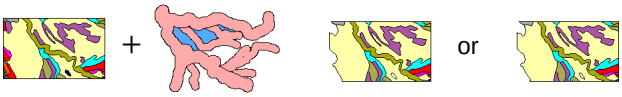
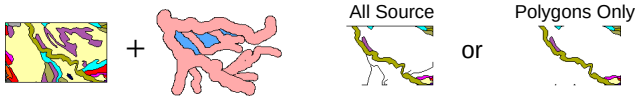
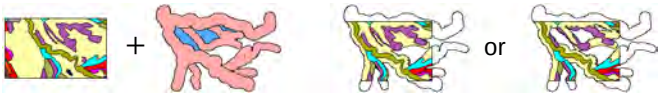
TNTmips® Vector Analysis Operations

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)	• generate buffer zones around selected elements	**Buffer Zones** *(BUFFER)*	 (Process/Vector/Compute/Buffer Zones)
Update object	• merge new features with a "cut and paste" operation	**Replace** *(UPDATE)*	 (Process/Vector/Combine/Replace)
	• remove elements in part of an object prior to updating	**Subtract** *(ERASECOV)*	 (Process/Vector/Combine/Subtract) *Islands not selected as part of operator
Extract, subset, or reduce elements	• select elements to be retained	**Extract** *(RESELECT)*	(Process/Vector/Extract)
	• cut out part of an object with "cookie cutter"	**Extract Inside and Clip** *(CLIP)*	(Process/Vector/Combine/Extract Inside and Clip)
		Extract Partially Inside	 (Process/Vector/Combine/Extract Partially Inside)
		Extract Partially Outside	(Process/Vector/Combine/Extract Partially Outside) *Islands not selected as part of operator
		Extract Completely Inside	 (Process/Vector/Combine/Extract Completely Inside)
		Extract Inside Add Border	 (Process/Vector/Combine/Extract Inside Add Border)
		Extract Outside Add Border	(Process/Vector/Combine/Extract Outside Add Border)

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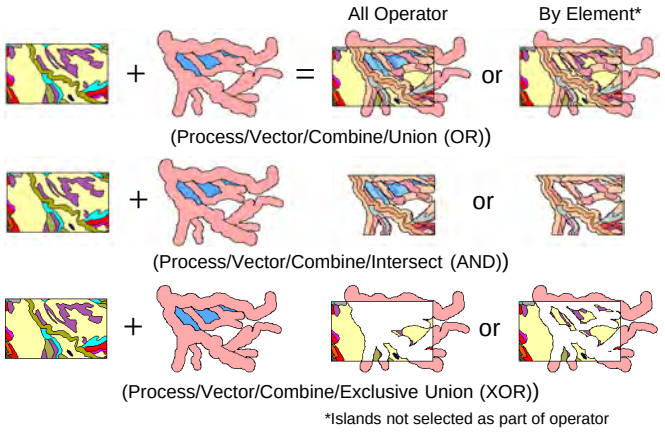
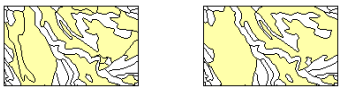
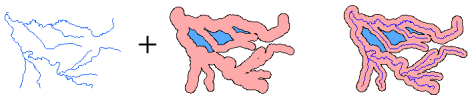
Additional TNTmips Vector Analysis Operations

Operation Application	Description	TNTmips Feature (ARC/INFO command)	Example (TNTmips menu path)
Spatial join (merge feature attributes)	• 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	**Union (OR)** *(UNION)* **Intersect (AND)** *(INTERSECT)* **Exclusive Union** (XOR)	 (Process/Vector/Combine/Union (OR)) (Process/Vector/Combine/Intersect (AND)) (Process/Vector/Combine/Exclusive Union (XOR)) *Islands not selected as part of operator
Merge polygons	• drop borders between neighboring polygons with the same values for selected attributes	**Dissolve** *(DISSOLVE)*	 (Process/Vector/Dissolve Polygons)
Merge adjacent maps	• merge polygons in adjacent objects and rebuild topology • merge the same feature classes from adjacent objects	**Merge** *(MAPJOIN)* **Merge** *(APPEND)*	 (Process/Vector/Merge) (Process/Vector/Merge)
Merge overlapping maps	• merge various feature classes to create new features	**Merge** *(APPEND with the NOTEST option)*	 (Process/Vector/Merge)

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