

Appendix 2.

Table A2.1. Codebook.

Code categories	Coding information
General information	
Telecoupling topic	<p>Description: the main telecoupling topic of the visualization, based on its content and the figure caption.</p> <p>Options: ‘commodity trade’, ‘land acquisition’, ‘conservation’, ‘water transfer’, ‘tourism’, ‘species migration’, ‘other’, or ‘combined topics’.</p> <p>Instructions: one option is to be selected</p>
Data source type	<p>Description: the type of data that served as input to the visualization.</p> <p>Options: ‘primary’, ‘secondary’, ‘both’, or ‘data source not clear’.</p> <p>Instructions: one option is to be selected, and the methods section is to be consulted in addition to the visualization.</p>
Nodes	
Node type	<p>Description: the type of content that the visualized nodes represent.</p> <p>Options: ‘systems’, ‘actors’, ‘action situation’, or ‘other’.</p> <p>Instructions: multiple options can be selected, e.g. if different options apply for different nodes.</p>
Node representation	<p>Description: Visual encoding strategy used for the visualized nodes</p> <p>Options: ‘mark’ or ‘link attribute’.</p> <p>Instructions: multiple options can be selected, e.g. if different options apply for different nodes.</p>
Spatial explicitness of nodes	<p>Description: Spatially explicit representation of visualized node information.</p> <p>Options: ‘yes’ or ‘no’.</p> <p>Instructions: multiple options can be selected, e.g. if different options apply for different nodes.</p>
Links	
Link type	<p>Description: The type of content that the visualized links represent.</p> <p>Options: ‘flows’, ‘interactions’, ‘relations’, ‘similarity’, or ‘not defined’.</p> <p>Instructions: multiple options can be selected, e.g. if different options apply to different links. Flow mediums (e.g. roads or canal infrastructure) are coded under ‘flows’.</p>
Link representation	<p>Description: Visual encoding strategy used for the visualized links.</p> <p>Options: ‘mark’ or ‘node attribute’.</p> <p>Instructions: multiple options can be selected, e.g. if different options apply to different links.</p>

Spatial explicitness of links
Description: Spatially explicit representation of visualized link information.
Options: 'yes' or 'no'.
Instructions: multiple options can be selected, e.g. if different options apply to different links.

Systems

System boundary type
Description: types of system boundaries are used to delineate the visualized systems and indication of whether or not there is a reference to a geographical location.
Options: 'world/rest of the world', 'world regions', 'supra-national governance unit', 'national governance unit', 'sub-national governance unit', 'spatial zoning', 'local governance unit', 'ecosystem-based', 'economic sectors/supply chains', 'other social-economic', 'topographic-hydrological', or 'other'.
Coding instructions: multiple options can be selected, e.g. if different options apply to different systems. This code category only applies to those cases where systems have been identified.

Geographic location of system
Description: Indication of whether the systems are presented in a location-specific way or not.
Options: 'location-specific' or 'non-location-specific'.
Coding instructions: multiple options can be selected, e.g. if different options apply to different systems. This code category only applies to those cases where systems have been identified.

System boundary detailed
Description: Specific information about the nature of the system boundaries of the visualized systems.
Coding instructions: Indicate how the visualized systems are delineated, e.g. 'breeding sites in Mexico'. This code category only applies to those cases where systems have been identified.

Internal system elements and dynamics
Description: Presence of information about any elements and/or dynamics within any of the visualized systems.
Options: 'yes' or 'no'.
Coding instructions: one option is to be selected. This code category only applies to those cases where systems have been identified.

Internal system elements: actors
Description: Presence of information about actors within any of the visualized systems.
Options: 'yes' or 'no'.
Coding instructions: one option is to be selected. This code category only applies to those cases where systems have been identified.

Internal system elements: causes	<p>Description: Presence of information about causes within any of the visualized systems.</p> <p>Options: ‘yes’ or ‘no’.</p> <p>Coding instructions: one option is to be selected. This code category only applies to those cases where systems have been identified.</p>
Internal system elements: effects	<p>Description: Presence of information about effects within any of the visualized systems.</p> <p>Options: ‘yes’ or ‘no’.</p> <p>Coding instructions: one option is to be selected. This code category only applies to those cases where systems have been identified.</p>
System types: sending and receiving systems	<p>Description: Explicit reference to sending and receiving system types in visualization or visualization caption.</p> <p>Options: ‘yes’ or ‘no’.</p> <p>Coding instructions: one option is to be selected. This code category only applies to those cases where systems have been identified.</p>
System types: spillover systems	<p>Description: Explicit reference to spillover system types in visualization or visualization caption.</p> <p>Options: ‘yes’ or ‘no’.</p> <p>Coding instructions: one option is to be selected. This code category only applies to those cases where systems have been identified.</p>

Flows

Flow content type	<p>Description: The type of content that the visualized flows represent.</p> <p>Options: ‘material’, ‘capital’, ‘energy’, ‘humans’, ‘non-human living beings’, ‘information’, ‘virtual resources’, ‘virtual risks and benefits’, ‘ecosystem services’, ‘not specified’.</p> <p>Coding instructions: multiple options can be selected. This code category only applies to those cases where flows have been identified.</p>
Flow content detailed	<p>Description: Specific information about the content of the flows that are visualized.</p> <p>Coding instructions: Indicate which contents the visualized flows represent, e.g. ‘remittances’. This code category only applies to those cases where flows have been identified.</p>

Other visualization characteristics

Visualization techniques	<p>Description: Predominant chart type used for the visualization.</p> <p>Coding instructions: Indicate the visualization techniques used. Multiples can be listed, e.g. in case of a hybrid.</p>
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Visual
attributes

Description: Visual attributes (cf. Figure 1) used in the visualization.

Coding instructions: Take note of specific uses of visual attributes and which information they represent.

Temporal
explicitness of
visualization

Description: any temporal reference given for the information presented in the visualization, either in the visualization or its caption.

Options: 'yes' or 'no'.

Coding instructions: one option is to be selected.

Comparison
across time

Description: Presentation of data across different moments in time.

Options: 'yes' or 'no'.

Coding instructions: one option is to be selected.
