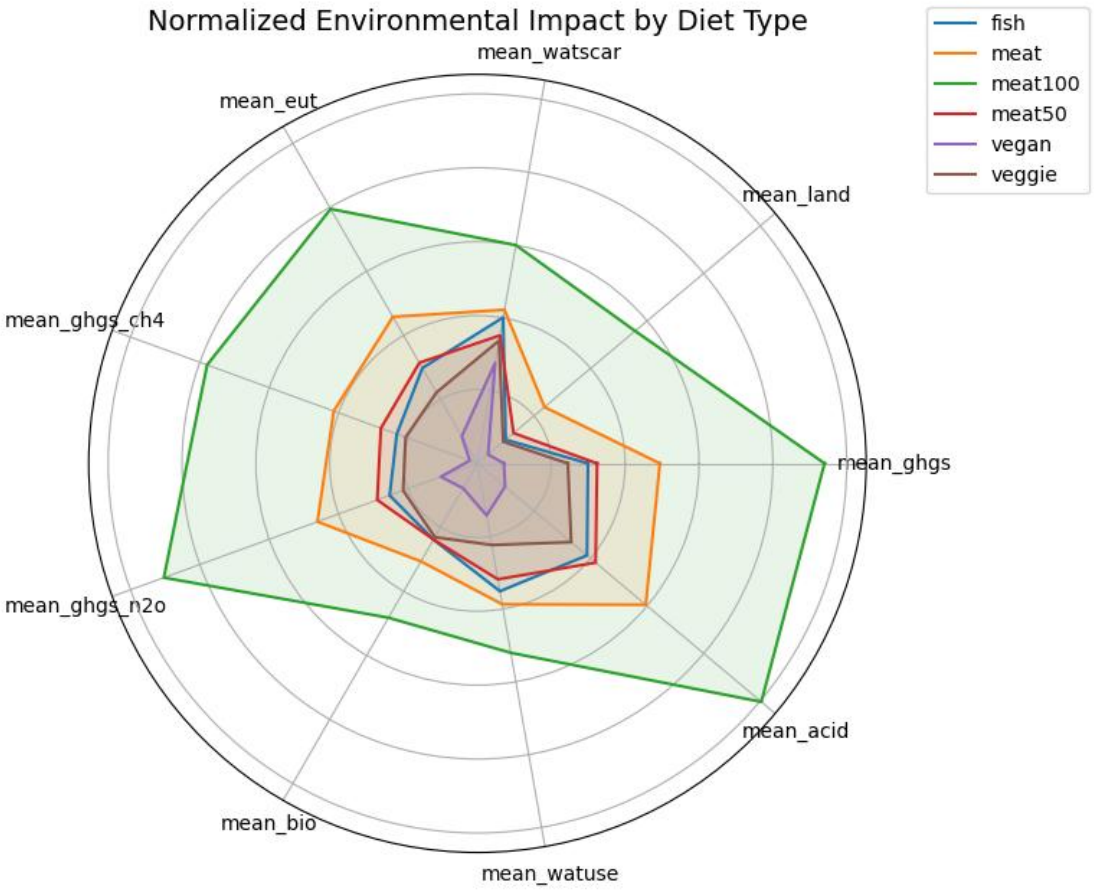
Visualizations: Comparison of Environmental Impact by Diet Type



Example Template

• Visual Design Type: Radar Chart

• Name of Tool: Python (matplotlib + scikit-learn)

• Country: United Kingdom

• Disease: Environmental impact caused by dietary choices

• Year: 2025

Visual Mappings

• color: Each line represents a diet group with unique color (e.g., vegan, meat100, etc.)

• shape: Each polygon is a connected line of normalized environmental impact values

• size: Not applicable; scale is normalized

• position: Axes represent environmental indicators (e.g., GHGs, land use)

• hierarchy: Not applicable (flat comparison)

Unique Observation

The radar chart clearly shows that 'meat100' has the highest environmental burden in almost all categories, especially for methane (CH_4), nitrous oxide (N_2O), and land use. In contrast, 'vegan' diets are the most environmentally sustainable, consistently performing better across all variables. An unexpected insight is that 'fish' diets, while healthier, can have higher water-related impacts than vegetarian diets.

Data Preparation

1. Removed entries with missing values
2. Normalized all impact indicators using Min-Max scaling
3. Aggregated data by diet_group and calculated means
4. Created radar chart using matplotlib