Sprint 1: Data Acquisition & Preprocessing:

- **Epic 1: Data Collection:**

➢ USN1 (Gathering Data): Sourcing the "Flood Risk in India" dataset from Kaggle. (Story Points: 2)
➢ USN2 (Loading Data): Reading the .csv file into the Python environment using Pandas. (Story Points: 1)

- **Epic 2: Data Preparation:**

➢ USN3 (Handling Missing Values): Using isnull() and handling potential gaps in the 10,000 entries. (Story Points: 3)
➢ USN4 (Creating Fields/Encoding): Applying LabelEncoder to transform "Land Cover" and "Soil Type" into numerical data. (Story Points: 3)
➢ USN5 (Handling Data Inconsistency): Implementing StandardScaler to normalize numerical features for the model. (Story Points: 3)

- **Total Story Points (Sprint 1): 12**

Sprint 2: Model Development & Interface Building:

- **Epic 3: Data Visualization:**

➢ USN6-USN8 (Exploratory Analysis): Generating bar, pie, and line charts using Matplotlib and Seaborn to understand feature correlations. (Story Points: 6)
➢ USN9 (Map/Geospatial Analysis): Visualizing flood-prone areas based on Latitude and Longitude. (Story Points: 4)

- **Epic 4: Model Building & Saving:**

➢ USN10 (Developing Dashboard/Model Logic): Training the Random Forest model and achieving 88.75% accuracy. (Story Points: 5)

- **Epic 5: Flask Integration:**

➢ USN11 (Developing Web UI): Creating the app.py backend and index.html frontend for real-time risk assessment. (Story Points: 5)

- **Total Story Points (Sprint 2): 20**

Project Velocity Calculation:

Velocity helps the team estimate how much work can be completed in future iterations.

- ➢ Total Story Points Completed: 12 (Sprint 1) + 20 (Sprint 2) = 32 Points
- ➢ Number of Sprints: 2
- ➢ Calculation: $32 / 2 = 16$
- ➢ Velocity: Your team's current velocity is 16 Story Points per Sprint.