3. PROJECT MANAGEMENT PLAN:

Team Members:

- **Geraldine Alejandra Vargas Moreno – Data Analyst**
  Responsible for dataset exploration, feature engineering, and model validation. She ensures data quality, performs exploratory data analysis (EDA), and supports the design of performance metrics.

- **Andrés Julián Vargas Medina – Project Manager**
  Oversees project coordination, scheduling, and documentation. Ensures that milestones are met, manages communication among team members, and tracks progress using management tools.

- **Julián David Cabrera Barragán – Lead Developer**
  Implements the core predictive models (ARIMA, XGBoost, LSTM) and manages integration across system layers. He is also responsible for code optimization and deployment pipelines.

- **Daniel Felipe Gómez Miranda – System Tester & DevOps Assistant**
  Conducts testing, debugging, and performance evaluations. Monitors model accuracy, stability, and retraining mechanisms, while assisting with Docker and Streamlit deployment.

Project Management Methodology

The team follows a hybrid Agile approach combining Scrum for iterative development and a Kanban board for task visualization and prioritization.

Scrum:

- Weekly sprints with defined objectives (model refinement, testing, deployment).

- Short daily updates for coordination.

- Sprint reviews for progress evaluation.

Kanban Board (Trello):

- Columns: *To Do*, *In Progress*, *Testing*, *Completed*.

- Each task card includes the responsible member, deadline, and comments.

Key Milestones and Deliverables (1-Month Timeline)

Milestone	Description	Responsible	Deadline
M1: Data Validation & Feature Update	Finalize dataset and refine input features for model stability.	Geraldine	Week 1
M2: Model Retraining & Optimization	Retrain hybrid models and tune parameters using Optuna.	Julián	Week 2
M3: Testing & Performance Evaluation	Conduct drift simulations, evaluate RMSE, MAE, and IoU metrics.	Daniel	Week 3
M4: Final Deployment & Documentation	Deploy final model via Docker and complete documentation.	Andrés & Team	Week 4

Tools and Platforms:

- **Programming & Modeling**: Python, TensorFlow, XGBoost, Optuna
- **Collaboration:** GitHub, Google Drive
- **Visualization**: Streamlit, Power BI
- **Version Control:** Git, MLflow
- **Project Management**: Trello (Kanban), Google Calendar

Summary

This one-month management plan focuses on final integration, validation, and deployment of the hybrid predictive system. Using Agile cycles ensures that progress remains transparent and results are delivered efficiently. Collaboration tools (Trello, GitHub, MLflow) support communication, reproducibility, and continuous improvement.