✅ ChecklistGuro

Weather Monitoring and Forecasting Review Checklist

Data Sources & Acquisition

Evaluates the reliability and breadth of data sources used for weather monitoring and forecasting.

List of Data Sources Used

- ☐ National Weather Service (NWS)
- ☐ Regional Weather Stations
- ☐ Private Weather Providers (e.g., AccuWeather)
- ☐ Satellite Imagery (e.g., GOES)
- ☐ Radar Data
- ☐ On-Farm Weather Stations

Number of Weather Stations Monitored

Enter a number...

Primary Data Provider

- ☐ NWS
- ☐ Regional Weather Service
- ☐ Private Provider
- ☐ On-farm Stations

Describe Data Acquisition Methods

Write something...

Date of Last Data Source Review

Enter date...

Upload Data Source Agreements/Contracts (if applicable)

⬆ Upload File

Data Resolution (Spatial)

☐ Low (e.g., County Level)

☐ Medium (e.g., Township Level)

☐ High (e.g., Field-Specific)

Current Weather Monitoring

Assesses the methods and tools used to monitor current weather conditions impacting agricultural operations.

Current Temperature (°C/°F)

Enter a number...

Relative Humidity (%)

Enter a number...

Wind Speed (km/h or mph)

Enter a number...

Wind Direction (degrees)

Enter a number...

Precipitation Type

- [ ] None
- [ ] Rain
- [ ] Snow
- [ ] Hail
- [ ] Sleet

Precipitation Amount (mm/inches)

Enter a number...

Date of Current Observation

Enter date...

Time of Current Observation

Notes on Current Conditions

Write something...

Short-Term Forecasting (0-7 Days)

Review of accuracy and utility of short-term weather forecasts for critical agricultural decision-making.

Forecast Accuracy - Precipitation (RMSE)

Enter a number...

Forecast Accuracy - Temperature (RMSE)

Enter a number...

Primary Forecasting Source Used:

☐ National Weather Service (NWS)

☐ Private Weather Provider (e.g., AccuWeather)

☐ Local University/Research Institution

☐ On-Farm Weather Station Data

Date of Last Forecast Review:

Enter date...

Describe how forecast data is integrated into operational decisions (e.g., irrigation scheduling, pesticide application).

Write something...

How are warnings/alerts from the forecast received?

- [ ] Email
- [ ] SMS
- [ ] Mobile App
- [ ] Automated System

Frequency of Forecast Updates Checked (times per day)

Enter a number...

Describe any instances where the forecast significantly differed from actual weather conditions. What were the impacts, and what adjustments were made?

Write something...

Medium-Range Forecasting (7-14 Days)

Evaluation of medium-range forecasts for planning purposes and identifying potential risks.

Forecast Accuracy Score (7-14 Day)

Enter a number...

Primary Forecast Provider

- [ ] National Weather Service
- [ ] Private Weather Company (Specify)
- [ ] Combination of Sources

Describe any systematic biases observed in the 7-14 day forecasts.

Write something...

Date of Last Significant Forecast Error (7-14 Day)

Enter date...

How are Forecasts Used?

☐ Irrigation Scheduling

☐ Pest & Disease Management

☐ Harvest Planning

☐ Planting Decisions

☐ Fertilizer Application

Which parameters are regularly forecast?

☐ Temperature

☐ Precipitation

☐ Humidity

☐ Wind Speed

☐ Solar Radiation

☐ Soil Moisture

Describe any adjustments made to operational practices based on medium-range forecasts.

Write something...

Long-Range Forecasting (Seasonal/Climate)

Review of long-range forecasts and their relevance to crop selection, planting schedules, and resource allocation.

Primary Source for Seasonal Forecasts:

☐ NOAA Climate Prediction Center

☐ European Centre for Medium-Range Weather Forecasts (ECMWF)

☐ Regional/Local Weather Authority

☐ Proprietary Model

☐ Other (Specify in Long Text)

Describe the methodology for incorporating seasonal forecasts into decision-making.

Write something...

Historical Accuracy of Seasonal Precipitation Forecasts (Percentage):

Enter a number...

Historical Accuracy of Seasonal Temperature Forecasts (Percentage):

Enter a number...

Date of last Seasonal Forecast Review:

Enter date...

How are seasonal forecasts used to inform crop selection?

Write something...

What strategies are employed to mitigate risks associated with unfavorable seasonal forecasts?

☐ Crop Diversification

☐ Irrigation Planning

☐ Adjusted Planting Dates

☐ Protective Structures (e.g., greenhouses)

☐ Insurance

☐ Other (Specify in Long Text)

Describe any adjustments made to farming practices based on recent seasonal forecasts.

Write something...

Alerting & Communication

Examines the systems in place to alert stakeholders about severe weather events and disseminate forecasts effectively.

Average Lead Time for Severe Weather Alerts (hours)

Enter a number...

Primary Alerting Method(s)

☐ SMS

☐ Email

☐ Mobile App Notification

☐ Automated Voice Call

☐ Website/Dashboard

☐ Other (Specify in LONG_TEXT)

Describe the process for verifying and confirming weather alerts before dissemination.

Write something...

Who receives weather alerts?

☐ Farm Managers

☐ Field Workers

☐ Harvesting Crews

☐ Irrigation Staff

☐ Livestock Handlers

☐ Other (Specify in LONG_TEXT)

Date of last communication plan review.

Enter date...

Describe the system for feedback and improvement of the alerting and communication process. How is feedback collected and acted upon?

Write something...

Is there a documented escalation procedure for critical weather events?

☐ Yes

☐ No

Typical time of day alerts are sent.

Impact Assessment & Adaptation

Reviews processes for assessing the impact of weather conditions and adapting agricultural practices accordingly.

Describe past instances where weather impacted crop yields or livestock health. Provide details on observed effects.

Write something...

Estimated percentage of crop loss attributable to specific weather events (e.g., drought, flooding, frost) in the last 5 years.

Enter a number...

Which adaptation strategies are currently employed to mitigate weather-related risks? (Select all that apply)

- ☐ Irrigation
- ☐ Crop Diversification
- ☐ Drought-Resistant Varieties
- ☐ Hail Netting
- ☐ Windbreaks
- ☐ Crop Insurance
- ☐ Adjusted Planting Dates
- ☐ Livestock Shelter Improvements
- ☐ None

Explain the process for assessing the potential impact of forecasted severe weather (e.g., frost, heatwave, heavy rainfall) on agricultural operations. Include timelines and key stakeholders involved.

Write something...

How are weather forecasts integrated into decision-making regarding irrigation scheduling?

- ☐ Not used
- ☐ Ad-hoc adjustment
- ☐ Automated system
- ☐ Based on soil moisture sensors
- ☐ Based on forecast precipitation

Date of last formal review of adaptation strategies.

Enter date...

Describe any recent adjustments made to planting schedules or crop selection based on long-term weather trends or seasonal forecasts.

Write something...

Technology & Tools

Evaluates the effectiveness and appropriateness of the technology and software used for weather monitoring and forecasting.

Primary Weather Data Platform Used:

☐ AccuWeather

☐ The Weather Channel

☐ Dark Sky API

☐ Local Weather Station Data

☐ Other (Specify in LONG_TEXT)

If 'Other' was selected above, please specify the data source:

Write something...

Number of Automated Weather Stations (AWS) on Farm:

Enter a number...

Upload Screenshots of Weather Data Visualization Tools:

⬆ Upload File

Which tools are used for data analysis?

☐ Excel

☐ R

☐ Python

☐ GIS Software

☐ Other (Specify in LONG_TEXT)

If 'Other' was selected above, please specify the data analysis tools used:

Write something...

Mobile App Used for Weather Alerts?

☐ Yes

☐ No

☐ Not Applicable

Last Technology/Tool Inventory Date:

Enter date...

Training & Expertise

Assesses the knowledge and training of personnel involved in weather monitoring and forecasting for agricultural applications.

Number of personnel trained in basic weather interpretation.

Enter a number...

Primary weather forecast source used by staff?

☐ National Weather Service (NWS)

☐ Private Weather Service (e.g., AccuWeather, DTN)

☐ Local University/Extension Service

☐ Other (Specify in LONG_TEXT)

Describe the frequency and content of weather-related training sessions.

Write something...

Which aspects of weather forecasting are staff trained in?

☐ Reading Weather Maps

☐ Understanding Forecast Products (e.g., probability charts, QPF)

☐ Interpreting Radar Imagery

☐ Recognizing Severe Weather Indicators

☐ Adjusting Agricultural Practices based on Forecasts

Date of last formal weather training session.

Enter date...

Describe any identified gaps in weather knowledge or skills among staff.

Write something...