

METOS[®]
BY PESSL INSTRUMENTS



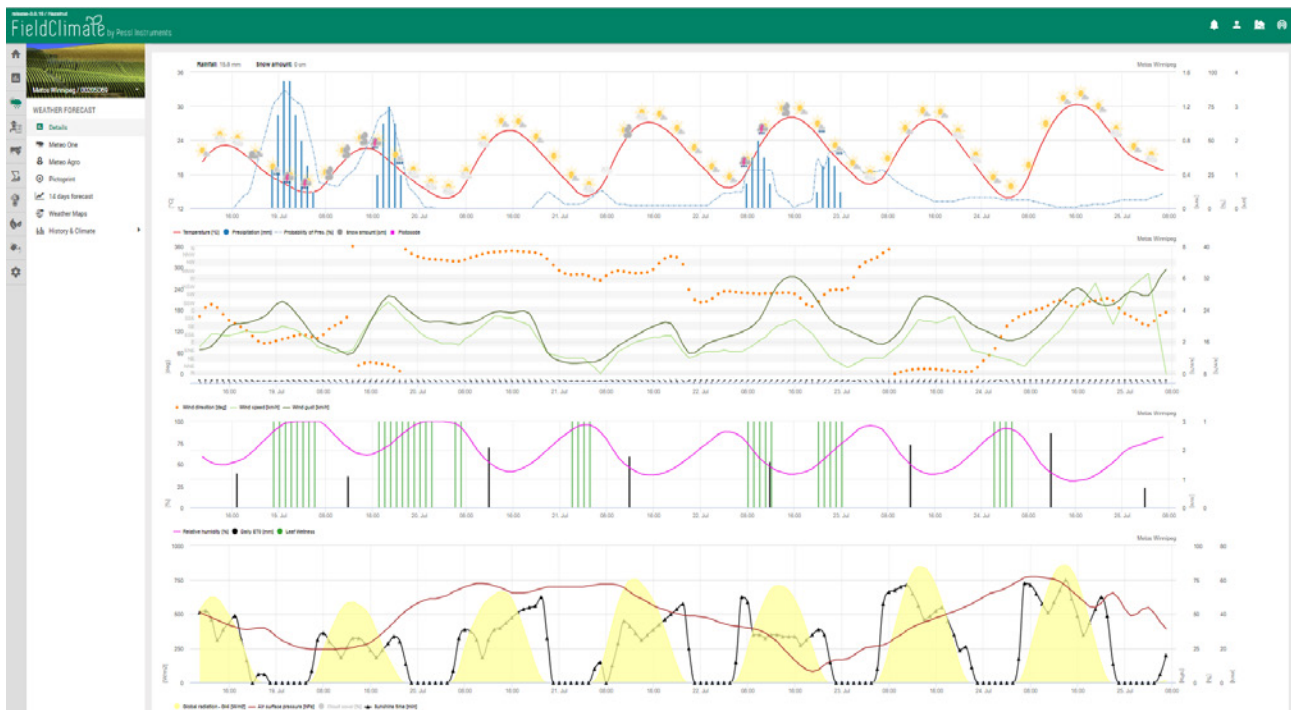
What Do You Get with METOS[®] Site-Specific Forecast and Weather Maps?

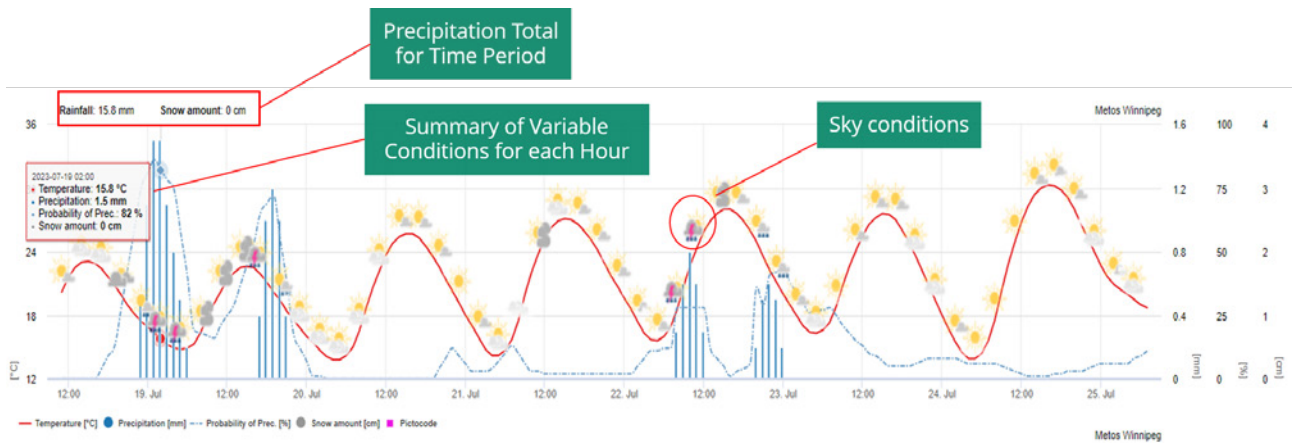
www.metos.at

Site-specific forecast and Weather Maps are built for your in-field device

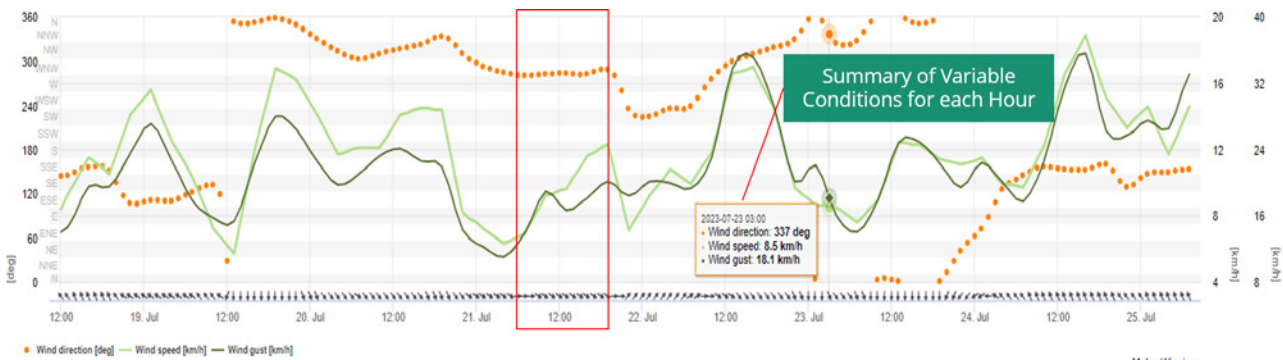
What does this mean?

- Each device contributes sensor data to adjust and tune the forecast for the specific location.
- In addition, the forecast model uses AI to “learn” the weather at your location.
- The result is a very accurate, hourly updated site-specific forecast for the next 7 days.
- **Output variables include:** temperature, probability of precipitation, precipitation amounts, time of precipitation, sky conditions, wind speed/gust and direction, relative humidity, leaf wetness, ET_0 , air pressure, global radiation and sunshine time.
- The forecast variables are further built into Work planning solutions.





In this Forecast, the total rainfall for the 7-day, hourly forecast is 15.8 mm. Hourly rainfall amounts vary from 0.2 mm to 1.5 mm, while the probability of rainfall is as high as 85%.



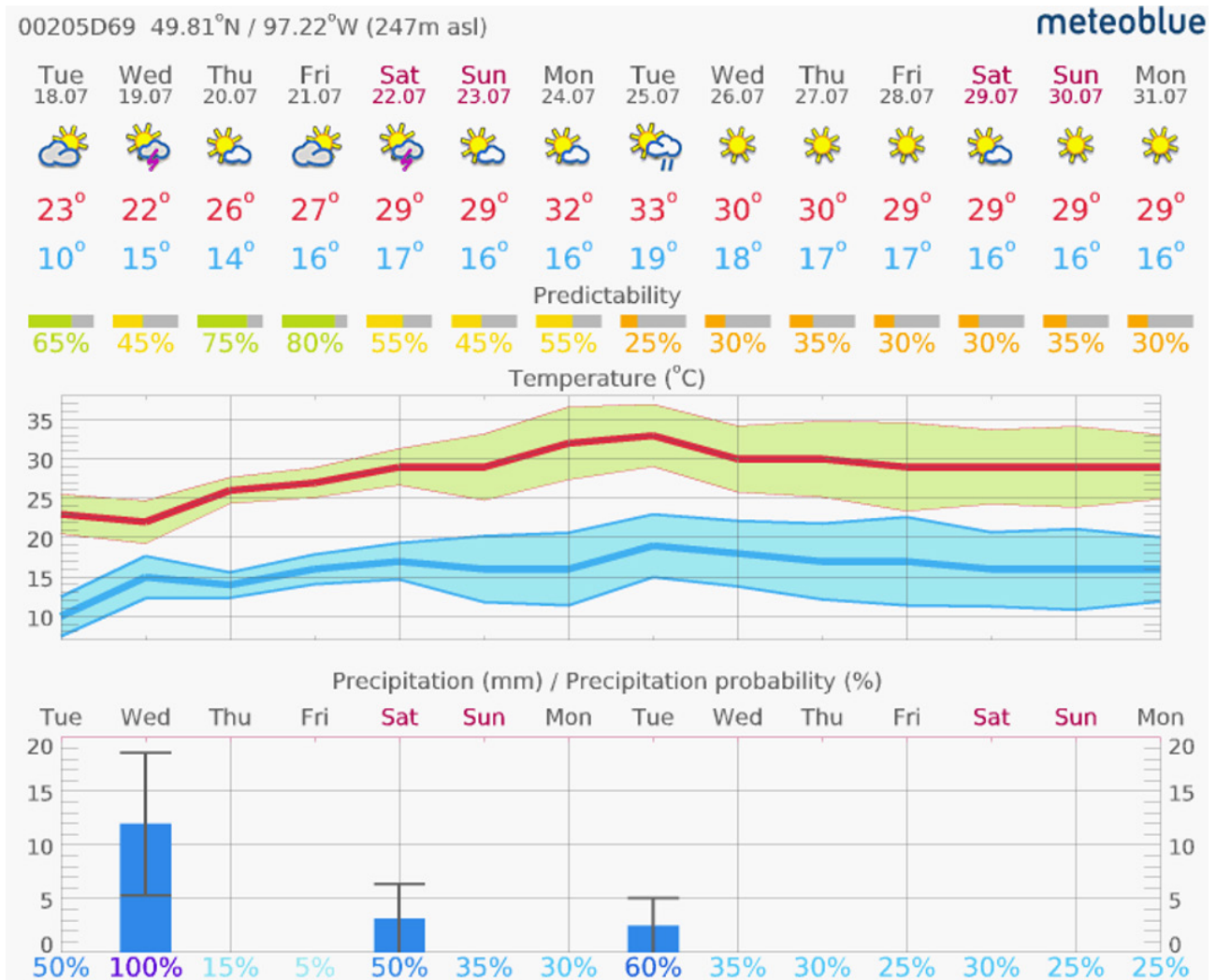
In this Forecast, a good example of favorable wind conditions for spraying occurs on the morning of July 21. From about 6 am until early evening (6 pm). Winds are consistent from one direction, while wind speed and gusts are generally below 20 kph.

Remember: that wind speed and direction should be combined with precipitation events, and DeltaT. These can be found under Work Planning Tools: Spraying Conditions.



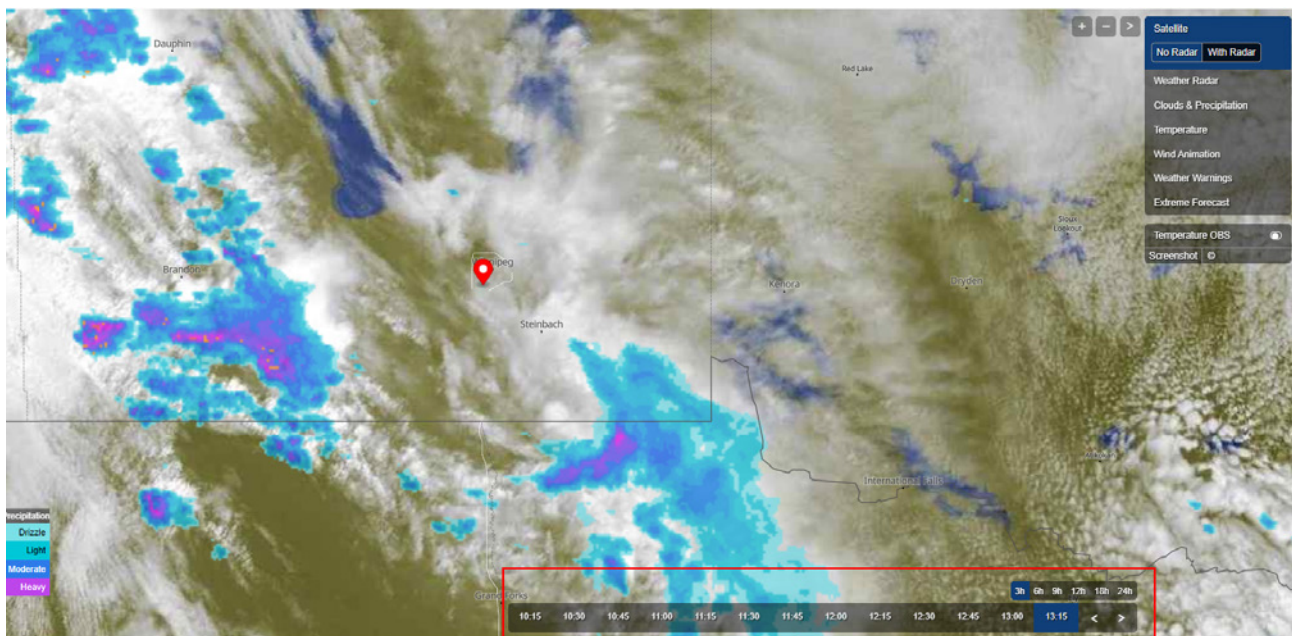
14-Day Forecast

- Medium range forecast (based on an ensemble model) for each day with maximum and minimum temperatures, likely conditions, precipitation amounts (average & range) and probability.
- The line graphs for the temperature forecast have a range. The thick line in the middle of each range is the most probable development, and the upper and lower lines indicate the most extreme development.

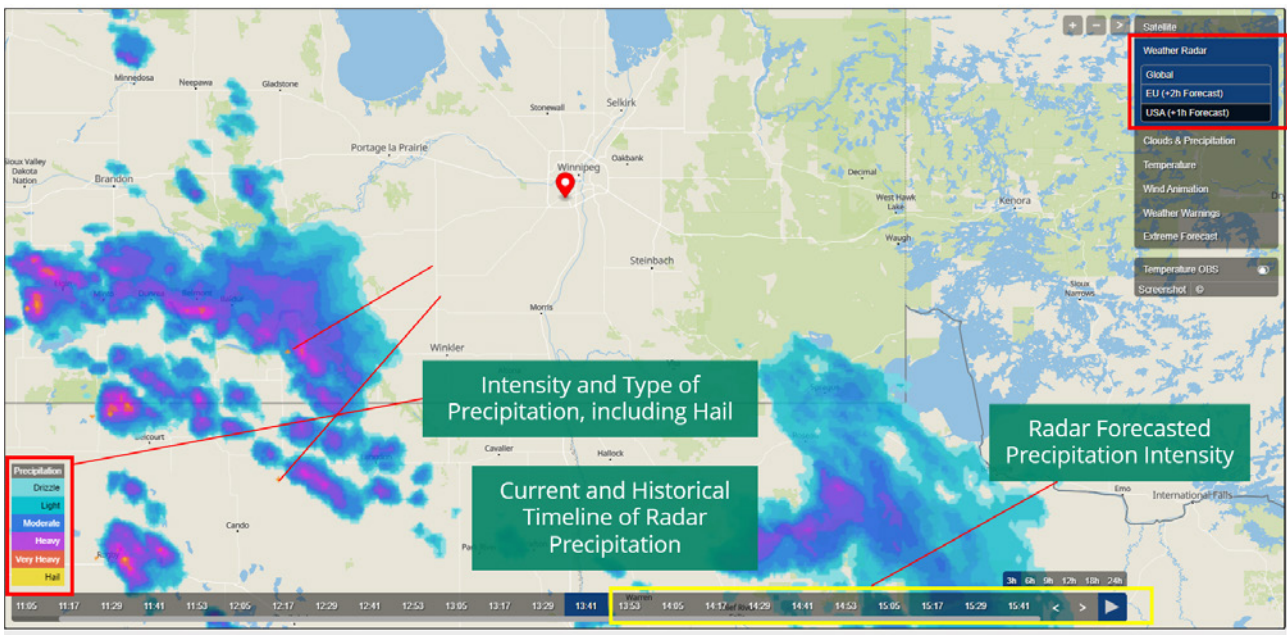


Weather Maps

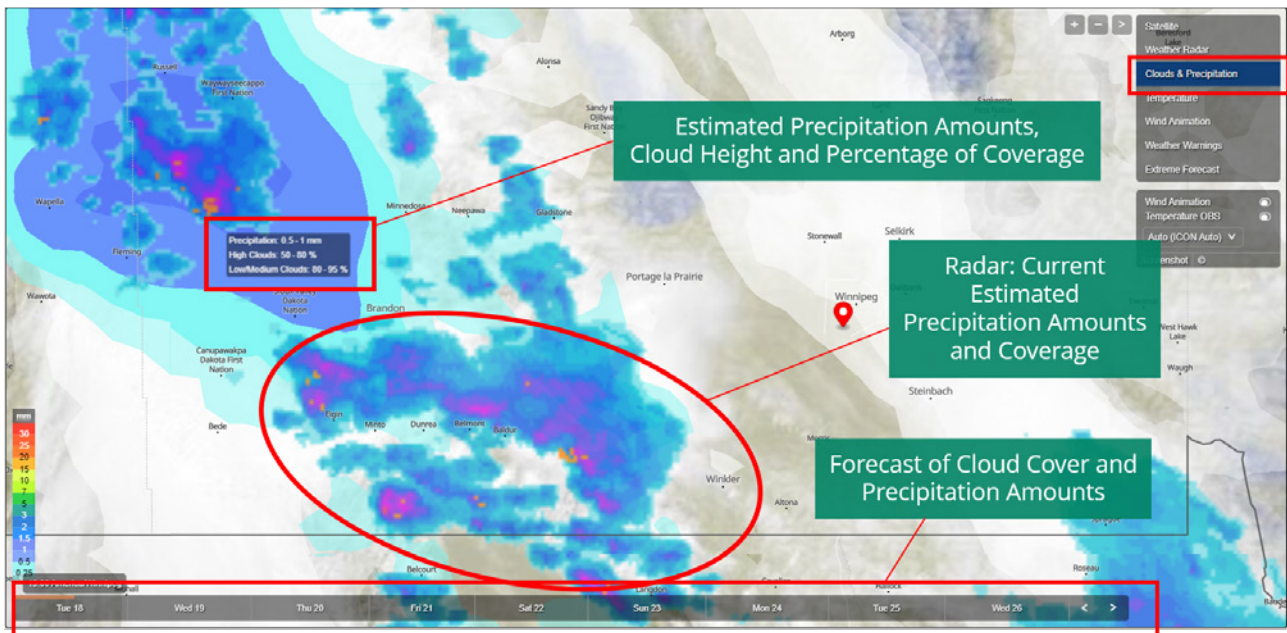
- Our satellite-radar function shows weather maps in 15-minute updates, which are then visualized in 1-minute intervals, for the last 3 hours. It is available also for time ranges of 6, 9, 12, 18 and 24 hours for worldwide locations, with animation.
- For the USA and EU, we now offer a high-resolution 1-hour and 2-hours forecast, respectively. Real-time map animation, allows the user to track movement, whether it is attenuating or intensifying (orange crosses mark places where lightning was detected).
- The location marker is based on your station location; however, the user is able to move and zoom the viewport and control the animation.



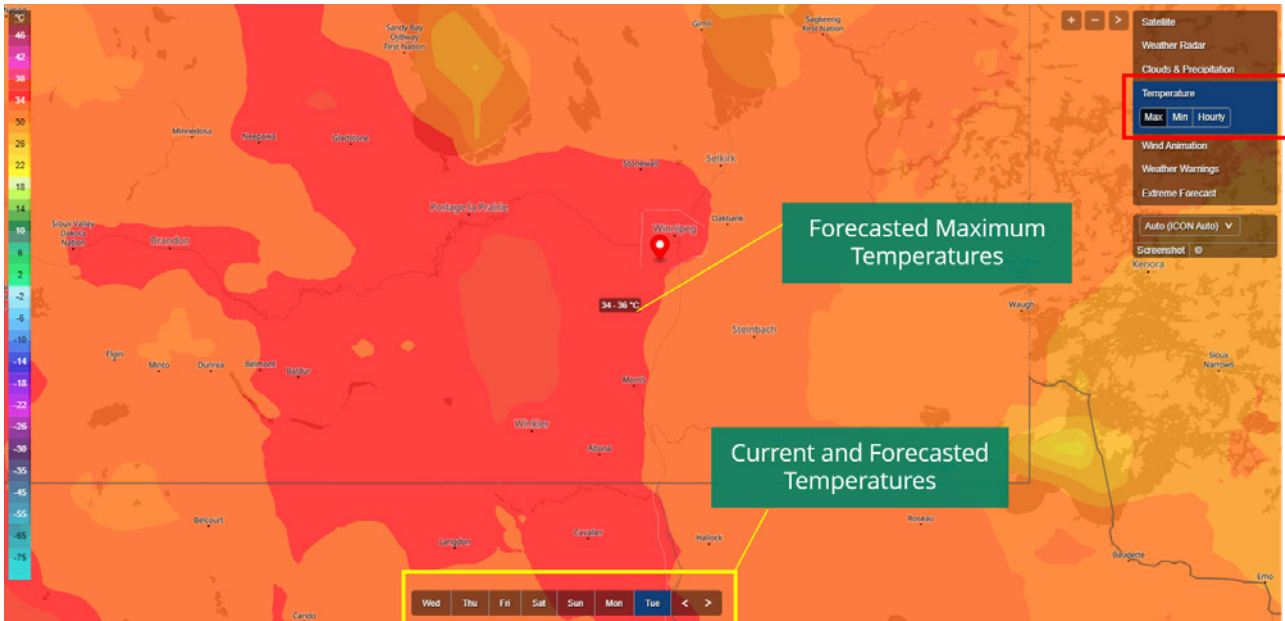
Weather Maps - Weather Radar



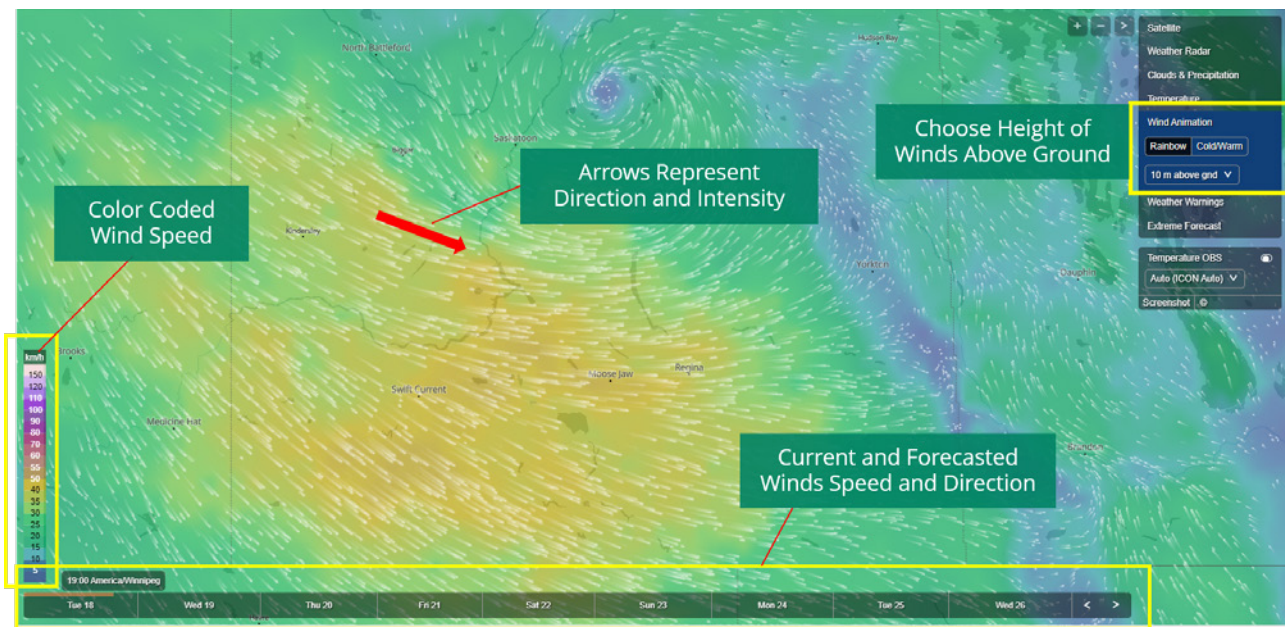
Weather Maps - Clouds and Precipitation



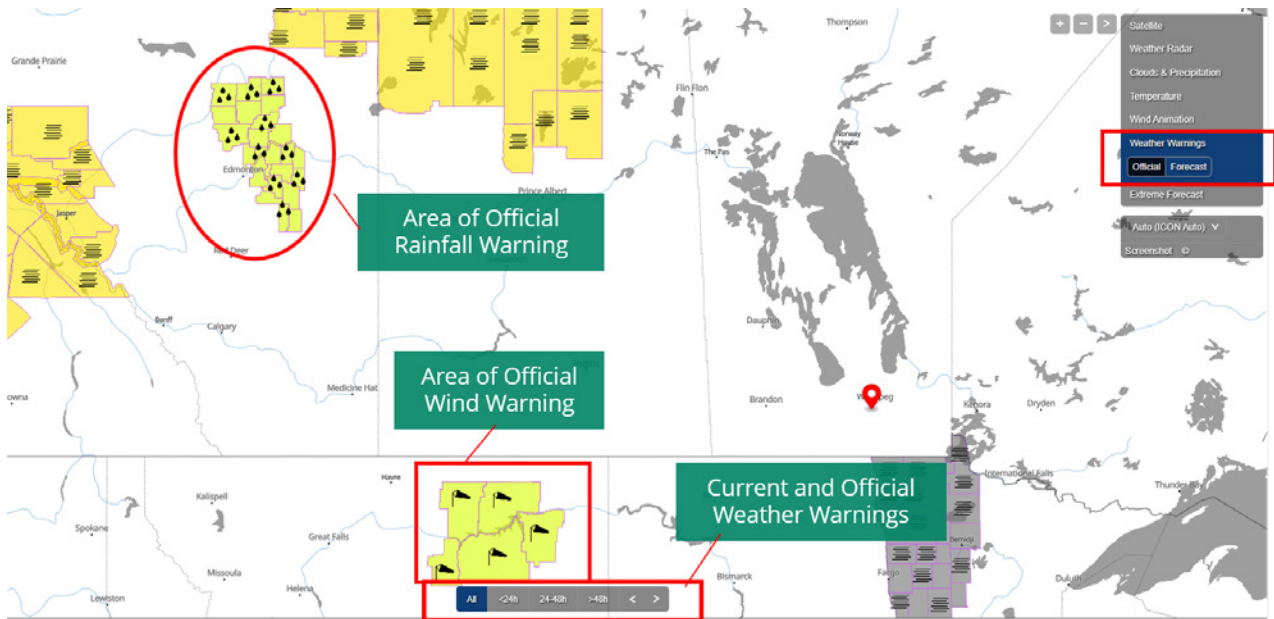
Weather Maps - Current and Forecasted Temperatures (Maximum, Minimum and Hourly)



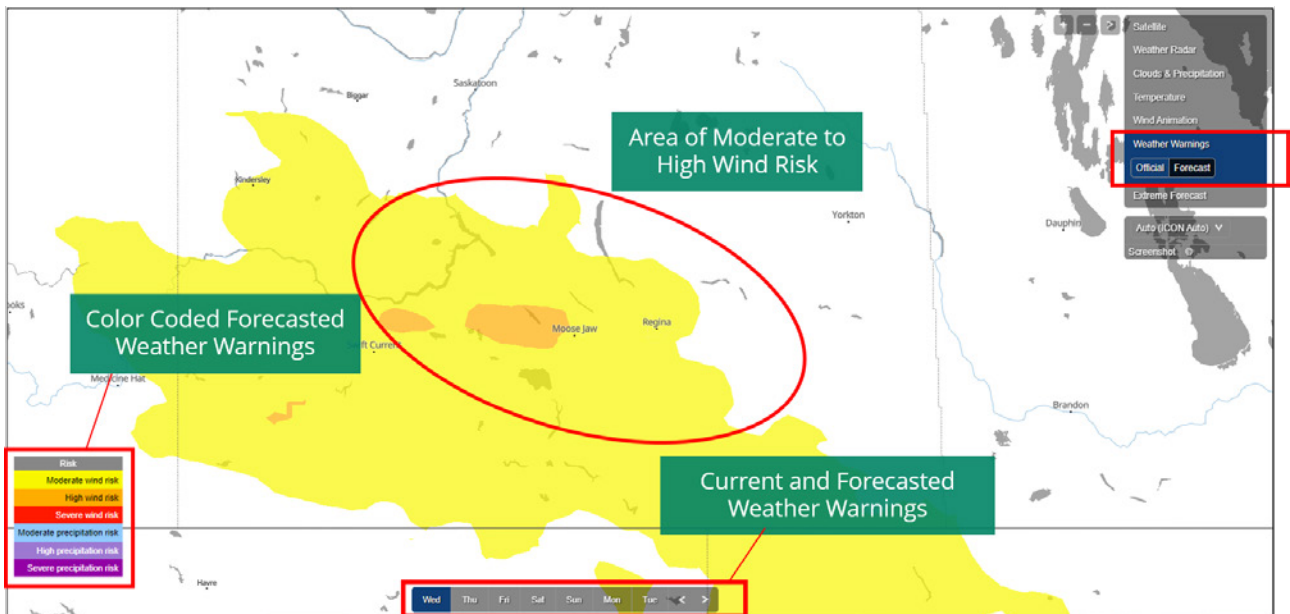
Weather Maps - Wind Animation



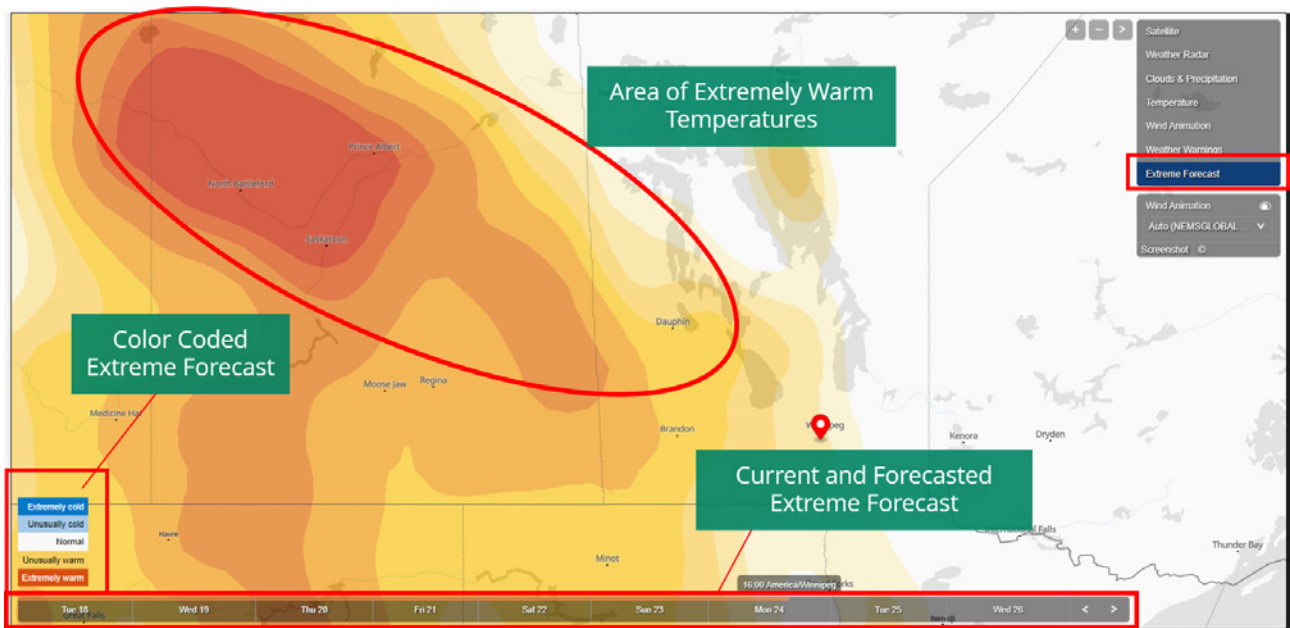
Weather Maps - Official Government



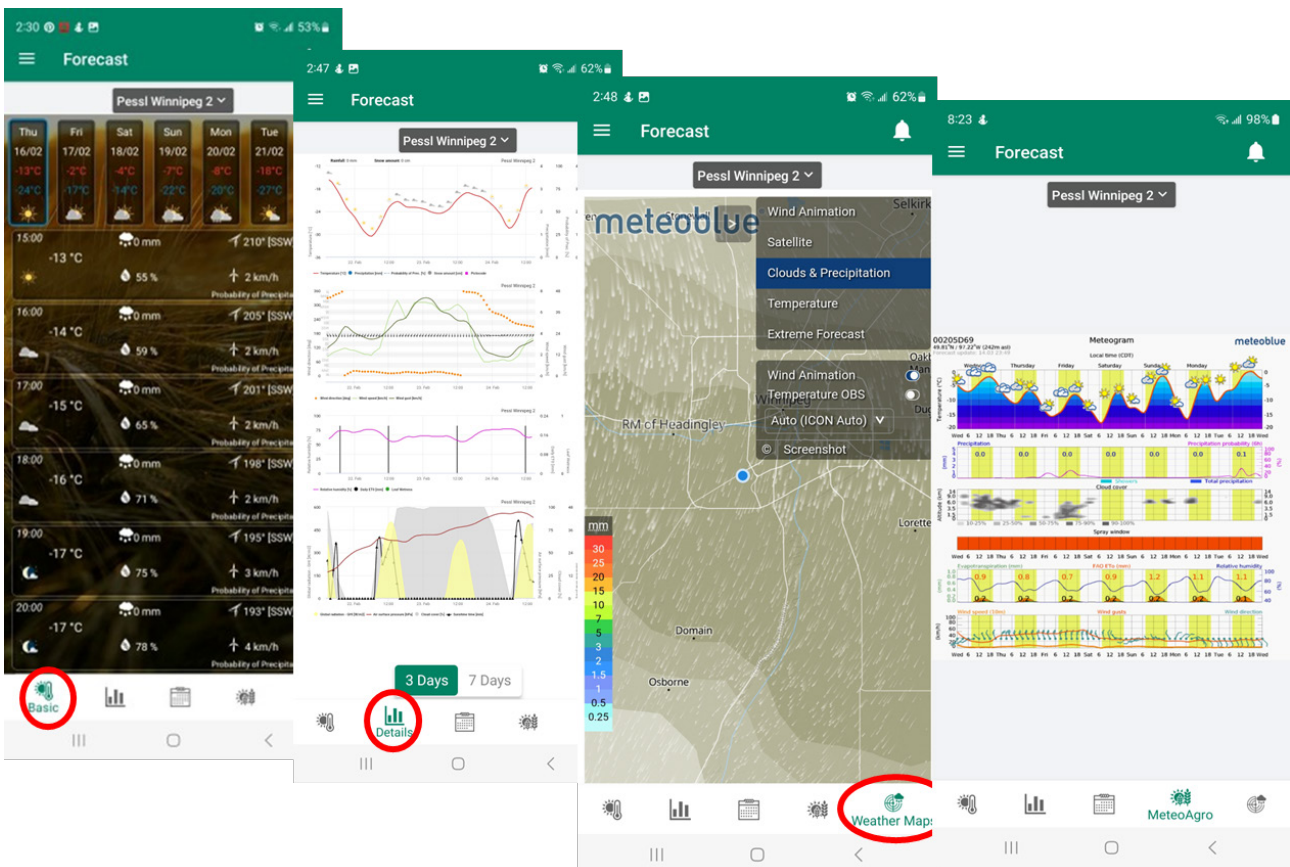
Weather Maps - Weather Warnings Forecasted



Weather Maps - Extreme Forecasts



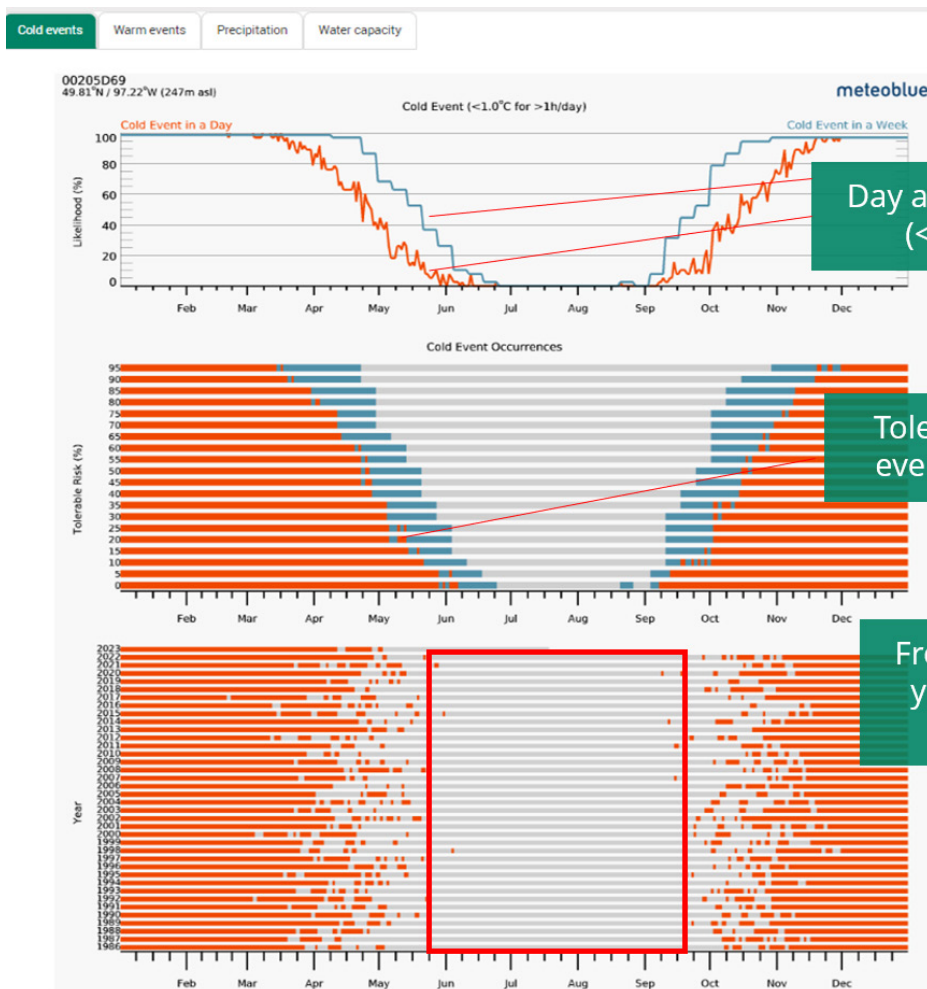
Most of the weather forecast information can also be found on your iOS/Android FieldClimate mobile app.



History & Climate - Risk Assessment

History & Climate - Risk Assessment → Cold Events:

- Temperature below a certain threshold for a certain time. The threshold is set for temperature values at 1°C for cold events.
 - The cold events meteogram is commonly used to evaluate frost. The first diagram shows the likelihood of the defined event.
 - You can estimate your personal risk in the second diagram. For instance, if your personal tolerable risk for a frost event is 20%, you should schedule sowing later (e.g., mid-May). On the other hand, if you can accept 50% frost likelihood in favor of earlier sowing, you should sow earlier (e.g., late April).
 - The last diagram shows the occurrence of the defined event in the last 40 years for each year. You can also define the duration of an event.
- **Likelihood** of events occurring as a percentage for each category
 - **Tolerable risk** of the events occurring as a percentage for each category
 - **A comparison** of each year for the last 35 years, for each category occurring



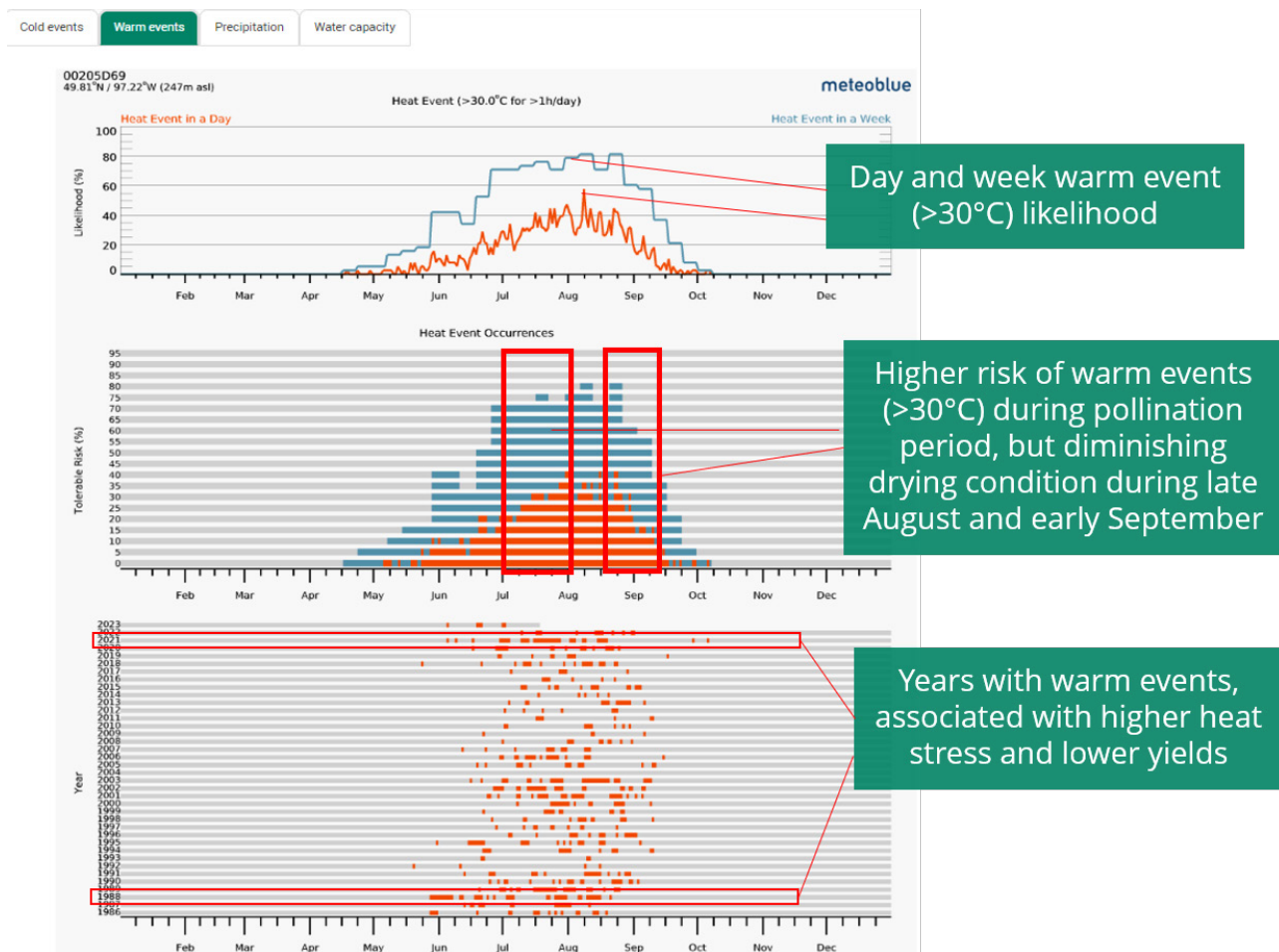
Day and week cold event (< 1°C) likelihood

Tolerable risk of a frost event at 20%, mid-May

Frost-free period over 40 years: late May to mid-September

History & Climate - Risk Assessment → Warm Events:

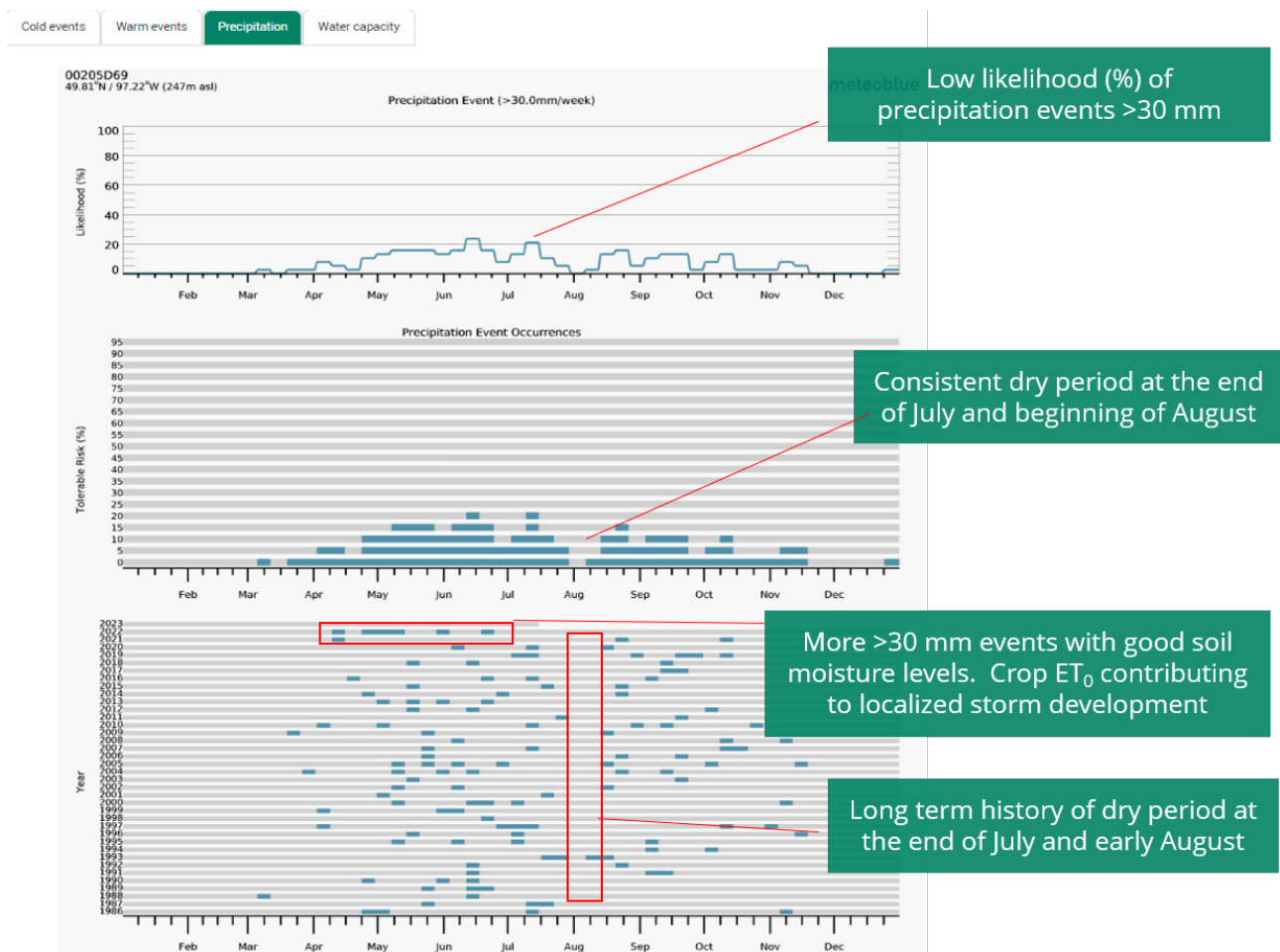
- Temperature below a certain threshold for a certain time. The threshold is set for temperature values at 30°C for warm events.
 - The warm events meteogram is commonly used to evaluate heat stress. The first diagram shows the likelihood of the defined event for the day and week.
 - The second diagram provides a chart of tolerable risk: the risk as a % for the day or week, over the year, of temperature >30 °C.
 - The last diagram shows the occurrence of the defined event in the last 40 years for each year. You can also see the duration of an event.
- **Likelihood** of events occurring as a percentage for each category
 - **Tolerable risk** of the events occurring as a percentage for each category
 - **A comparison** of each year for the last 35 years, for each category occurring



History & Climate - Risk Assessment → Precipitation Events:

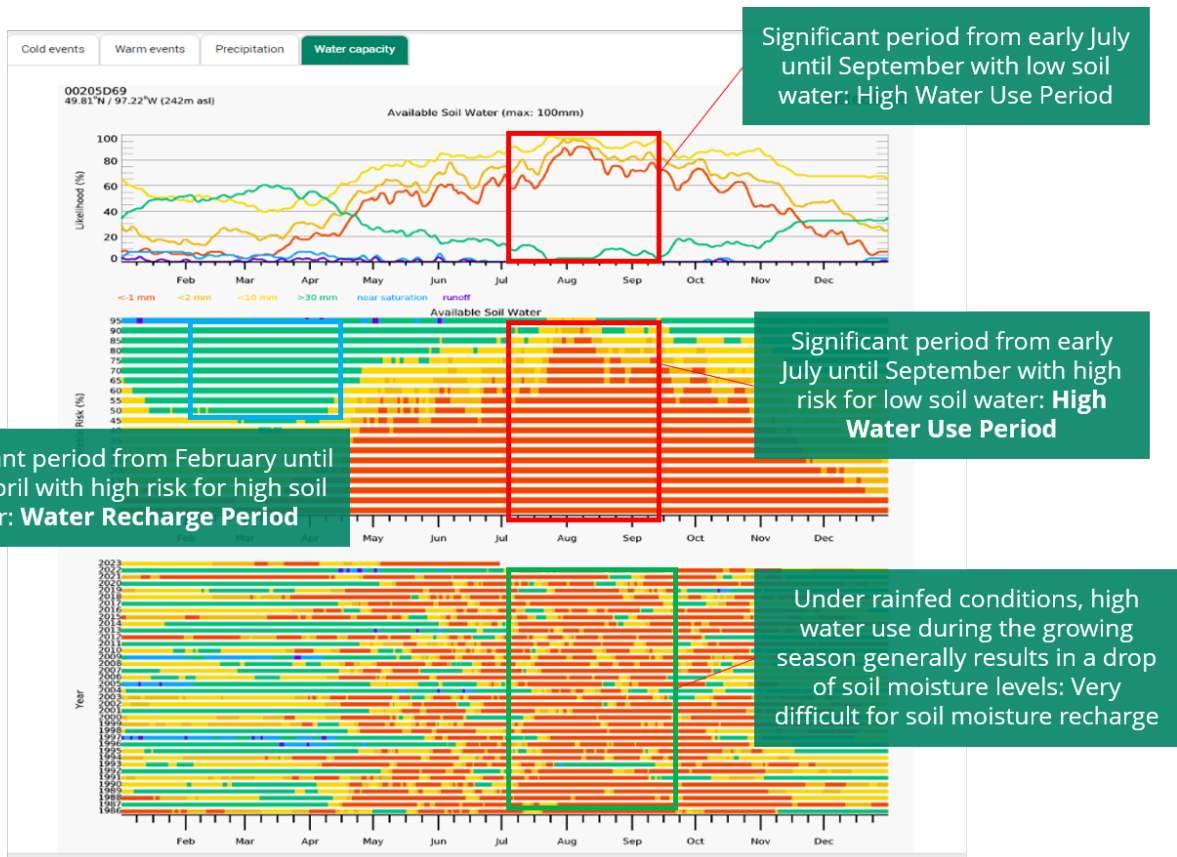
Precipitation

- This variable evaluates precipitation amounts in a week above a certain threshold and with the help of this representation, you can estimate strong precipitation events and schedule activities accordingly.
- The threshold for precipitation amounts is set at 30 mm/week.
- **Likelihood** of events occurring as a percentage for each category
- **Tolerable risk** of the events occurring as a percentage for each category
- **A comparison** of each year for the last 35 years, for each category occurring



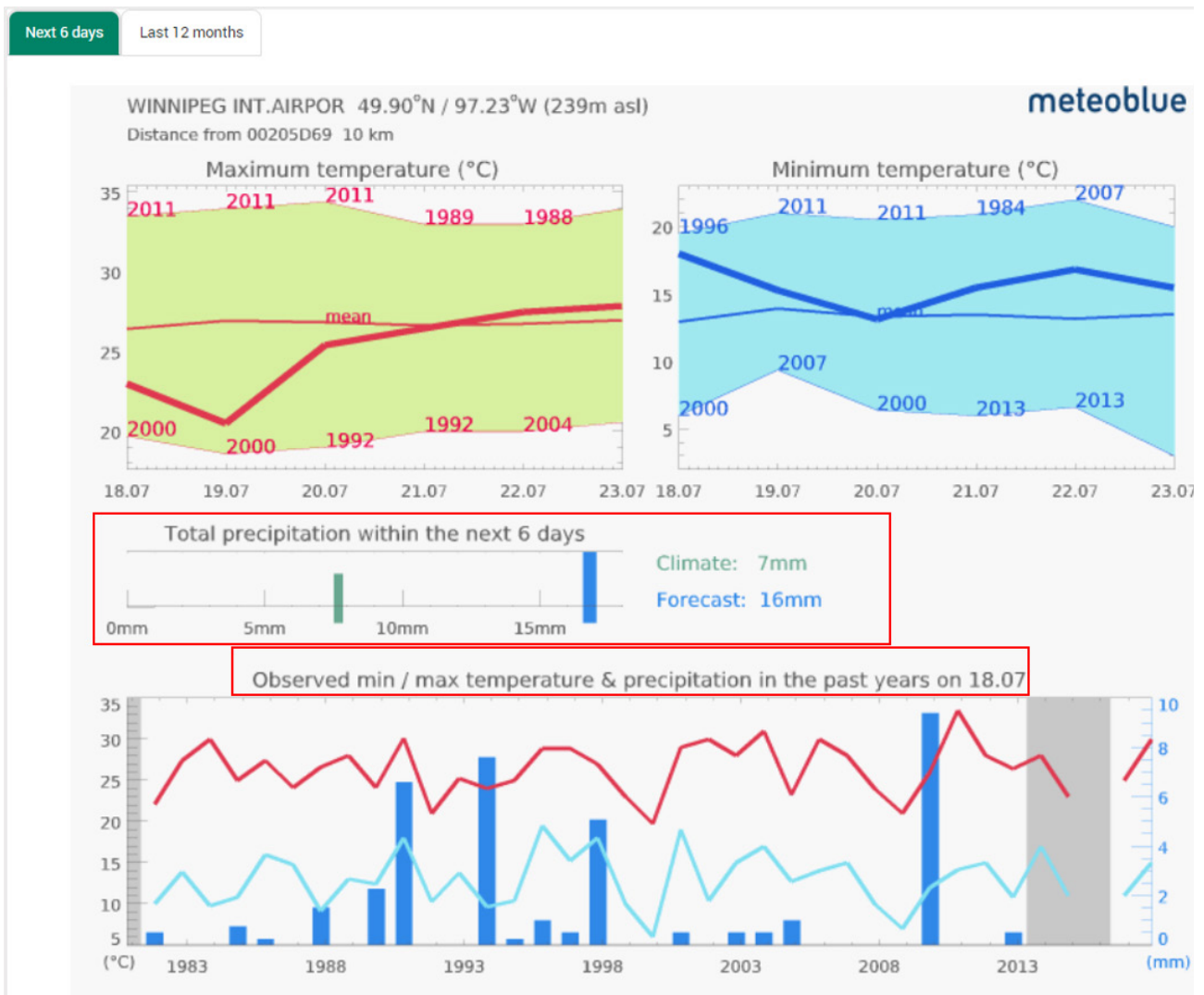
History & Climate - Risk Assessment → Water capacity:

- New sub-page with historical data for estimated probability of remaining soil water amount.
- Categories: <1mm, <2mm, <10mm, >30mm, near saturation and runoff.
- **Likelihood** of events occurring as a percentage for each category
- **Tolerable risk** of the events occurring as a percentage for each category
- **A comparison** of each year for the last 35 years, for each category occurring



History & Climate - Climate Comparison → Next 6 Days:

- **Maximum & Minimum Temperatures** over the next 6 days. Actual values for the current year are shown by thick line.
- **Total Precipitation** within the next 6 days: climate normal (30 years) compared to forecasted amount.
- **Comparison of Max, Min temperatures & Precipitation Amounts** on the current date for the last number of years.



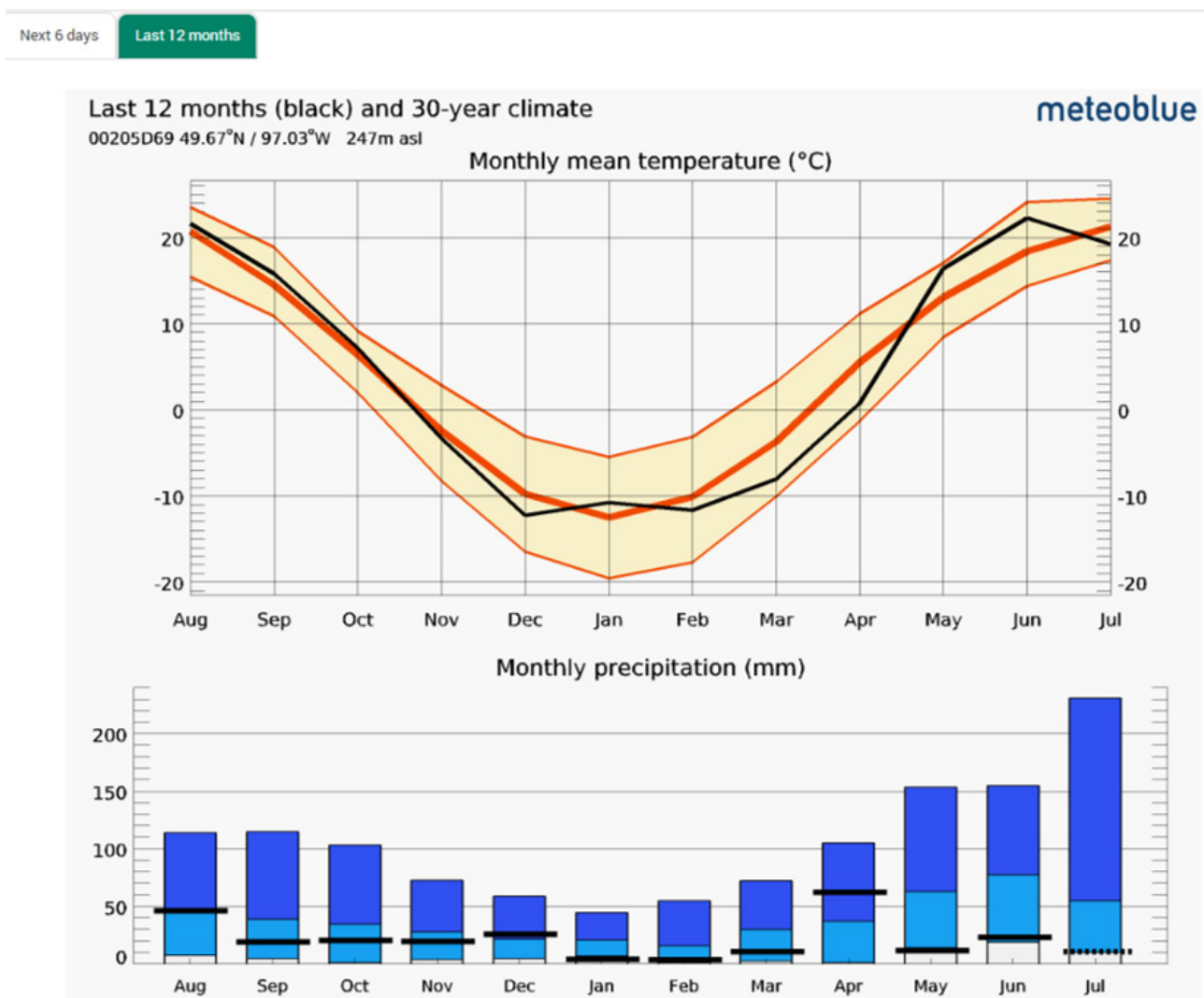
History & Climate - Climate Comparison → Last 12 Months:

Monthly Mean Temperatures:

- The black line shows the mean temperature for every month of the last 12 months (current).
- The thick red line shows the calculated mean temperature of the last 30 years for every month (climate).
- The orange buffer around the red line makes the fluctuations between the last 30 years more visible. It shows in what range the temperatures of the last 30 years are distributed.

Monthly Precipitation Totals:

- The black bars show the recorded precipitation for each month in the current year.
- The dark blue bars show the maximum amount of precipitation during the last 30 years for each month. The light blue bars show the minimum amount of precipitation during the last 30 years.
- The boundary between dark blue and light blue is the monthly mean precipitation calculated from the last 30 years of data.





Benefits

- Know before you go – save time and money
- Site specific forecast for your fields
- Hourly update forecasts
- Output data for multiple forecast variables
- Actionable forecast tools: e.g., Spraying window
- Localized weather maps, radar and forecast risk
- Station-specific history & climate risk assessment and climate comparison

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