

10 Minute Briefing on Vancouver Weather

To create your weather briefing, follow through the steps below, using the links as instructed.
(*Prepare before presenting – open the links and have them ready to go*)

Step 1. UBC current weather & forecast: (2-3 minutes)

- [UBC Rooftop Cameras](#)

(In case the link above doesn't work, here is the URL:

(<https://weather.eos.ubc.ca/wxfct/current/cameras/index.html>) - Look at the rooftop cameras and point out what the current UBC weather looks like.

- [Radar](#)

(<https://atmos.uw.edu/current-weather/northwest-radar/>) - Look at the current radar over Vancouver, and discuss any precipitation that is falling. Point out if the rain rate is heavy (large dBZ) or light (small dBZ).

- [UBC Forecast \(3 day\)](#)

(http://weather.eoas.ubc.ca/wxfct/users/Guest/ubcrs_withicons/index.php?location=3510) - Look at the 3 day UBC rooftop weather forecast, and then follow these directions:

1. Point out the maximum and minimum temperatures tomorrow, and the day after.
2. Point out how much rain (in mm) will fall tomorrow, and the day after.
3. Discuss what the weather will look like for the next two days (sunny, cloudy, windy).
4. If time, look at the 7-day meteogram.

Now that your audience knows what is supposed to happen in the weather at UBC, the next steps are to explain why it could happen:

Step 2. Big picture: Planetary and Synoptic Scales. (2-3 minutes)

- [Satellite imaging](#)

(In case the link above doesn't work, here is the URL:

https://www.ssec.wisc.edu/data/us_comp/large)

1. Show clouds over N. America near Vancouver, and briefly discuss significance.

- [Surface Pressure Map and Frontal Boundaries](#)

(<https://www.wpc.ncep.noaa.gov/html/sfc-zoom.php>)

- look for **today's** high/low pressure centers, and frontal boundaries that are relevant for current or past Vancouver weather, and then follow these directions:

1. Discuss where the high/low pressure are centers today that are relevant for Vancouver.
2. Point out where the frontal boundaries lie on the map (Cold front = Strong winds, heavy precipitation, cooling temperatures) (Warm front = light winds, widespread light to medium precipitation, warming temperatures) for those fronts that are relevant for Vancouver.

- **25 kPa Winds / Pressure**

(<https://www.tropicaltidbits.com/analysis/models/?model=ecmwf®ion=namer&pkg=uv250>)

- look for ridges and troughs in the jet stream (i.e., at the top of the troposphere) - the narrow band of high winds over North America and the northeast Pacific ocean - then follow these directions:

1. *Discuss if the jet stream is forming a ridge, trough, or zonal flow over or near Vancouver.*
2. *Show how this changes or evolves over the next few days.*

- **50 kPa Geopotential Height (Anomaly)**

(<https://www.tropicaltidbits.com/analysis/models/?model=ecmwf®ion=namer&pkg=z500aNorm>)

– The altitude of this map is at the middle of the troposphere. Look for regions of anomalously high and low geopotential heights (red = higher pressure than normal and blue = lower pressure than normal), and then follow these directions:

1. *Point out the locations of high/low geopotential height centers over North America **today**, focusing on ones relevant to Vancouver weather.*
2. *Discuss if they stay stationary or if they move.*
3. *Show how they change over time.*

- **2 meter Temperature Anomaly**

(<https://www.tropicaltidbits.com/analysis/models/?model=ecmwf®ion=namer&pkg=T2ma>) - look

for regions that have unseasonably high and low temperatures (red and blue, respectively) as are (or will) affect Vancouver. Compare these regions to the locations of high and low 50 kPa geopotential heights (the last link), and then follow these directions:

1. *Point out the hotter regions, and the cooler regions.*
2. *Discuss the extremity of the anomalies.*
3. *Show how they move/change over the next few days, comparing the change to the movement of the 50 kPa geopotential height anomaly systems.*

Step 3. Closer to home. Mesoscale and Regional/Local Scales. (2-3 minutes)

- **Mean Sea Level Pressure and 10m Winds**

(https://www.tropicaltidbits.com/analysis/models/?model=ecmwf®ion=nwus&pkg=mslp_wind) -

look at the pressure and winds over the next 2-3 days, and then follow these directions: (Where are the winds coming from, how will this impact the weather coming up?)

1. *Point out the high/low pressure centres that exist **today**, relevant for Vancouver.*
2. *Discuss how they move over the following 2-3 days.*
3. *Show winds over Vancouver today, considering their direction and speed.*
4. *Discuss how they evolve over the next few days (windspeed, wind direction).*

- **2m Temperature**

(<https://www.tropicaltidbits.com/analysis/models/?model=wrf-arw2®ion=nwus&pkg=T2m>) - look

at the ground level temperatures in and around Vancouver over the next 2-3 days, and then follow these directions:

1. *Show if the temperatures at 00z are getting higher, lower, or staying the same. (compare between the next few days)*
2. *Are the temperatures at 12z higher, lower, or staying the same? (compare between the next few days)*
3. *Relate these temperature forecasts to the wind forecasts (last link). Discuss any overlap that exists.*

- **3-hr Precipitation**

(https://www.tropicaltidbits.com/analysis/models/?model=ecmwf®ion=nwus&pkg=mslp_pcpn) -

look at the 3 hour accumulated precipitation over the next 2-3 days in and near Vancouver, to see when and where it could rain. Then follow these directions:

1. *Point out the date and time that rain is forecasted to occur.*
2. *Discuss the strength of the rain (rain rates), and how long it lasts.*

- **Accumulated Precipitation**

(<https://www.tropicaltidbits.com/analysis/models/?model=ecmwf®ion=nwus&pkg=apcpn>) - look

at this over the next 2-3 days for in and near Vancouver, and then follow these directions:

1. *Show the total precipitation that Vancouver will get in the next 2-3 days.*
2. *Discuss trends in the precipitation, noting if it falls evenly throughout the region, or if it falls over the mountain's only.*

- **Accumulated Snowfall**

(<https://www.tropicaltidbits.com/analysis/models/?model=gfs®ion=nwus&pkg=asnow>) - look at this over the next 2-3 days for in and near Vancouver (and at Whistler and/or other popular ski resorts), and then follow these directions:

1. *Discuss the total snow that Vancouver (and ski resorts, if appropriate) will get in the next 2-3 days, pointing out regions with the heaviest snow.*

But if there is no snow expected in SW Canada, then you can skip the Snow forecast.

- **Smoke forecast**

(<https://firesmoke.ca/forecasts/current/?lat=49.310&lon=-121.343&zoom=6.5>) - look at the BlueSky wildfire smoke forecast over the next 2 days, and then follow these directions:

1. *Show the surface level smoke forecasted for Vancouver.*
2. *Discuss which fires any smoke may be coming from.*

But if there is no smoke predicted, then you can skip the Smoke forecast.

Step 4. News (optional if you have enough time left): (1-2 minutes)

Find a news story about a weather event, preferably an event driven by *synoptic scale weather systems*! Widespread drought? Atmospheric rivers and flooding? Fires and chaos? Go for it!

We recommend you find a news story on a relevant news website, such as, but not limited to:

- [Wildfire Today](https://wildfiretoday.com/), (<https://wildfiretoday.com/>)
- [NASA Earth Observatory](https://earthobservatory.nasa.gov/topic/atmosphere), (<https://earthobservatory.nasa.gov/topic/atmosphere>)
- [Cliff Mass Weather Blog](https://cliffmass.blogspot.com/), (<https://cliffmass.blogspot.com/>) or
- [RAMMB-Cira Satellite Library](https://satlib.cira.colostate.edu/). (<https://satlib.cira.colostate.edu/>)

After giving a *very very brief* introduction to the weather event, choose *one* way to show the event using a weather observation tool. This tool should be used to show what makes the weather event newsworthy - such as the rain rate of a severe storm, or the wind speeds of a hurricane, or the size and growth of a wildfire. (i.e. use only **ONE** of the following links, to save time)

- [Zoom Earth \(https://zoom.earth/\)](https://zoom.earth/) (track **hurricanes** and see **global radar**, global **satellite images**)
- [Windy \(https://www.windy.com/?52.360,-140.541,5,i:pressure\)](https://www.windy.com/?52.360,-140.541,5,i:pressure) (see surface **wind speed** and **wind direction** globally). Also see:
[Pivotal, \(https://www.pivotalweather.com/model.php\)](https://www.pivotalweather.com/model.php) and
[Ventusky, \(https://www.ventusky.com/?p=52.0;-138.7;4&l=pressure\)](https://www.ventusky.com/?p=52.0;-138.7;4&l=pressure) and
[Earth nullschool \(https://earth.nullschool.net/\)](https://earth.nullschool.net/).
- [Northwest Weather Radar \(https://atmos.uw.edu/current-weather/northwest-radar/\)](https://atmos.uw.edu/current-weather/northwest-radar/) (U. Washington) and
[Northwest Weather Satellite \(https://atmos.uw.edu/current-weather/satellite/\)](https://atmos.uw.edu/current-weather/satellite/)
- [Canadian Historical Weather Radar \(https://climate.weather.gc.ca/radar/index_e.html?site=NAT&year=2024&month=8&day=6&hour=17&minute=54&duration=2&image_type=DPQPE_RAIN_WEATHEROFFICE\)](https://climate.weather.gc.ca/radar/index_e.html?site=NAT&year=2024&month=8&day=6&hour=17&minute=54&duration=2&image_type=DPQPE_RAIN_WEATHEROFFICE) (Weather **radar in Canada**)
- [Fire Information for Resources Management System \(FIRMS\) \(https://firms.modaps.eosdis.nasa.gov/usfs/map/#d:24hrs:@-100.0,40.0,4.0z\)](https://firms.modaps.eosdis.nasa.gov/usfs/map/#d:24hrs:@-100.0,40.0,4.0z) (**Fire detections** from satellites)
- [Blitzortung \(https://map.blitzortung.org/#2.14/51.21/-104.01\)](https://map.blitzortung.org/#2.14/51.21/-104.01) (real-time **Lightning** map, also [historical \(https://www.blitzortung.org/en/historical_maps.php\)](https://www.blitzortung.org/en/historical_maps.php))
- [NASA Worldview \(https://worldview.earthdata.nasa.gov/\)](https://worldview.earthdata.nasa.gov/) (Polar orbiting **satellites**)
- [RAMMB Satellite Imagery \(https://rammb-slider.cira.colostate.edu/?sat=goes-18&sec=full_disk&x=11360&y=2368&z=2&angle=0&im=12&ts=1&st=0&et=0&speed=130&motion=loop&maps%5Bborders%5D=silver&p%5B0%5D=geocolor&opacity%5B0%5D=1&pause=0&slider=-1&hide_controls=0&mouse_draw=0&follow_feature=0&follow_hide=0&s=rammb-slider&draw_color=FFD700&draw_width=6\)](https://rammb-slider.cira.colostate.edu/?sat=goes-18&sec=full_disk&x=11360&y=2368&z=2&angle=0&im=12&ts=1&st=0&et=0&speed=130&motion=loop&maps%5Bborders%5D=silver&p%5B0%5D=geocolor&opacity%5B0%5D=1&pause=0&slider=-1&hide_controls=0&mouse_draw=0&follow_feature=0&follow_hide=0&s=rammb-slider&draw_color=FFD700&draw_width=6) (Geostationary **satellites**)

-- end within 10 minutes of starting --