



Night Photography & Timelapse Photography

Tom Raithby

Two Topics

- Time Lapse Photography

- Gear
- Settings
- Shooting
- Time lapse flicker
- Workflows
 - Planning
 - Applications
- Video
- Options
 - Night, HDR, Motion

- Astrophotography Time Lapse

- Photography at night
- Time lapse at night – what's different?
- Workflows
 - Planning
 - Applications



Time Lapse - Gear

- Tripod
- Intervalometer*
- Motion Control
- Exposure Control
- Filters (ND, Circular Polarizing, Protector)
- Camera
- Lenses (+ hoods)
- Power - *Battery Grip +*
- Memory cards
- Plastic (protecting your gear)
- Lens Heater?

Time Lapse - Settings

- Desired output?
- RAW versus JPEG
- Resolution pros & cons
- Power management

Time Lapse - Shooting

- Composition (still, moving)
- Design (# images, duration)
- Camera settings
 - aperture, shutter speed
 - ISO, intervals, focus
- Test shots +/- sequence
- Live view to focus
- Dew & Frost

Time Lapse - Flicker

- What is it?
- Contributors
 - “Automatic settings” (Av, Tv, Auto ISO, Auto WB)
 - Mechanical (aperture and shutter curtains)
- Solutions
 - Manual everything
 - Software



Time Lapse - Workflows

- Concept
- Pre-planning
 - Location scouting
 - Applications – Google Earth, Photographers Ephemeris (moon & sun)
 - Websites
 - Windfinder - http://www.windfinder.com/forecast/gardner_s_creek
 - Environment Canada - https://weather.gc.ca/city/pages/nb-23_metric_e.html
 - Fisheries & Oceans - <http://tides.gc.ca/eng/station?sid=65>
- Field work
- Post-production
 - Applications – Lightroom, LRTimelapse, Photomatix >> JPEGs
 - Adobe Photoshop
 - Applications – Adobe After Effects, Premiere Pro
 - Overall flow, music?

Time Lapse - Video

- Sometimes *video* is the starting point
- Or DSLR
- Or GoPro...
- Final output is a video
 - Dynamic
 - Insight & discovery

Time Lapse - Options

- High Dynamic Range (HDR)
- Motion
 - In-frame (using high resolution of DSLR)
 - Mechanical (more toys)
- Night-time time lapse
 - Astrolapse

Astrophotography – *Time Lapse Photography at Night*

- Workflows
 - More emphasis on pre-planning
 - Location scouting (in daylight)
 - Applications
 - Google Earth, Photographers Ephemeris, **Stellarium**
- Websites
 - Same as previous *plus*
 - Clear Dark Sky - <http://cleardarksky.com/c/SntJhnNMBkey.html?1>

Astrophotography – Other Things

- It's dark
 - Know your camera
- Lighting
 - To see your way
 - To see your gear
 - To illuminate your scene (light painting)
 - A spare!
 - Headlamps ROCK! (seeing RED)
- Higher ISO's
- It might be cold or wet or damp
 - Protection for you and your gear
 - Lens Warmers

Astrophotography – Settings

- All Manual
- High ISO –
 - up to 3200 on 6D & 60D
 - XTi (older crop sensor) likes daytime better
- Aperture is usually wide open (f/4 ok, f/2.8 better...)
 - Fast glass really helps
 - Some lenses have severe chromatic aberration (or coma)
- Shutter speed
 - Test shots to be sure
 - Up to 30 seconds for stars as points of light
 - rule of thumb – $600/\text{focal length}$ – eg $600/24\text{mm} = 24 \text{ seconds } +/-$
 - Longer for star trails

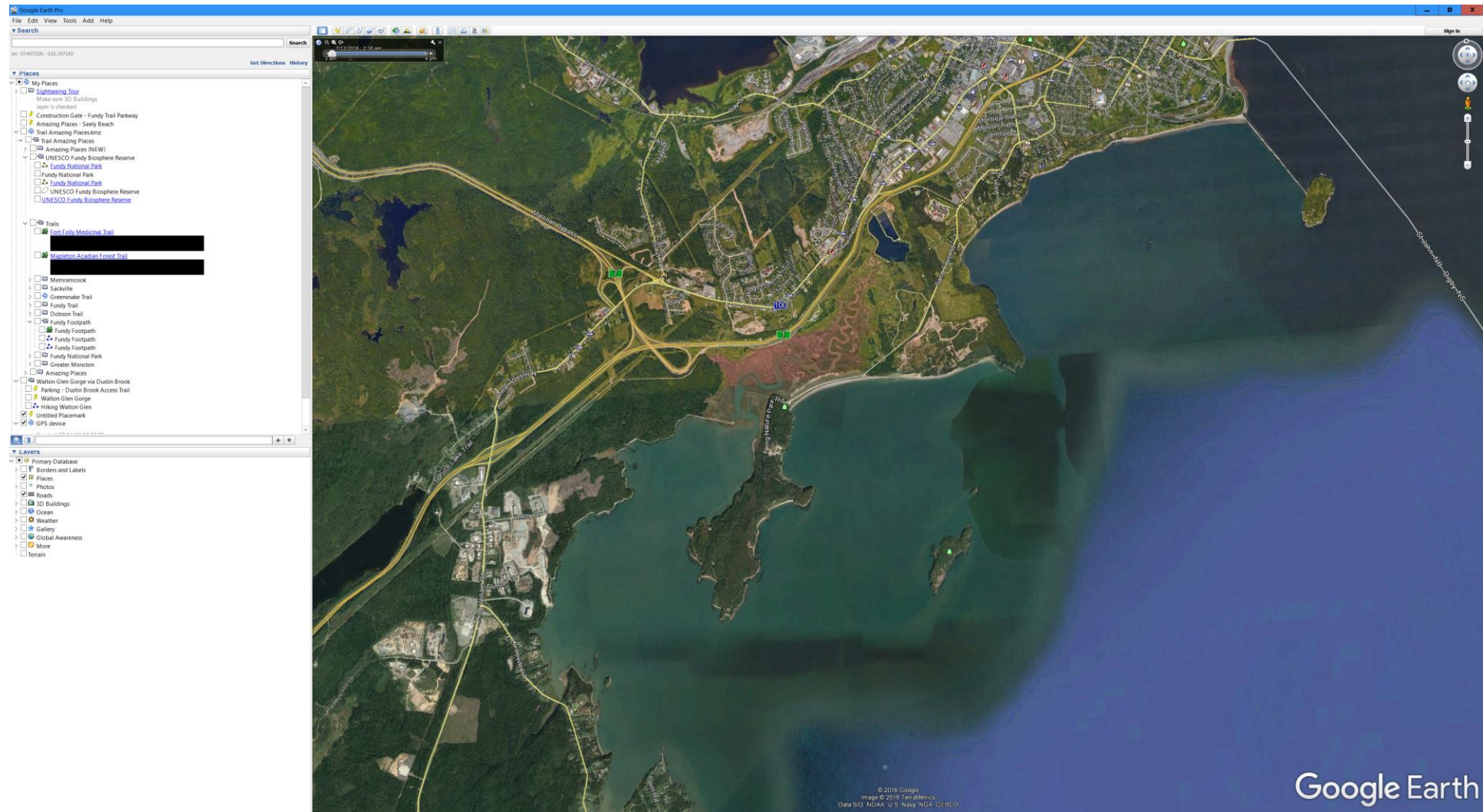
Tips & Tricks

- Mark sequence starts with your hand (or a light)
- Consider a checklist for your settings
- Plan ahead
- Learn from your experiments
 - Field lessons – what worked, what didn't?
 - Captures – even if it wasn't what you planned...
- Clean the sensor & lens

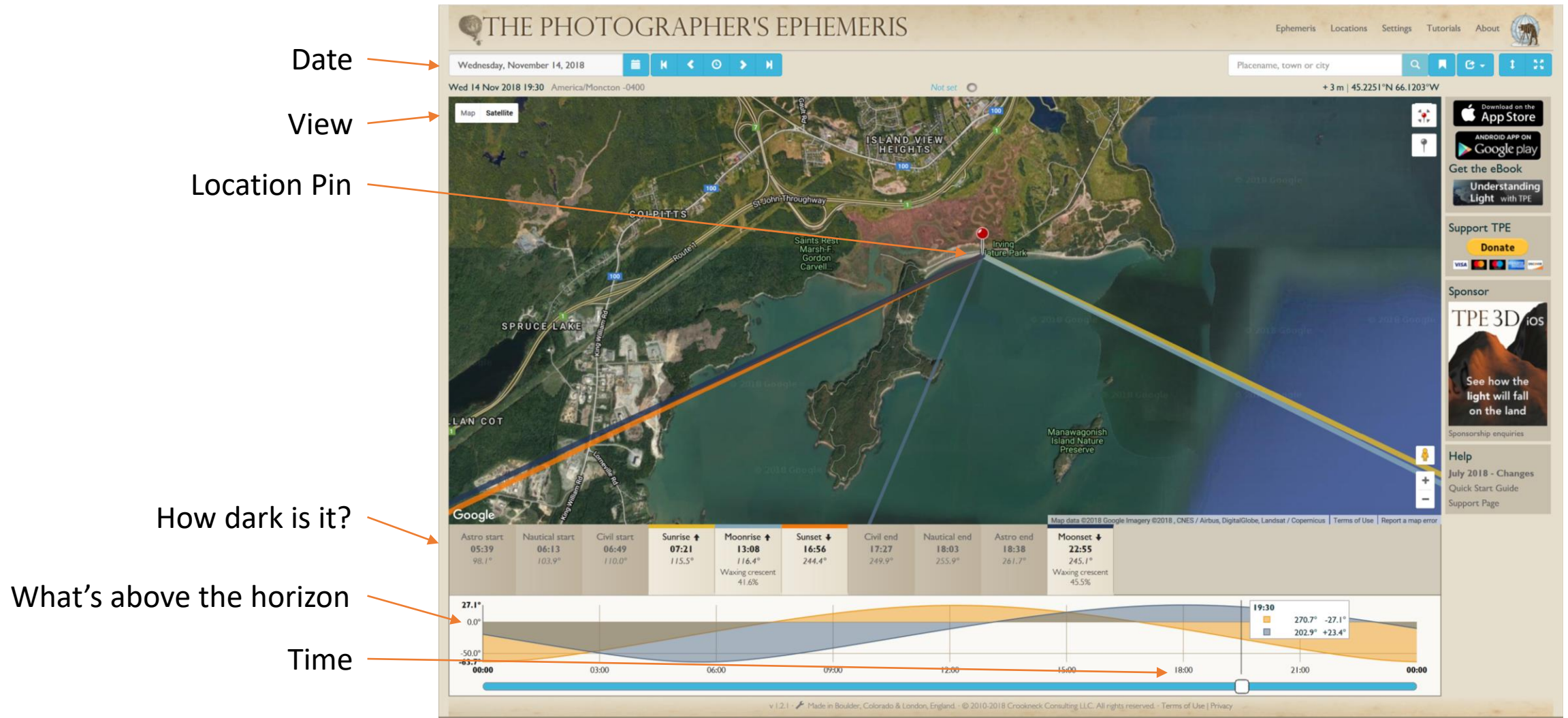
Useful References

- My image processing is Lightroom-centric:
 - Adobe *Lightroom Classic CC*
 - LRTimelapse, Photomatix
 - Adobe *Photoshop*
 - Adobe *Premiere Pro**, Adobe *After Effects**
 - Photographers Ephemeris, Google Earth, Stellarium
- Books I'd recommend:
 - Chylinski, Ryan. 2012. Time-Lapse Photography.
 - Wu, Jennifer. 2014. Photography: Night Sky.

Planning App: *Google Earth*



Planning App: *The Photographers Ephemeris*



Planning App: *Stellarium*



Timelapse Planning – *Environment Canada*

https://weather.gc.ca/city/pages/nb-23_metric_e.html

Local 7-day forecast

- Good for trends & current conditions
- Sunrise & sunset at bottom of the page

The screenshot shows the Environment Canada website for Saint John, NB. The page includes a header with the Government of Canada logo and navigation links. The main content area displays the current weather conditions and a 7-day forecast.

Saint John, NB

Current Conditions

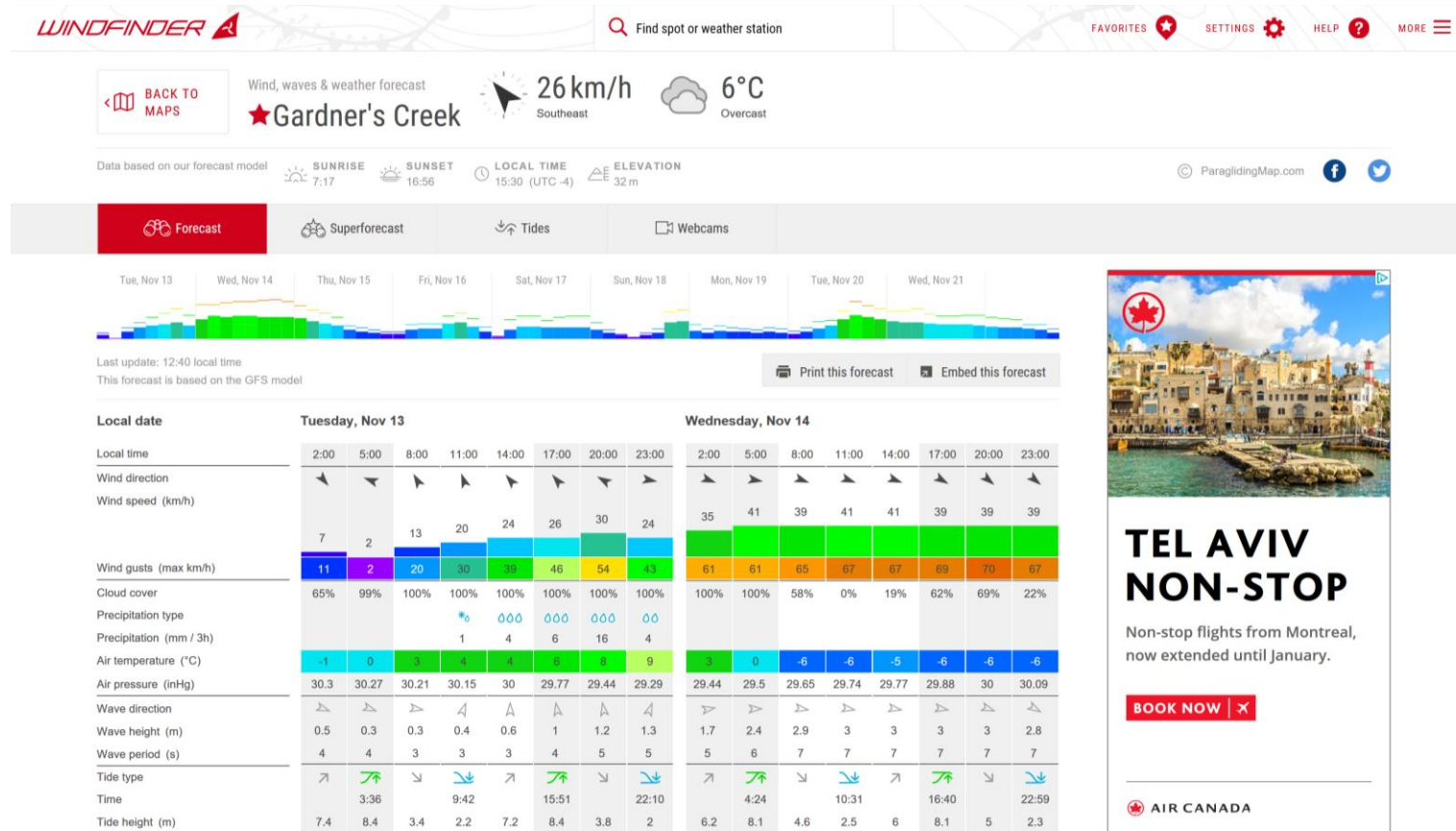
Observed at: Saint John Airport
Date: 3:00 PM AST Tuesday 13 November 2018

Condition: Light Snow Pressure: 101.7 kPa Tendency: Falling	Temperature: 1.0°C Dew point: 0.7°C Humidity: 98%	Wind: ESE 28 gust 43 km/h Visibility: 5 km
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Forecast

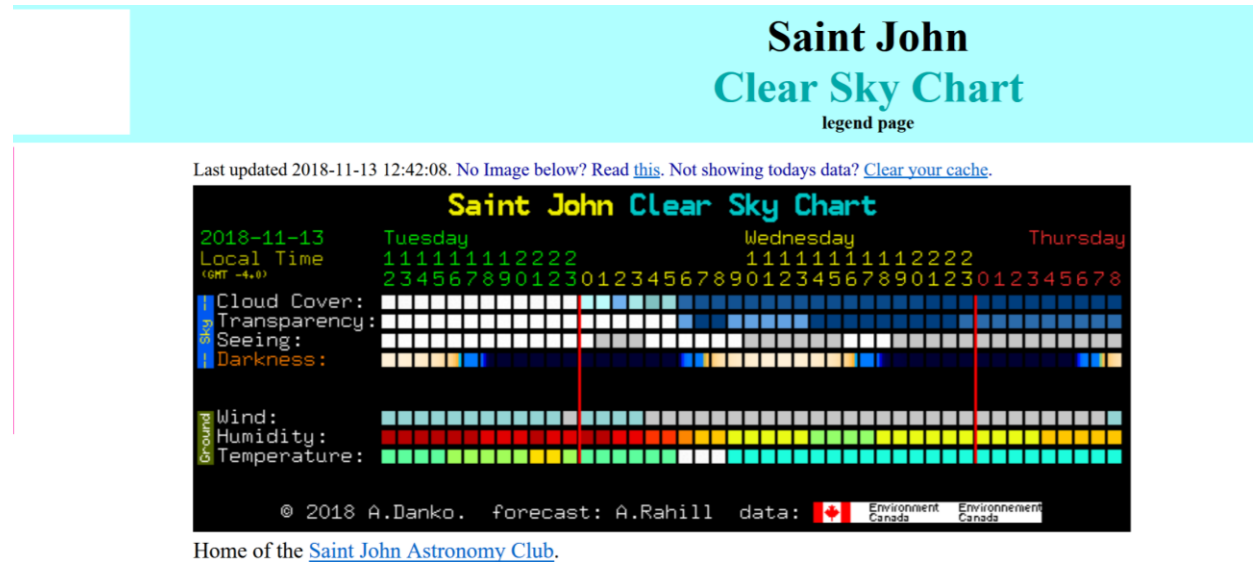
Tue 13 Nov	Wed 14 Nov	Thu 15 Nov	Fri 16 Nov	Sat 17 Nov	Sun 18 Nov
 5°C Rain	 -5°C 60% Chance of flurries	 0°C Sunny	 1°C Snow or rain	 1°C A mix of sun and cloud	 -1°C A mix of sun and cloud
Tonight -6°C Rain	Night -6°C Clear	Night -9°C Cloudy periods	Night -4°C Rain or snow	Night -7°C Cloudy periods	Night -6°C Cloudy periods
Mon 19 Nov 1°C 60% Chance of flurries					

Timelapse Planning - *Windfinder*



[https://www.windfinder.com/forecast/gardner s creek](https://www.windfinder.com/forecast/gardner_s_creek)

Timelapse Planning - *ClearDarkSky*



Nifty Links:	Sun & Moon Data	Road Map	Topo Map	Civil Weather	Satellite Predictions
	Star Map	CalSky	Light Pollution map	Forecast History / Climate A Sponsored Feature	

What is it?

It's the astronomer's forecast. At a glance, it shows when it will be cloudy or clear for up to the next two days. It's a prediction of when Saint Jo

The data comes from a forecast model developed by [Allan Rahill](#) of the [Canadian Meteorological Center](#). CMC's numerical weather forecasts : But they have 763 forecast maps. It can be a chore to find the one you want.

<http://www.cleardarksky.com/c/SntJhnNMBkey.html?1>

Some timelapse examples