

The GBT Dynamic Scheduling System

Toney Minter

Dynamic Scheduling System (DSS)

- GBT is scheduled 24-48 hours in advance
- Allows maximum use of excellent high frequency weather
 - Water vapor
 - Aresols
 - Clear
 - Cloudy
 - Water or ice
 - Winds

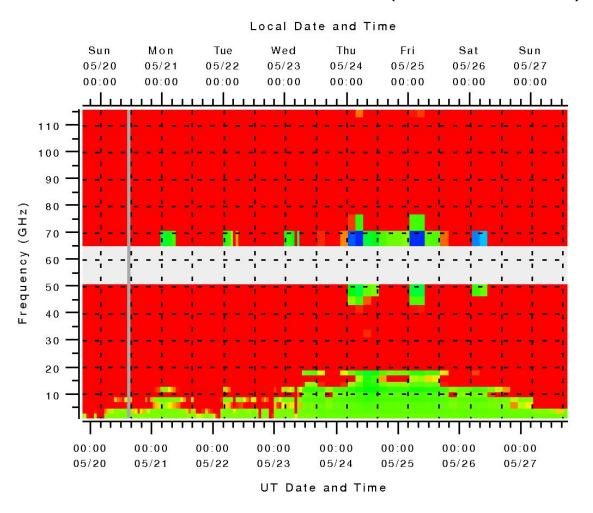




Dynamic Scheduling System (DSS)

DSS Overview

Relative Efficiencies with Limits (Limits*Effs/EffMin)







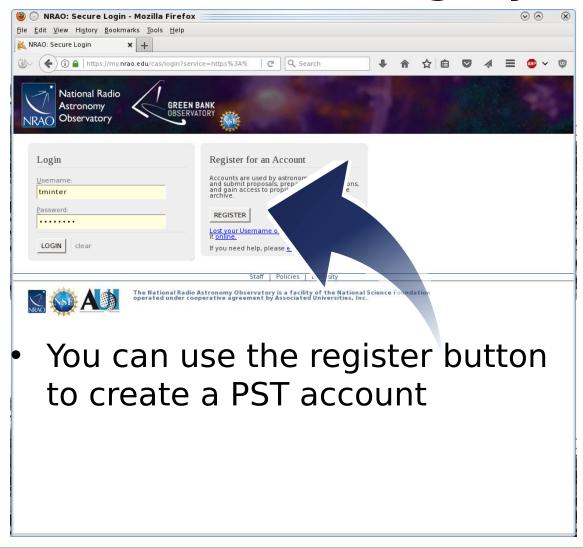
Logging into the DSS

https://dss.gb.nrao.edu/





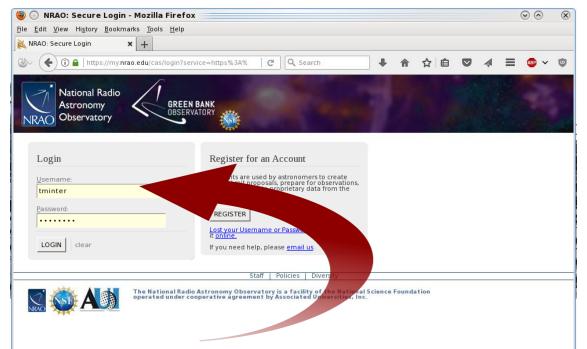
Dynamic Scheduling System







Dynamic Scheduling System

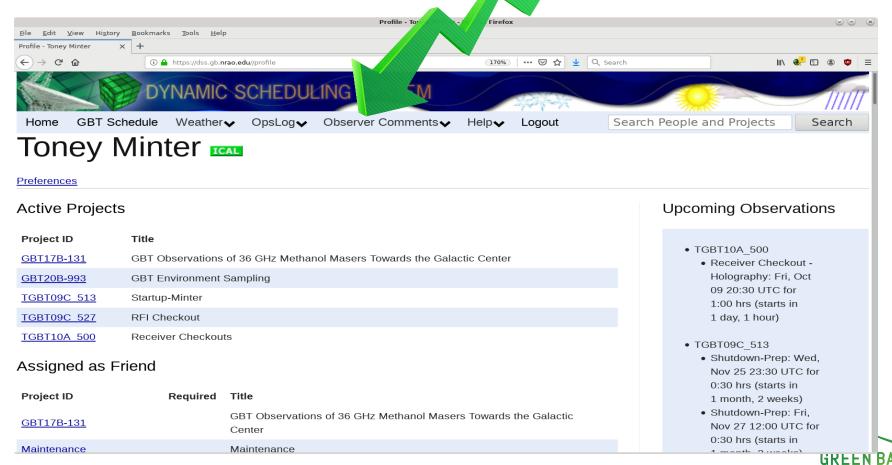


- Same user name and password as the Proposal Submission Tool (PST)
 - This is <u>not</u> your linux or windows computing account

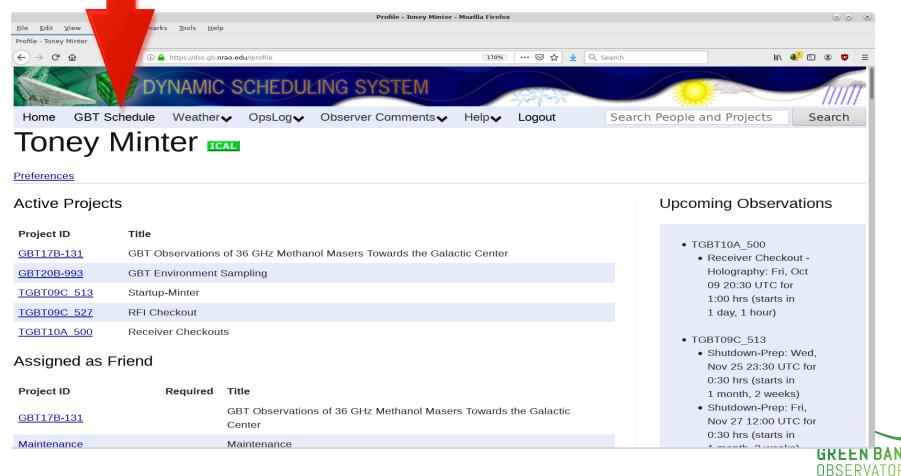




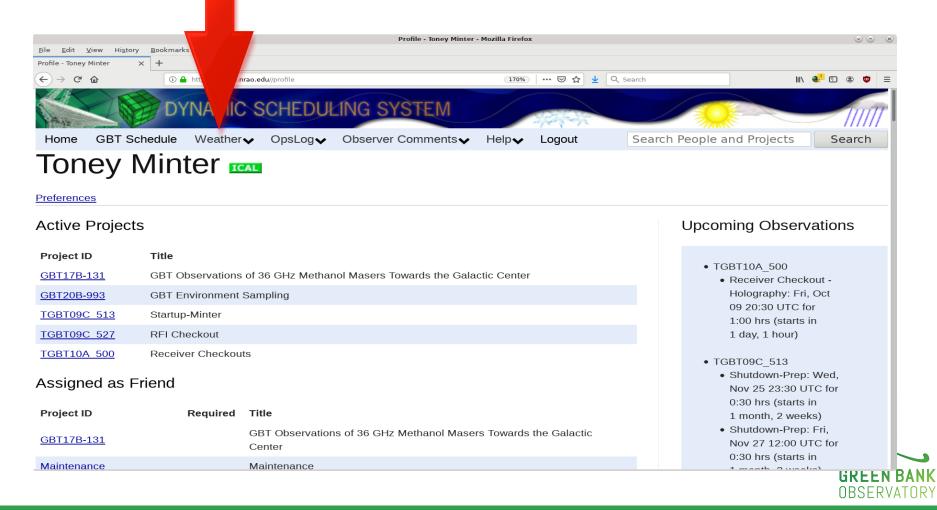




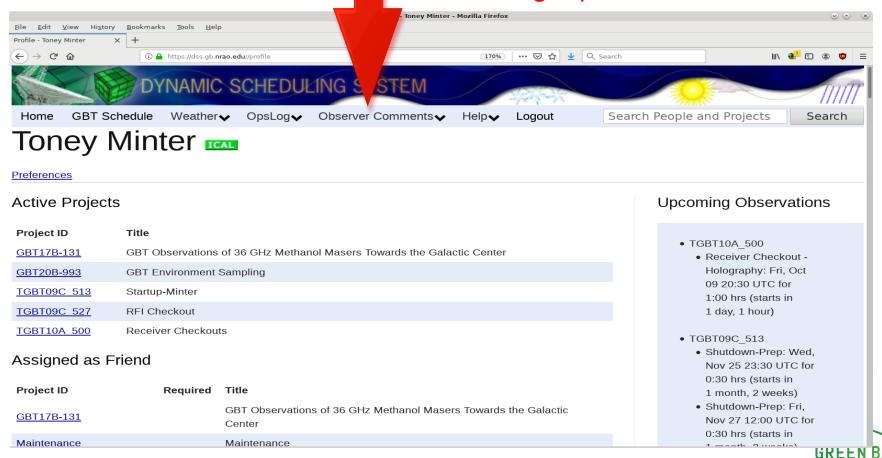
See the GBT observing schedule

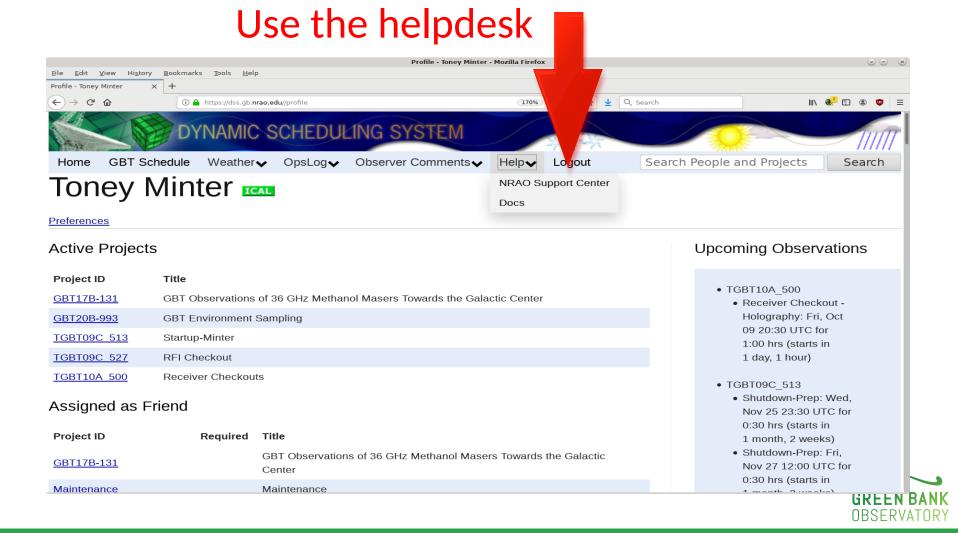


Weather forecasts used to schedule the GBT

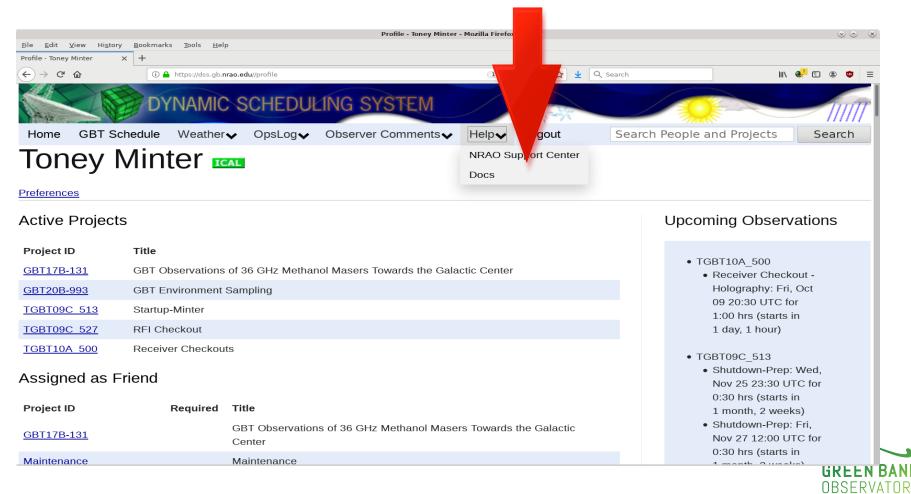


Submit comments about your observing experience

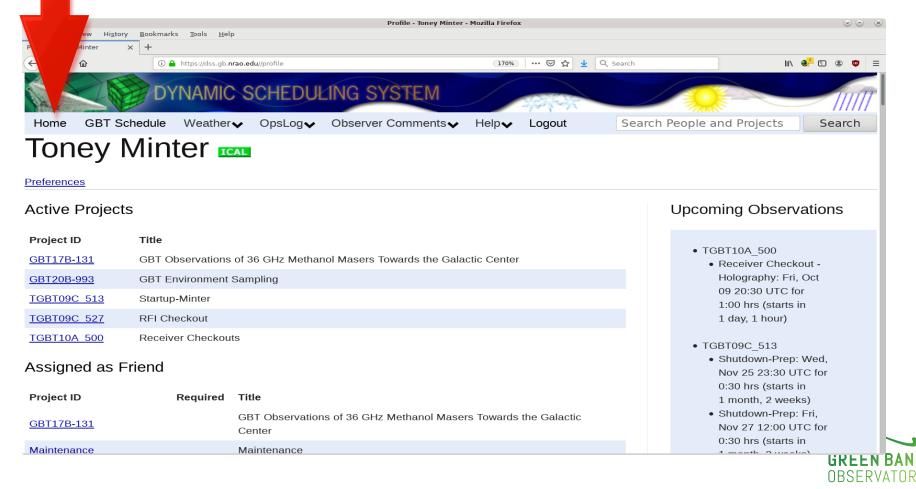




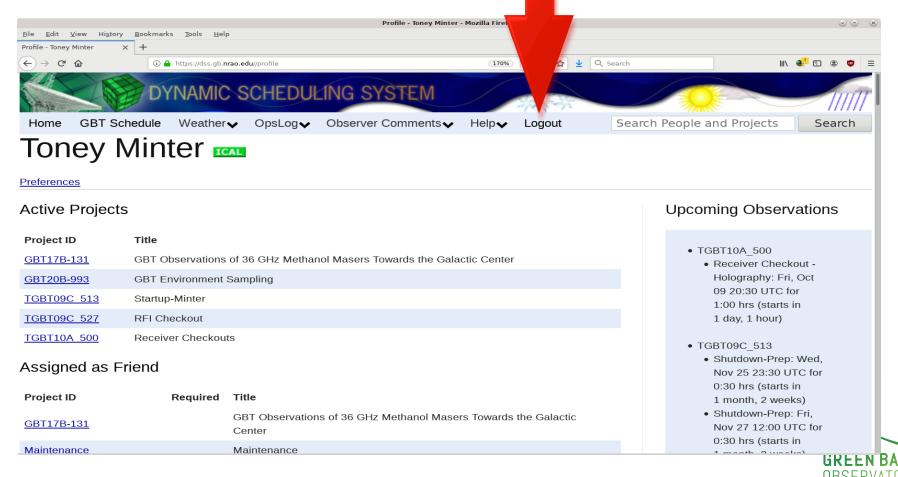
Who reads the documentation?



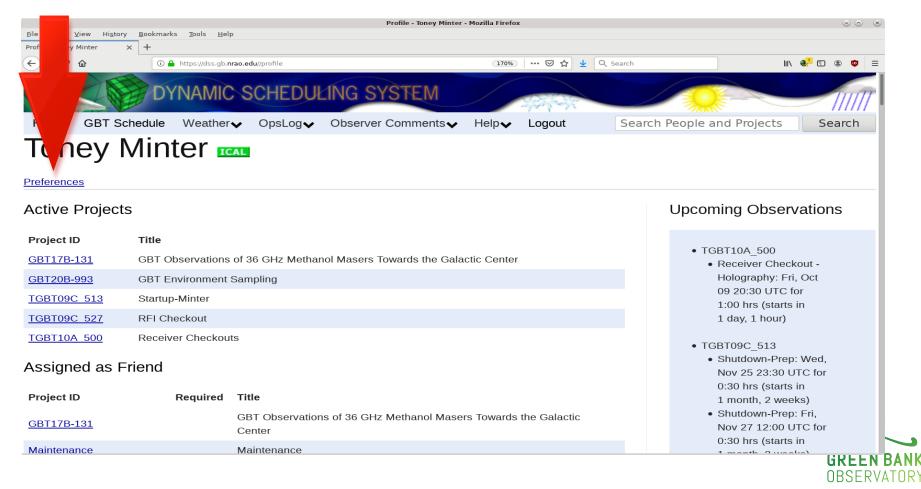
Brings you back to this page

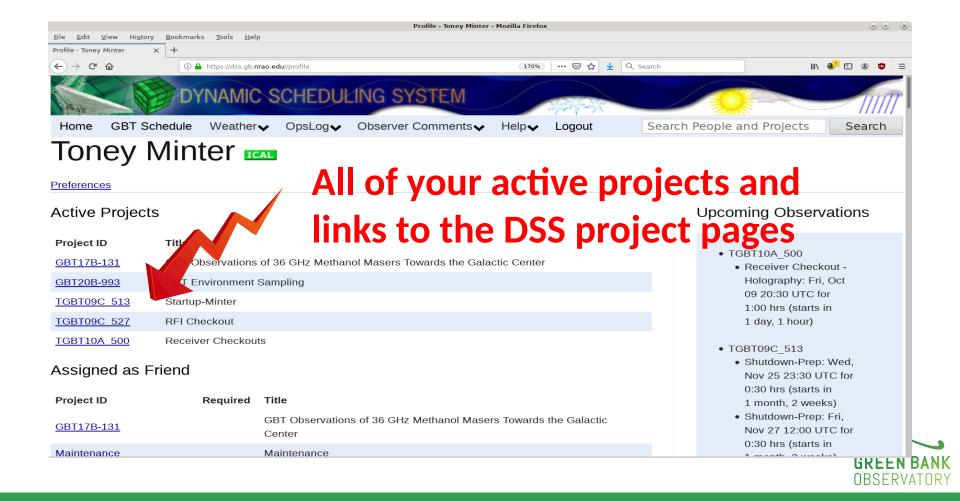


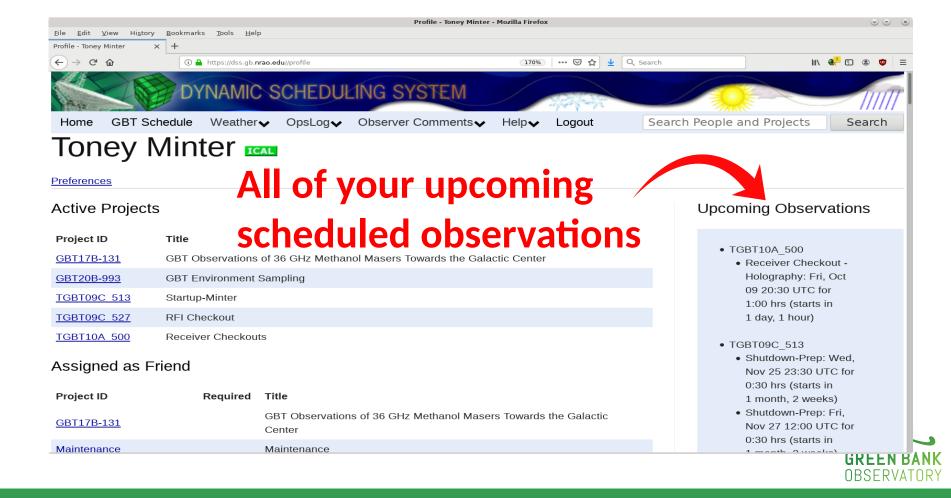
Logout of the DSS

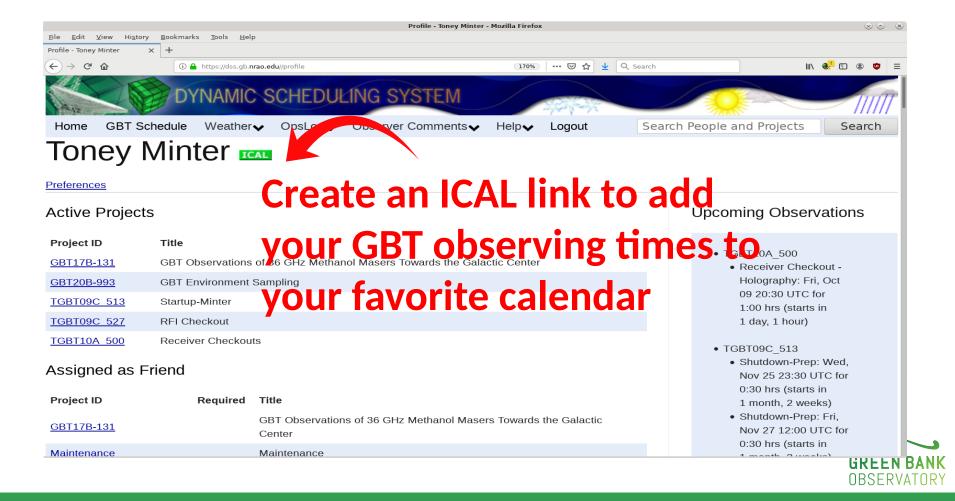


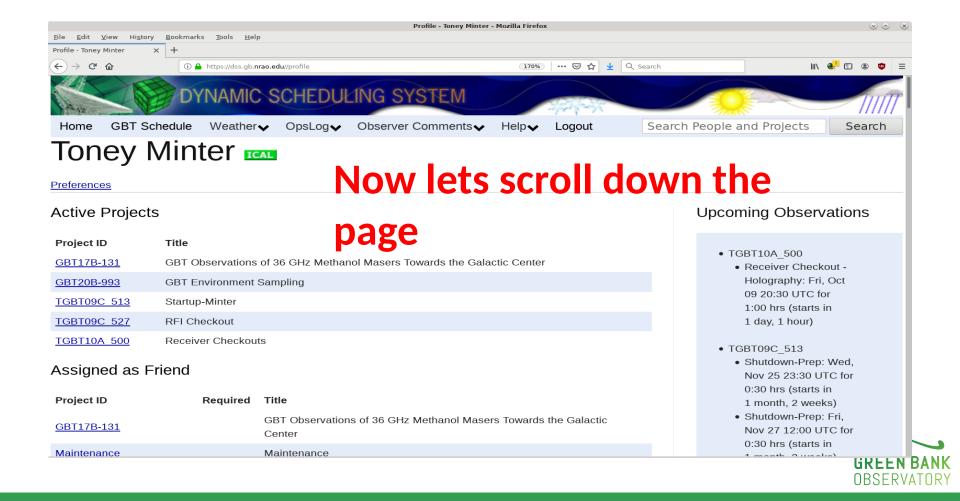
Change your preferences

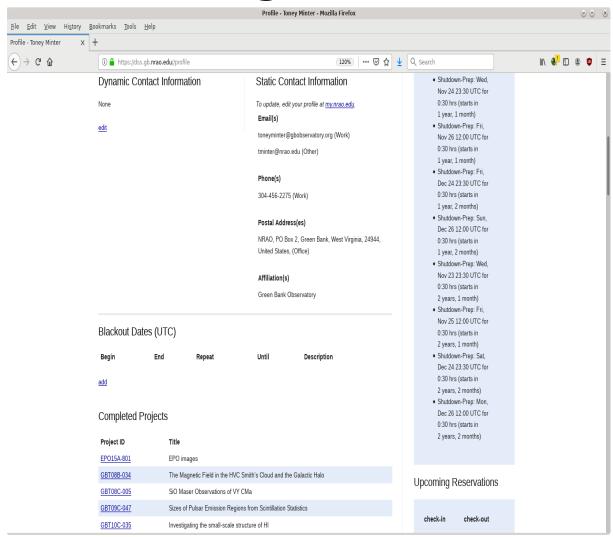




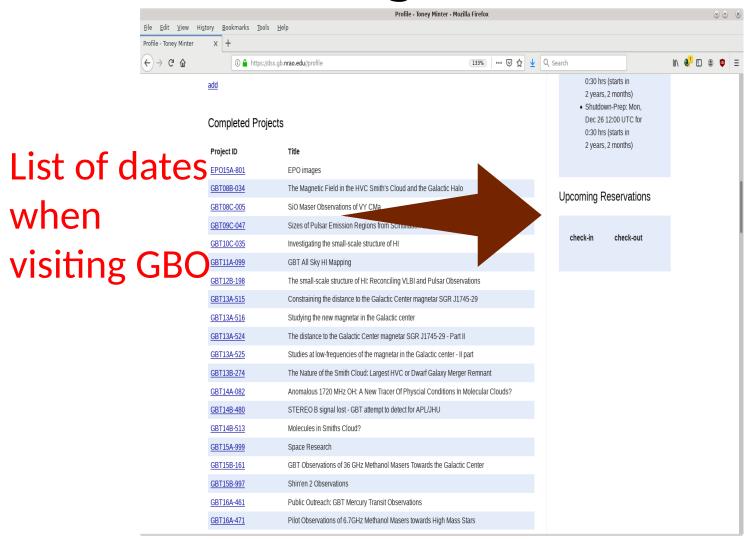




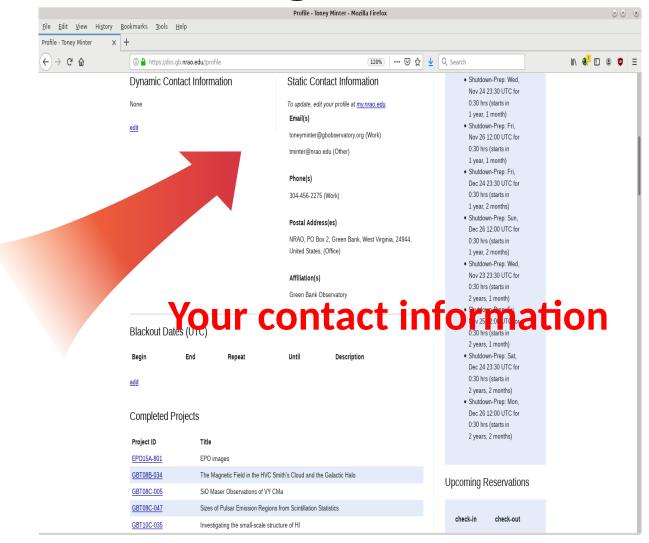






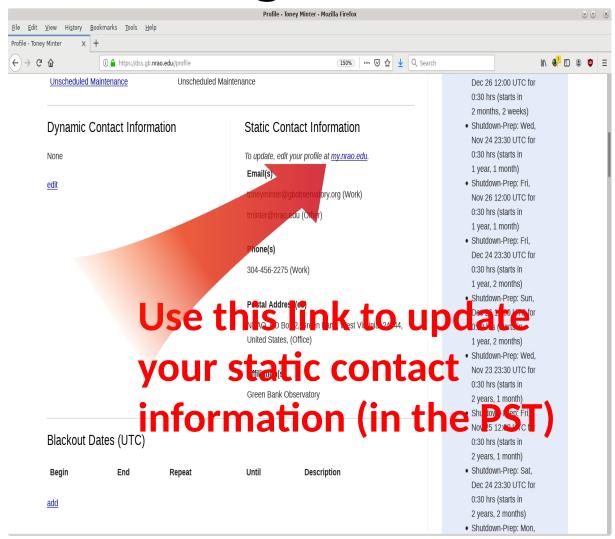




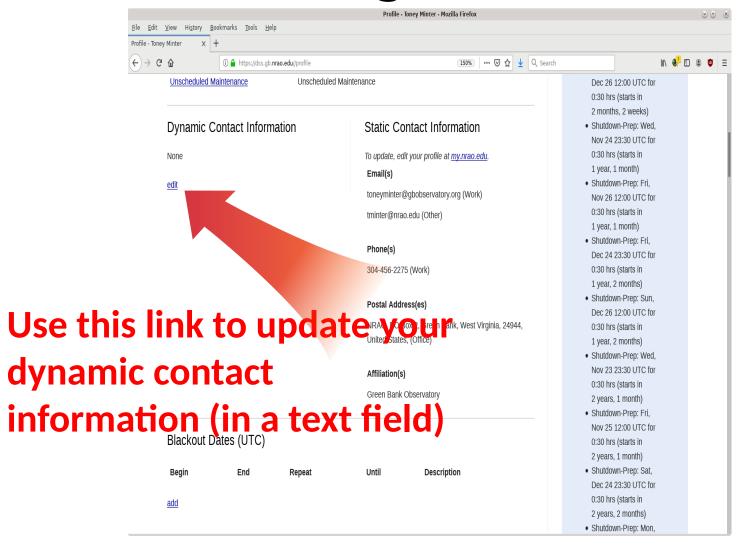






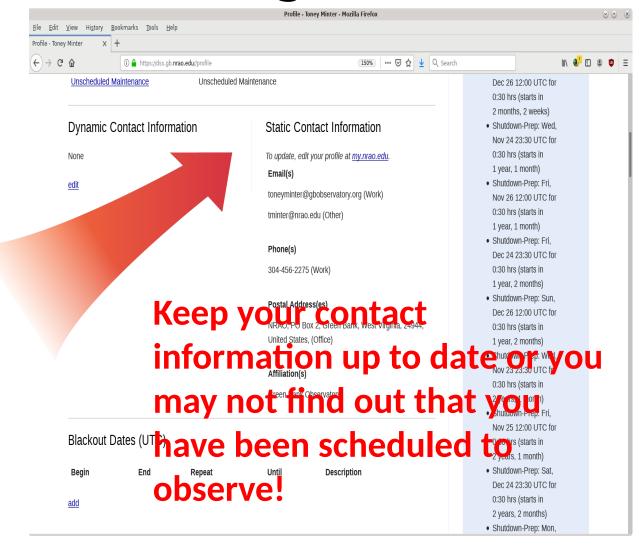






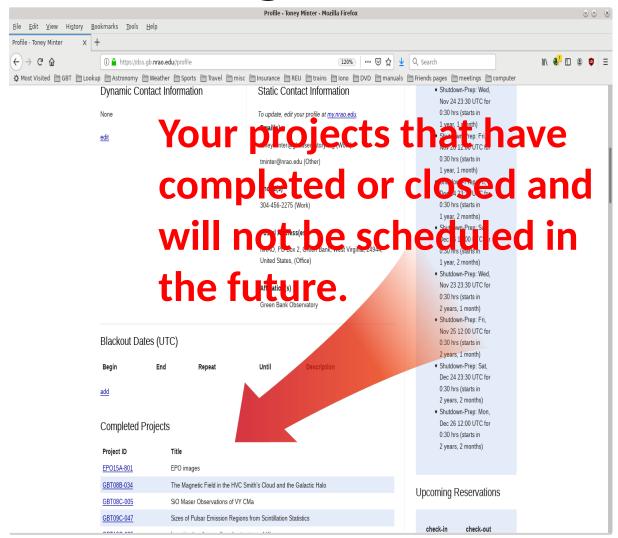






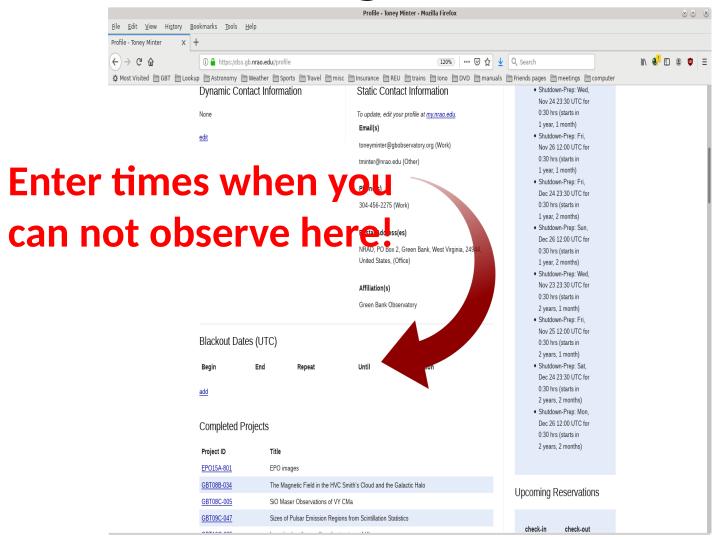




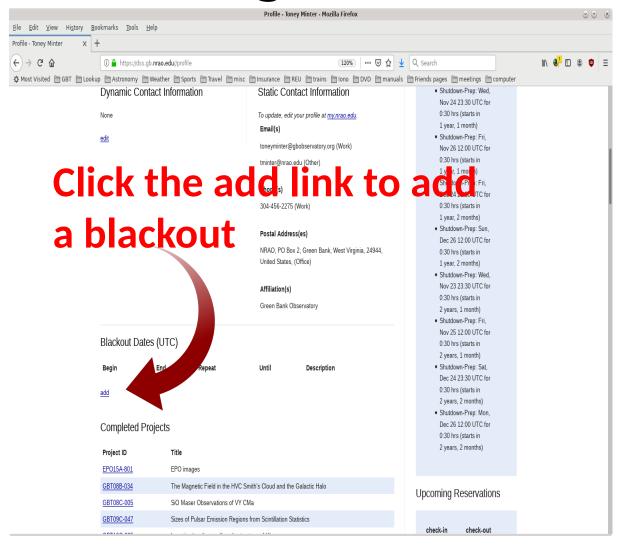






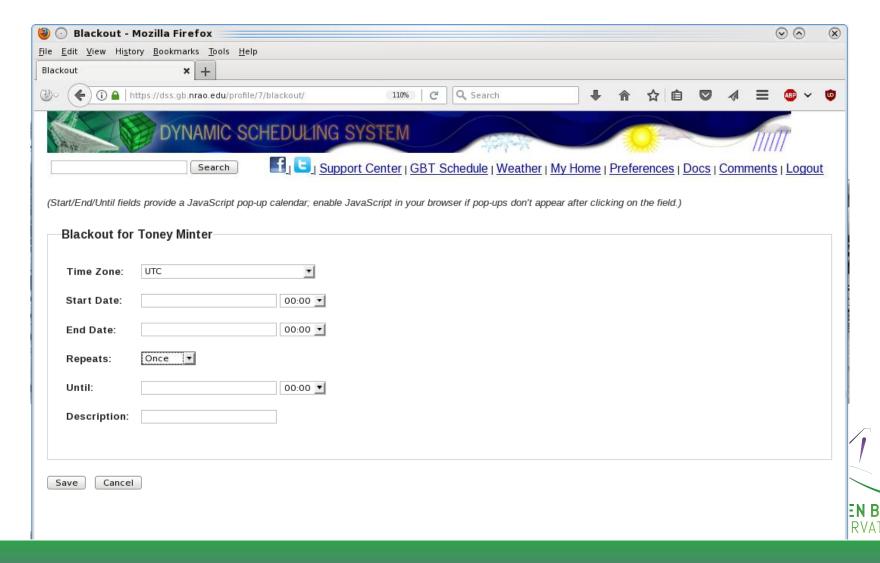


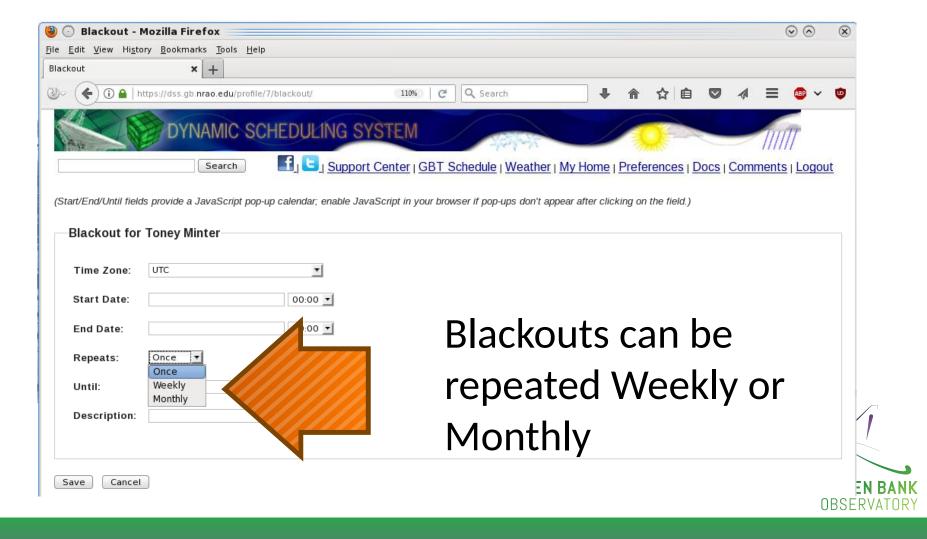


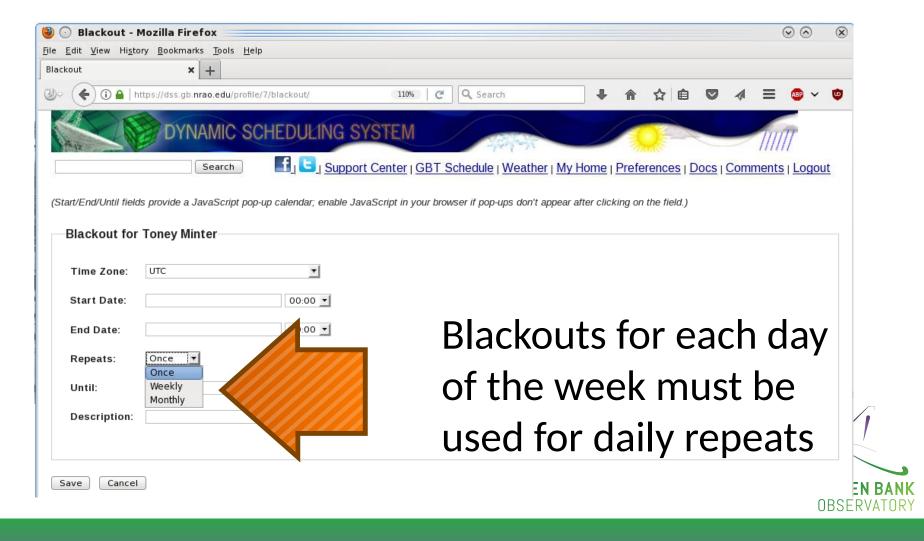






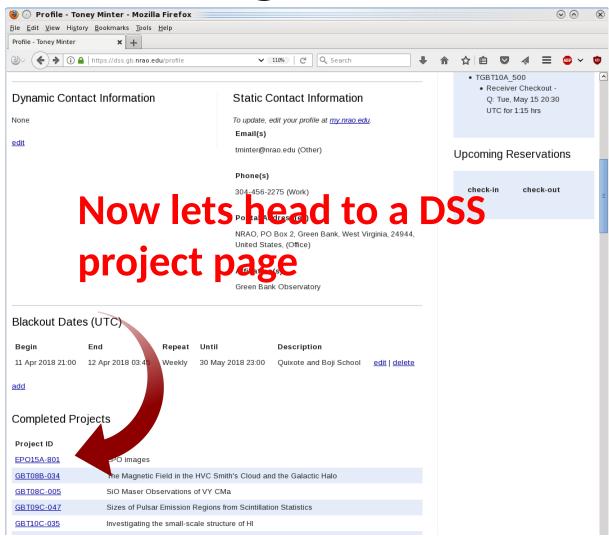






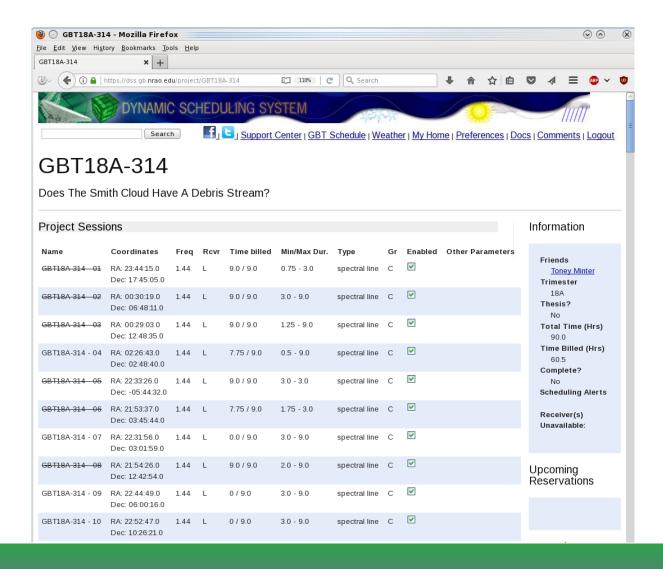
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Blackout for	Toney Minter						
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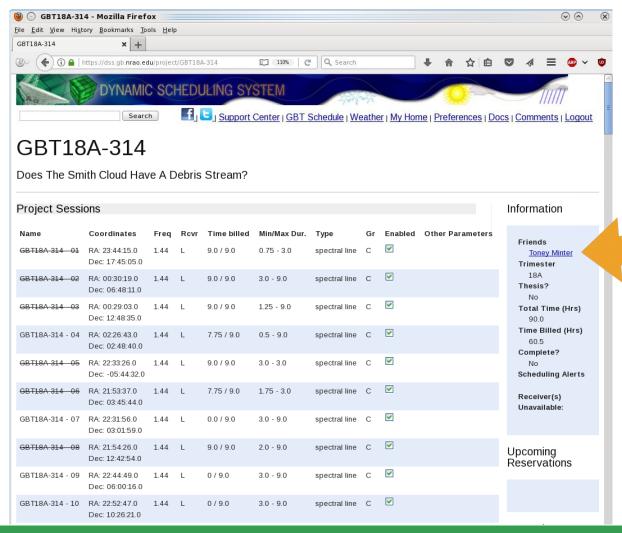
DSS Project Page







DSS Project Page

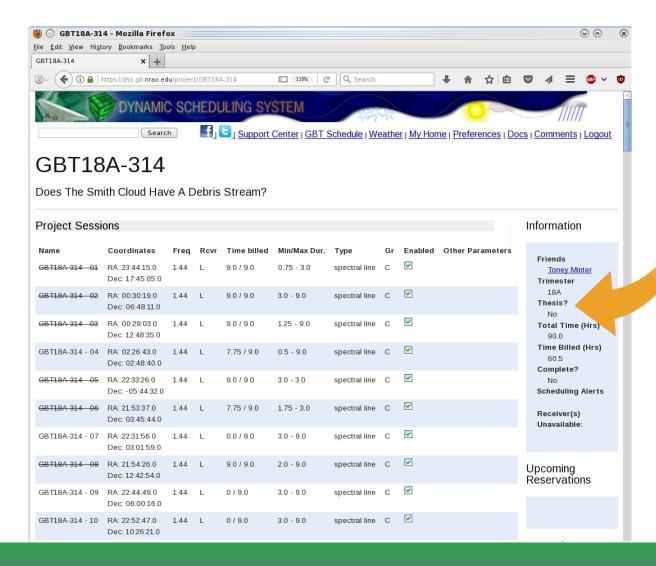


Everyone needs a friend





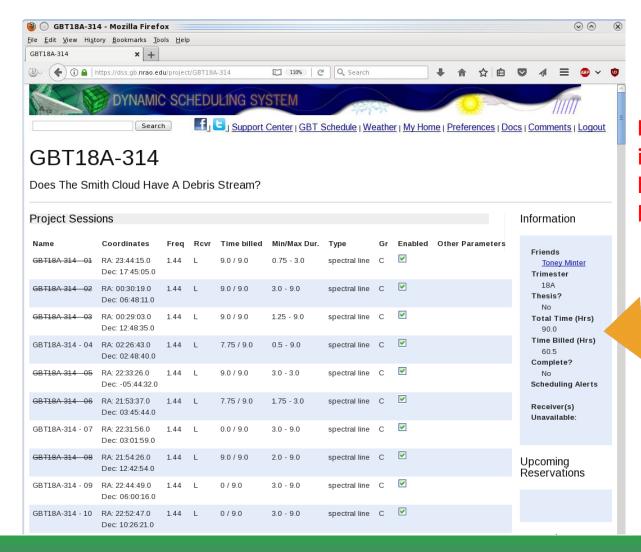
DSS Project Page



Is this a student's thesis project



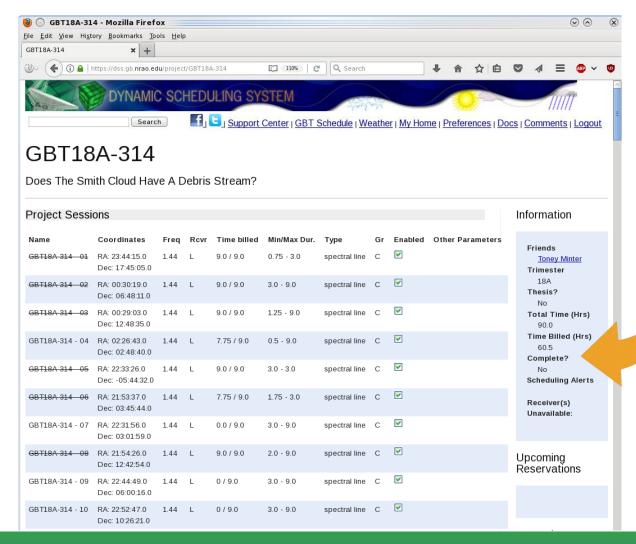




How much time is allocated and has been used by the project



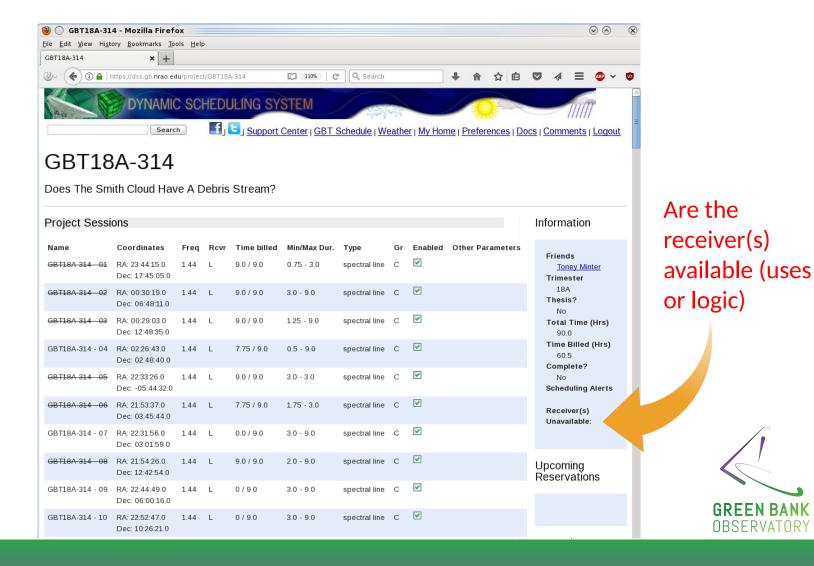


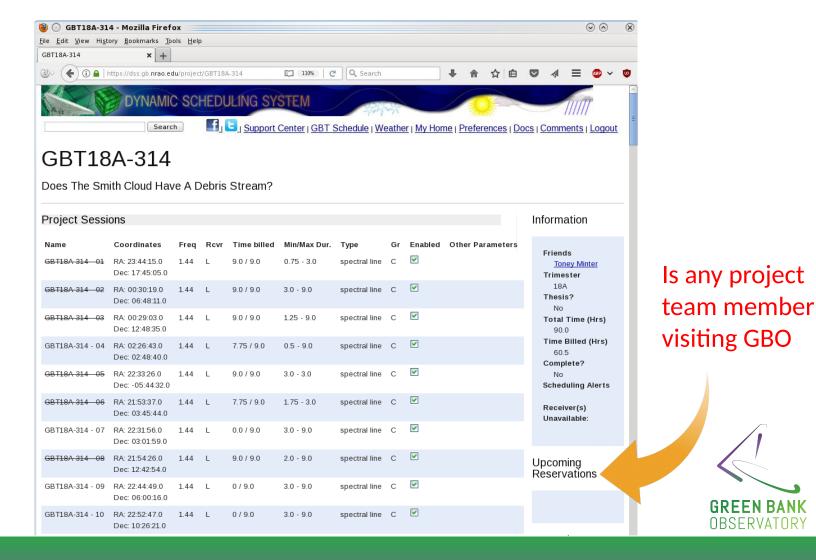


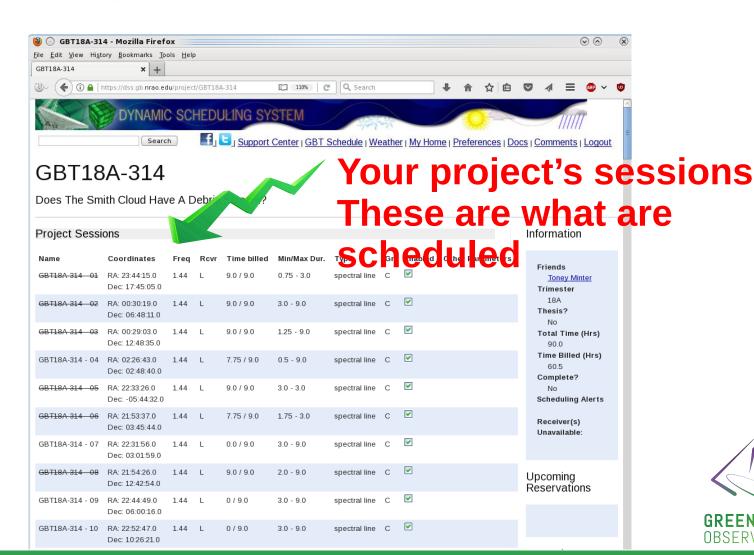
Is the project completed or closed



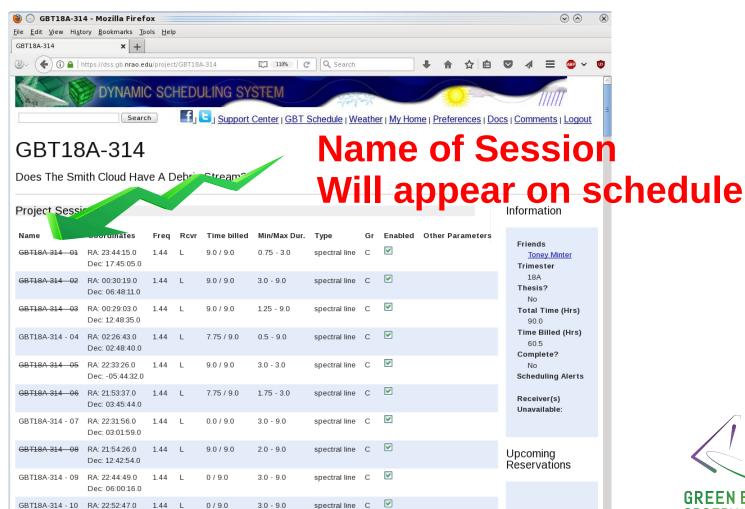






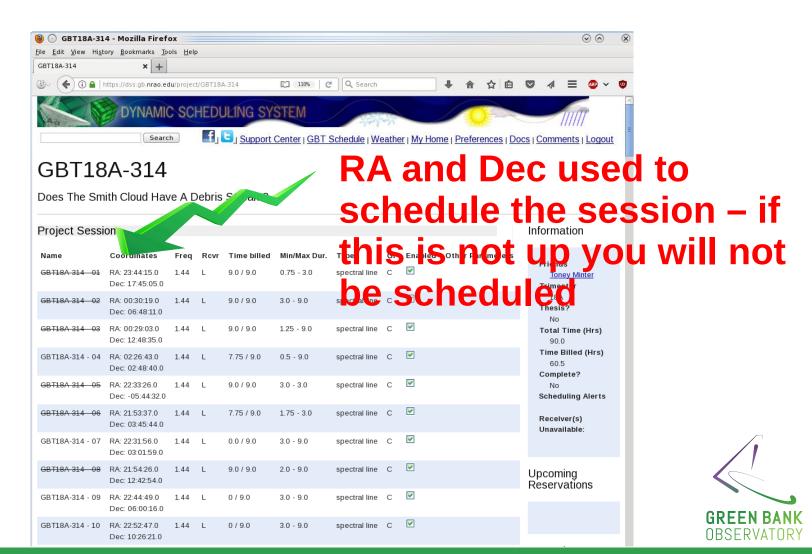


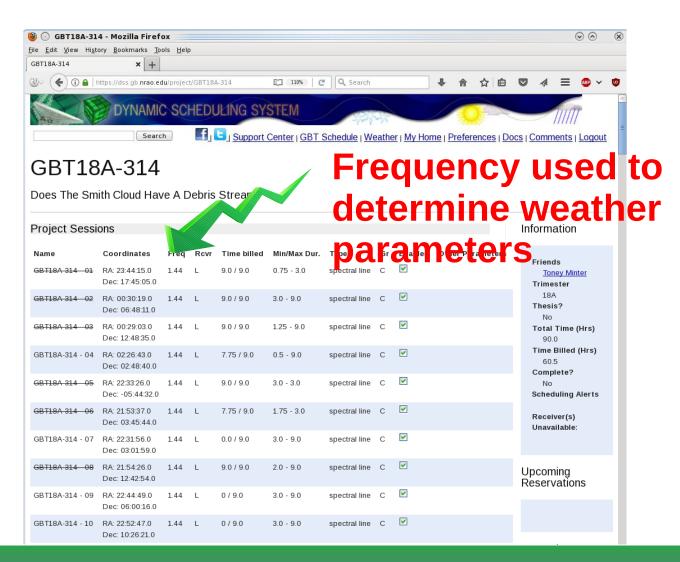
Dec: 10:26:21.0





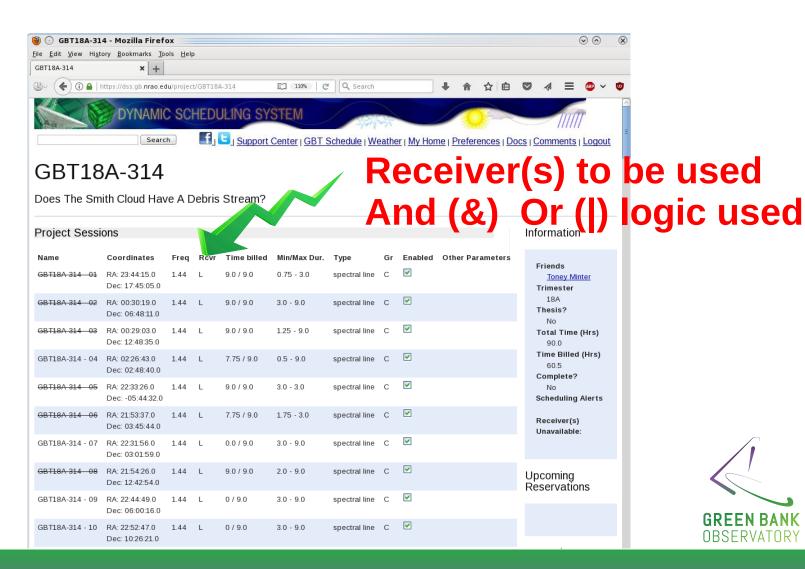






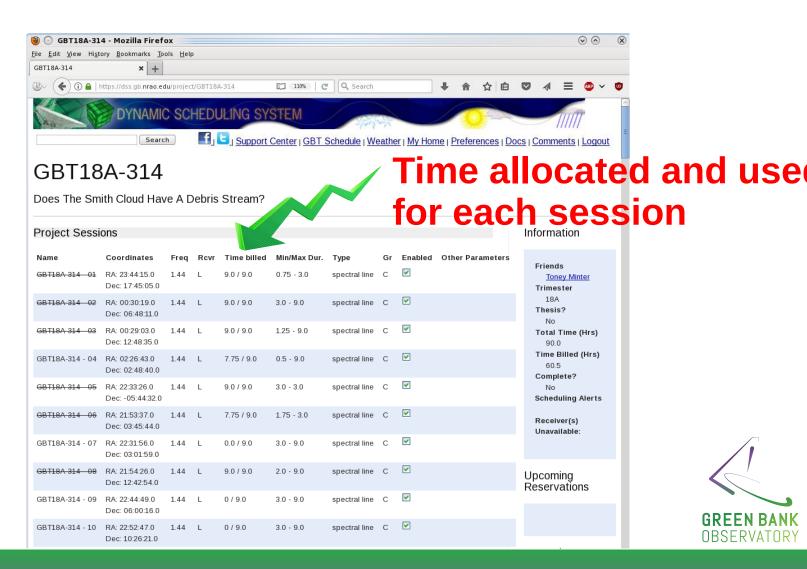


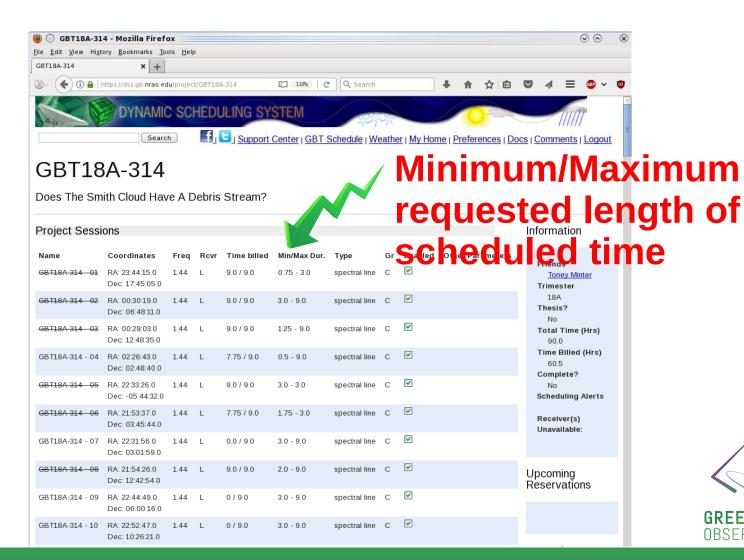


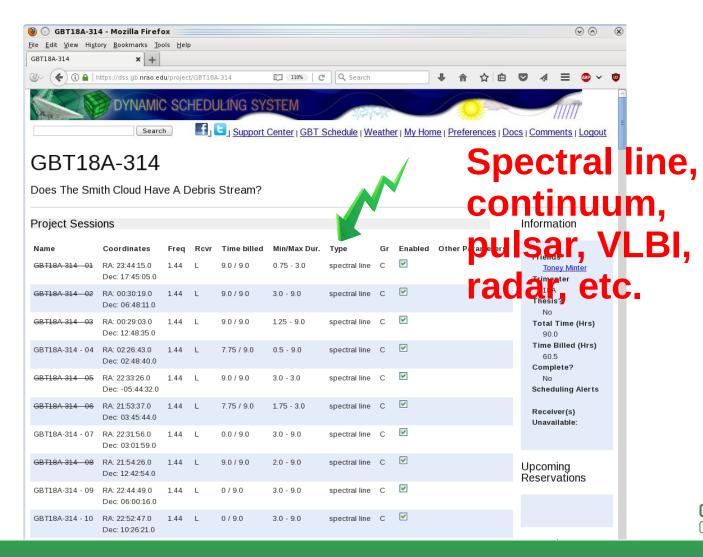




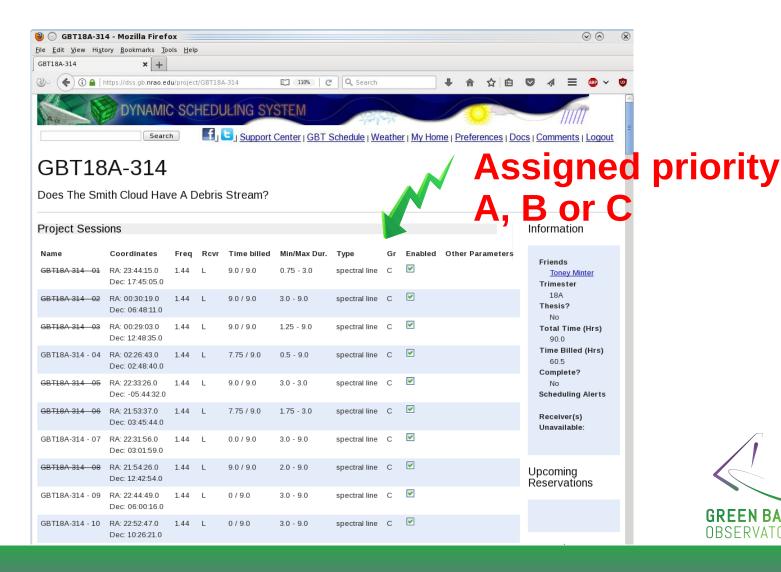






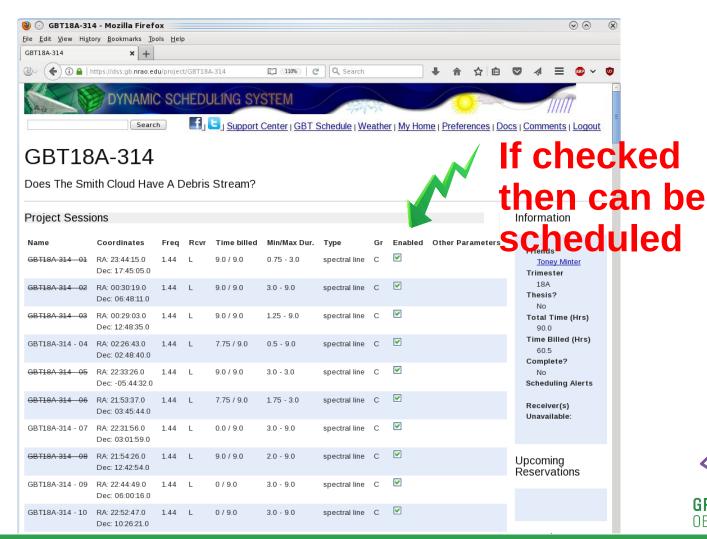




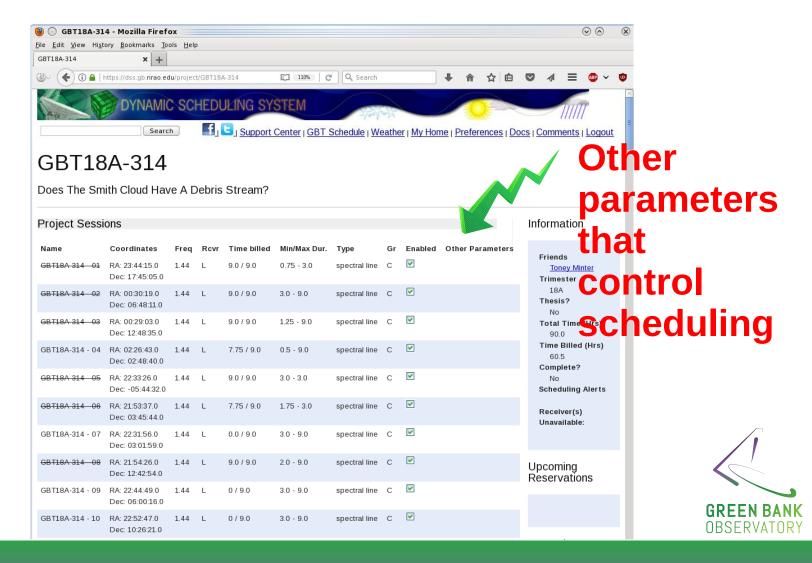












Time between

- Minimum wait time in hours between scheduled sessions
- Default is zero

• Xi

- Allow for worse weather conditions to be considered
- Default is 1.0
- 1.1 or 1.2 commonly used

LST exclusion/inclusion

- Restrict the LST for scheduling the session
- Default is no restriction





Src Size

- If extended source then can observe in higher winds
- Default is zero

TrErrThreshold

- If can tolerate larger calibration errors then can observe in higher winds
- Each receiver has default based on <10% error from winds

Elevation limit

- Observations must be above this limit
- Each receiver has its own default





Irradiance

- Upward vs downward IR flux
- Mostly temperature and some cloud cover
- Only for continuum observing

Solar Avoidance

- Avoid being this many degrees from Sun
- Default is zero





Time of Day

- Default is Anytime
- Night (sunset to sunrise)
- RFI night (roughly 10pm-6am local time)
- Thermal night (3 hours after sunset to sunrise)

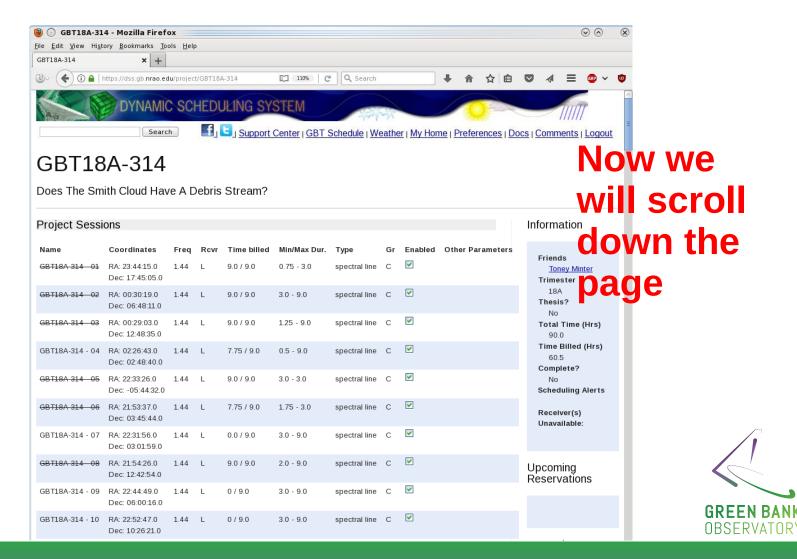
Transit

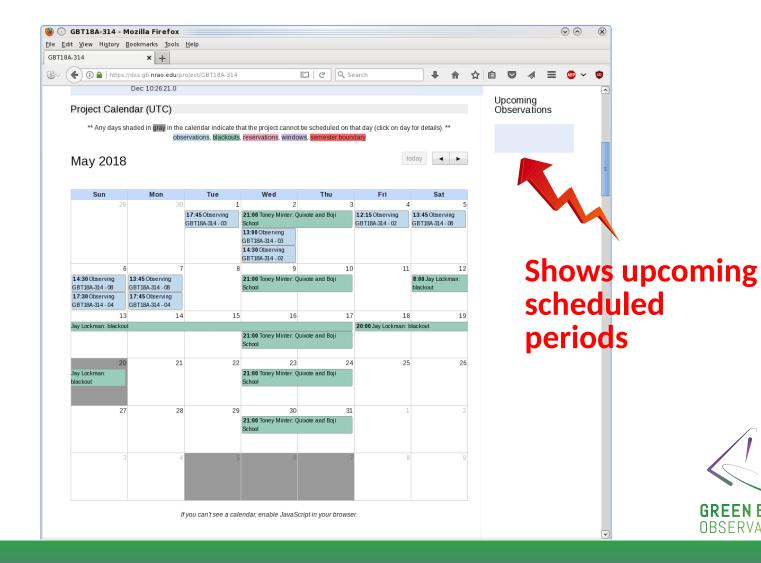
Source must transit when scheduled

Keyhole

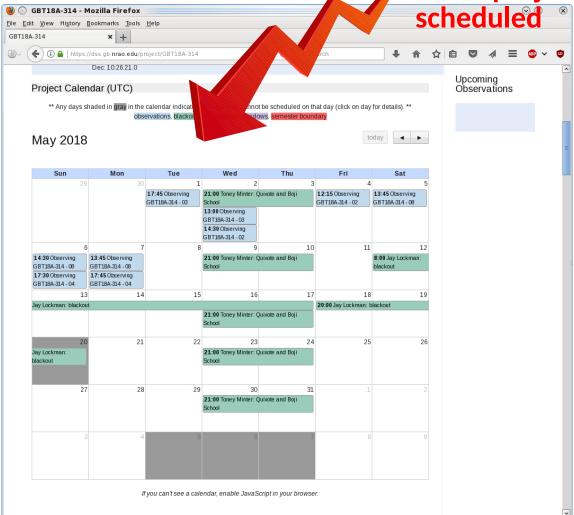
- At high elevations telescope can not move fast enough in Azimuth to keep up with source moving across sky
- Avoid scheduling session if in keyhole





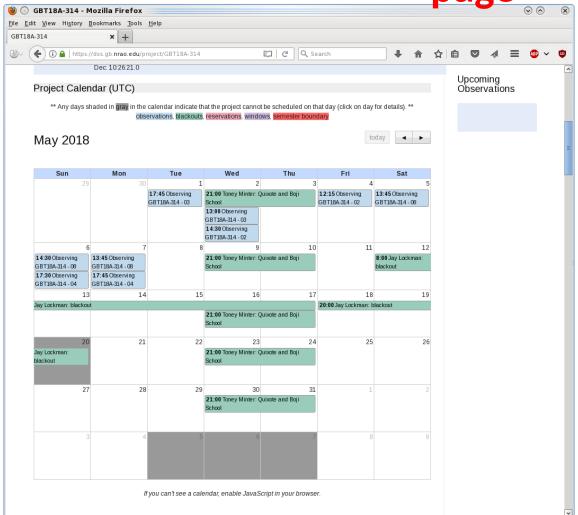


A calendar showing blackouts, scheduled sessions and periods when project can not be





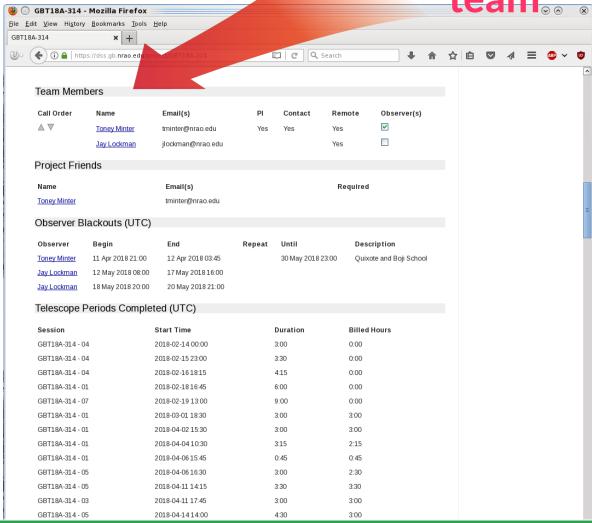
Now we will scroll down the page





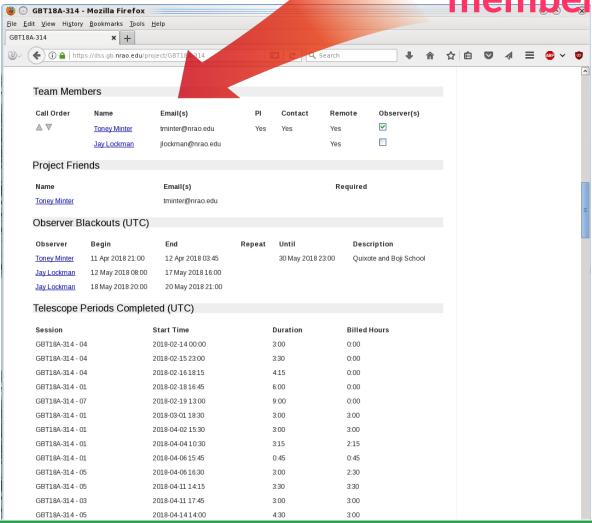


The members of your project team



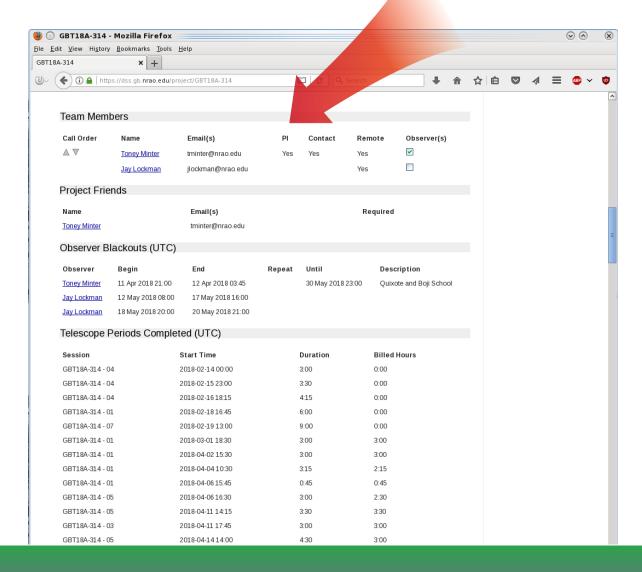


Emails of project team members





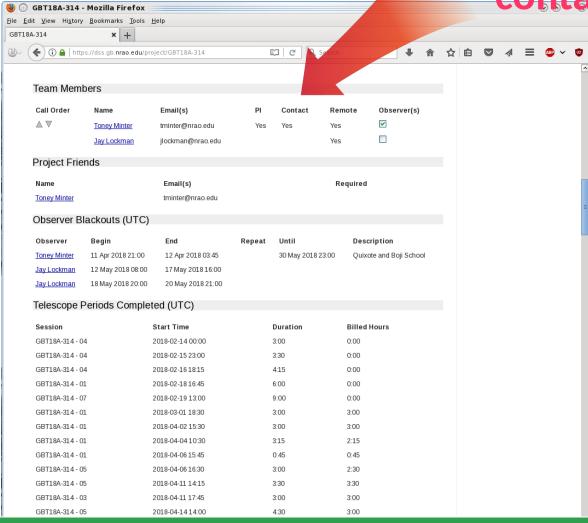
Which one is the PI





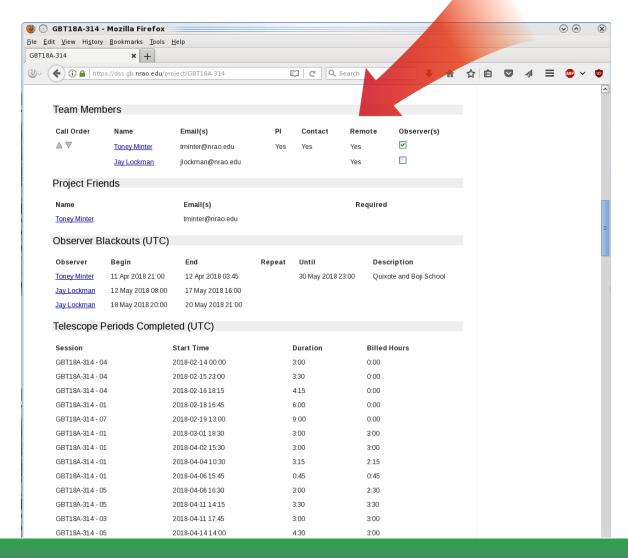


Who should always be contacted





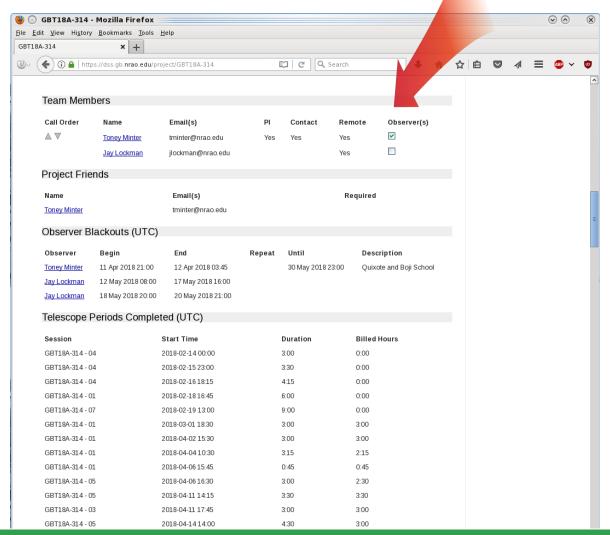
Are they allowed to observe remotely





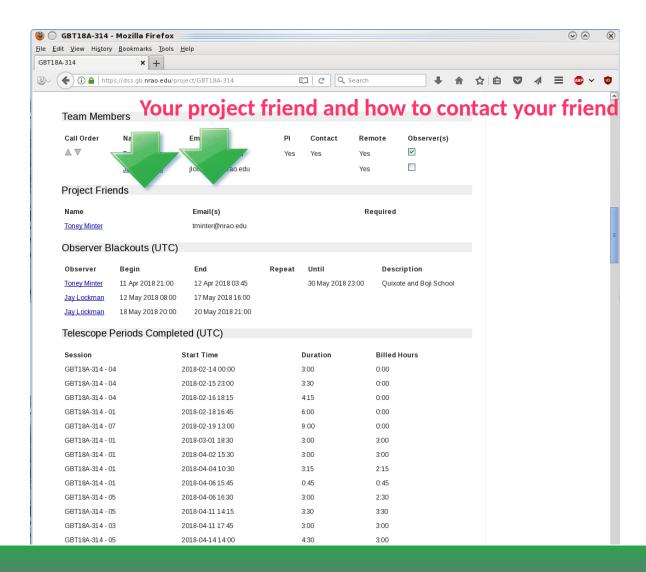


Must have at least one observer checked to be considered for scheduling

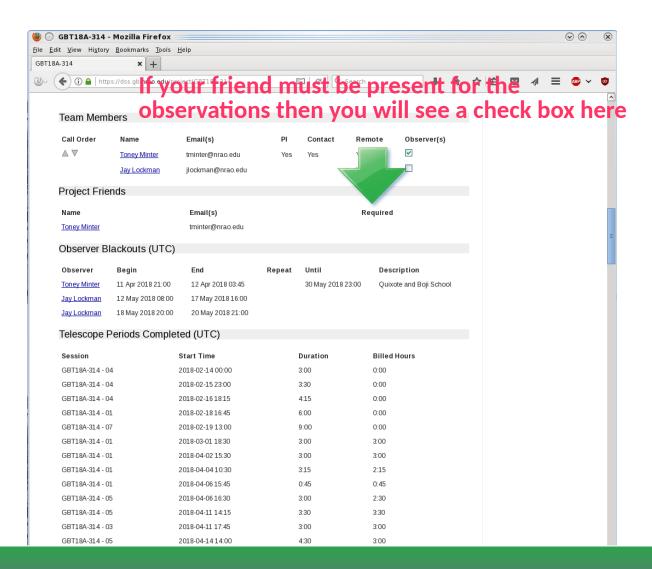






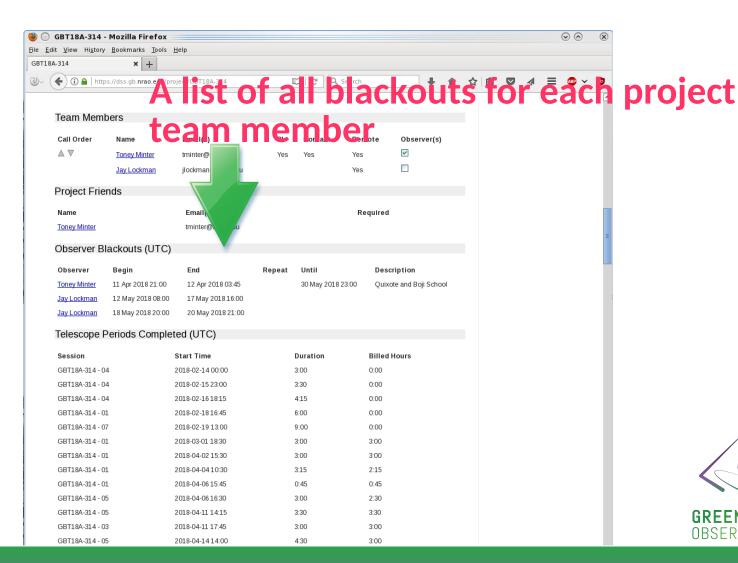












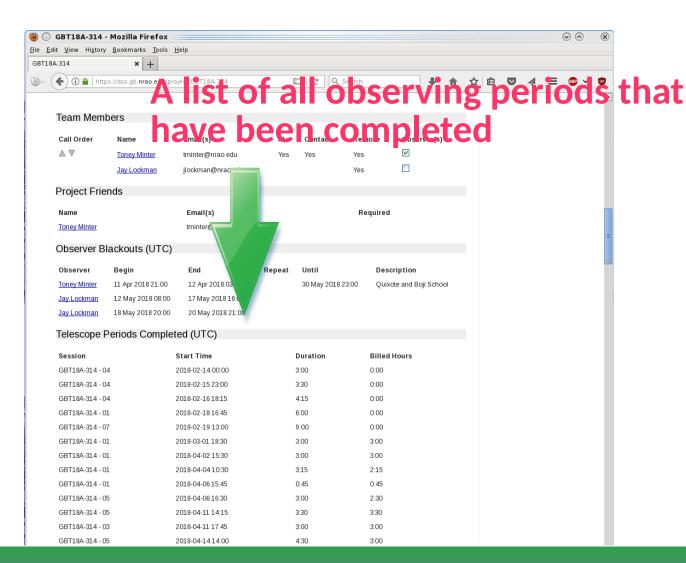




We can "turn on" blackouts for the entire project team

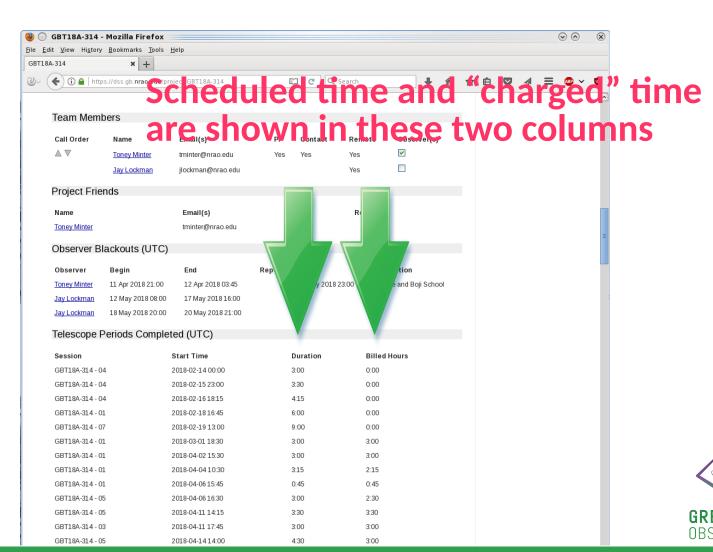


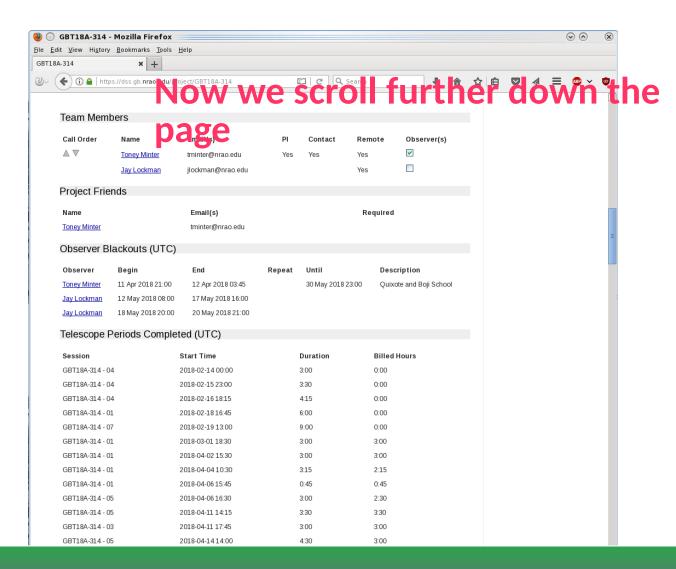
















DSS Project Page For monitoring projects with observing windows

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Session	Window Start Date	Window Last Date	Time (Hrs)	Billed (Hrs)	Complete?
36331011	William Start Date	Willdow Last Date	Time (ms)	billed (HIS)	Complete
GBT18A-996 - 11	June 9, 2018	June 11, 2018	1.0	0.0	
GBT18A-996 - 11	June 14, 2018	June 16, 2018	1.0	0.0	
GBT18A-996 - 11	June 23, 2018	June 25, 2018	1.0	0.0	
GBT18A-996 - 05	June 25, 2018	July 1, 2018	3.0	0.0	
GBT18A-996 - 07	June 25, 2018	July 1, 2018	4.5	0.0	
GBT18A-996 - 01	June 25, 2018	July 1, 2018	5.5	0.0	
GBT18A-996 - 06	June 26, 2018	July 2, 2018	3.0	0.0	
GBT18A-996 - 09	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 08	June 26, 2018	July 2, 2018	4.5	0.0	
GBT18A-996 - 02	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 10	June 27, 2018	July 3, 2018	5.5	0.0	
GBT18A-996 - 04	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 03	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 11	July 7, 2018	July 9, 2018	1.0	0.0	
GBT18A-996 - 11	July 14, 2018	July 16, 2018	1.0	0.0	
GBT18A-996 - 11	July 21, 2018	July 23, 2018	1.0	0.0	
GBT18A-996 - 11	July 27, 2018	July 29, 2018	1.0	0.0	





The session that the window is for

Upcoming Windows						
Session	Window Start Date	Window Last Date	Time (Hrs)	Billed (Hrs)	Complete?	
GBT18A-996 - 11	June 9, 2018	June 11, 2018	1.0	0.0		
GBT18A-996 - 11	June 14, 2018	June 16, 2018	1.0	0.0		
GBT18A-996 - 11	June 23, 2018	June 25, 2018	1.0	0.0		
GBT18A-996 - 05	June 25, 2018	July 1, 2018	3.0	0.0		
GBT18A-996 - 07	June 25, 2018	July 1, 2018	4.5	0.0		
GBT18A-996 - 01	June 25, 2018	July 1, 2018	5.5	0.0		
GBT18A-996 - 06	June 26, 2018	July 2, 2018	3.0	0.0		
GBT18A-996 - 09	June 26, 2018	July 2, 2018	5.5	0.0		
GBT18A-996 - 08	June 26, 2018	July 2, 2018	4.5	0.0		
GBT18A-996 - 02	June 26, 2018	July 2, 2018	5.5	0.0		
GBT18A-996 - 10	June 27, 2018	July 3, 2018	5.5	0.0		
GBT18A-996 - 04	June 28, 2018	July 4, 2018	2.5	0.0		
GBT18A-996 - 03	June 28, 2018	July 4, 2018	2.5	0.0		
GBT18A-996 - 11	July 7, 2018	July 9, 2018	1.0	0.0		
GBT18A-996 - 11	July 14, 2018	July 16, 2018	1.0	0.0		
GBT18A-996 - 11	July 21, 2018	July 23, 2018	1.0	0.0		
GBT18A-996 - 11	July 27, 2018	July 29, 2018	1.0	0.0		





The start date for the window

Upcoming Windows

Session	Window Start Date	Window Last Date	Time (Hrs)	Billed (Hrs)	Complete?
GBT18A-996 - 11	June 9, 2018	June 11, 2018	1.0	0.0	
GBT18A-996 - 11	June 14, 2018	June 16, 2018	1.0	0.0	
GBT18A-996 - 11	June 23, 2018	June 25, 2018	1.0	0.0	
GBT18A-996 - 05	June 25, 2018	July 1, 2018	3.0	0.0	
GBT18A-996 - 07	June 25, 2018	July 1, 2018	4.5	0.0	
GBT18A-996 - 01	June 25, 2018	July 1, 2018	5.5	0.0	
GBT18A-996 - 06	June 26, 2018	July 2, 2018	3.0	0.0	
GBT18A-996 - 09	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 08	June 26, 2018	July 2, 2018	4.5	0.0	
GBT18A-996 - 02	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 10	June 27, 2018	July 3, 2018	5.5	0.0	
GBT18A-996 - 04	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 03	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 11	July 7, 2018	July 9, 2018	1.0	0.0	
GBT18A-996 - 11	July 14, 2018	July 16, 2018	1.0	0.0	
GBT18A-996 - 11	July 21, 2018	July 23, 2018	1.0	0.0	
GBT18A-996 - 11	July 27, 2018	July 29, 2018	1.0	0.0	





The end date for the window

Upcoming Windows

Session	Window Start Date	Window Last Date	Time (Hrs)	Billed (Hrs)	Complete?
GBT18A-996 - 11	June 9, 2018	June 11, 2018	1.0	0.0	
GBT18A-996 - 11	June 14, 2018	June 16, 2018	1.0	0.0	
GBT18A-996 - 11	June 23, 2018	June 25, 2018	1.0	0.0	
GBT18A-996 - 05	June 25, 2018	July 1, 2018	3.0	0.0	
GBT18A-996 - 07	June 25, 2018	July 1, 2018	4.5	0.0	
GBT18A-996 - 01	June 25, 2018	July 1, 2018	5.5	0.0	
GBT18A-996 - 06	June 26, 2018	July 2, 2018	3.0	0.0	
GBT18A-996 - 09	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 08	June 26, 2018	July 2, 2018	4.5	0.0	
GBT18A-996 - 02	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 10	June 27, 2018	July 3, 2018	5.5	0.0	
GBT18A-996 - 04	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 03	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 11	July 7, 2018	July 9, 2018	1.0	0.0	
GBT18A-996 - 11	July 14, 2018	July 16, 2018	1.0	0.0	
GBT18A-996 - 11	July 21, 2018	July 23, 2018	1.0	0.0	
GBT18A-996 - 11	July 27, 2018	July 29, 2018	1.0	0.0	





The length of the observing session

Upcoming Wind	Upcoming Windows						
Session	Window Start Date	Window Last Date	Time (Hrs)	Billed (Hrs)	Complete?		
GBT18A-996 - 11	June 9, 2018	June 11, 2018	1.0	0.0			
GBT18A-996 - 11	June 14, 2018	June 16, 2018	1.0	0.0			
GBT18A-996 - 11	June 23, 2018	June 25, 2018	1.0	0.0			
GBT18A-996 - 05	June 25, 2018	July 1, 2018	3.0	0.0			
GBT18A-996 - 07	June 25, 2018	July 1, 2018	4.5	0.0			
GBT18A-996 - 01	June 25, 2018	July 1, 2018	5.5	0.0			
GBT18A-996 - 06	June 26, 2018	July 2, 2018	3.0	0.0			
GBT18A-996 - 09	June 26, 2018	July 2, 2018	5.5	0.0			
GBT18A-996 - 08	June 26, 2018	July 2, 2018	4.5	0.0			
GBT18A-996 - 02	June 26, 2018	July 2, 2018	5.5	0.0			
GBT18A-996 - 10	June 27, 2018	July 3, 2018	5.5	0.0			
GBT18A-996 - 04	June 28, 2018	July 4, 2018	2.5	0.0			
GBT18A-996 - 03	June 28, 2018	July 4, 2018	2.5	0.0			
GBT18A-996 - 11	July 7, 2018	July 9, 2018	1.0	0.0			
GBT18A-996 - 11	July 14, 2018	July 16, 2018	1.0	0.0			
GBT18A-996 - 11	July 21, 2018	July 23, 2018	1.0	0.0			
GBT18A-996 - 11	July 27, 2018	July 29, 2018	1.0	0.0			





The time billed

Upcoming Windows						
Session	Window Start Date	Window Last Date	Time (Hrs)	Billed (Hrs)	Complete?	
GBT18A-996 - 11	June 9, 2018	June 11, 2018	1.0	0.0		
GBT18A-996 - 11	June 14, 2018	June 16, 2018	1.0	0.0		
GBT18A-996 - 11	June 23, 2018	June 25, 2018	1.0	0.0		
GBT18A-996 - 05	June 25, 2018	July 1, 2018	3.0	0.0		
GBT18A-996 - 07	June 25, 2018	July 1, 2018	4.5	0.0		
GBT18A-996 - 01	June 25, 2018	July 1, 2018	5.5	0.0		
GBT18A-996 - 06	June 26, 2018	July 2, 2018	3.0	0.0		
GBT18A-996 - 09	June 26, 2018	July 2, 2018	5.5	0.0		
GBT18A-996 - 08	June 26, 2018	July 2, 2018	4.5	0.0		
GBT18A-996 - 02	June 26, 2018	July 2, 2018	5.5	0.0		
GBT18A-996 - 10	June 27, 2018	July 3, 2018	5.5	0.0		
GBT18A-996 - 04	June 28, 2018	July 4, 2018	2.5	0.0		
GBT18A-996 - 03	June 28, 2018	July 4, 2018	2.5	0.0		
GBT18A-996 - 11	July 7, 2018	July 9, 2018	1.0	0.0		
GBT18A-996 - 11	July 14, 2018	July 16, 2018	1.0	0.0		
GBT18A-996 - 11	July 21, 2018	July 23, 2018	1.0	0.0		
GBT18A-996 - 11	July 27, 2018	July 29, 2018	1.0	0.0		





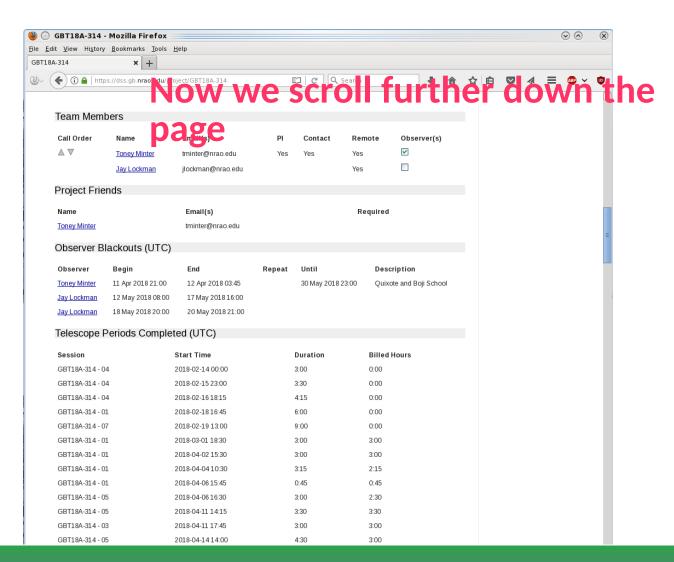
Have the observations been completed

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Session	Window Start Date	Window Last Date	Time (Hrs)	Billed (Hrs)	Complete?
GBT18A-996 - 11	June 9, 2018	June 11, 2018	1.0	0.0	
GBT18A-996 - 11	June 14, 2018	June 16, 2018	1.0	0.0	
GBT18A-996 - 11	June 23, 2018	June 25, 2018	1.0	0.0	
GBT18A-996 - 05	June 25, 2018	July 1, 2018	3.0	0.0	
GBT18A-996 - 07	June 25, 2018	July 1, 2018	4.5	0.0	
GBT18A-996 - 01	June 25, 2018	July 1, 2018	5.5	0.0	
GBT18A-996 - 06	June 26, 2018	July 2, 2018	3.0	0.0	
GBT18A-996 - 09	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 08	June 26, 2018	July 2, 2018	4.5	0.0	
GBT18A-996 - 02	June 26, 2018	July 2, 2018	5.5	0.0	
GBT18A-996 - 10	June 27, 2018	July 3, 2018	5.5	0.0	
GBT18A-996 - 04	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 03	June 28, 2018	July 4, 2018	2.5	0.0	
GBT18A-996 - 11	July 7, 2018	July 9, 2018	1.0	0.0	
GBT18A-996 - 11	July 14, 2018	July 16, 2018	1.0	0.0	
GBT18A-996 - 11	July 21, 2018	July 23, 2018	1.0	0.0	
GBT18A-996 - 11	July 27, 2018	July 29, 2018	1.0	0.0	

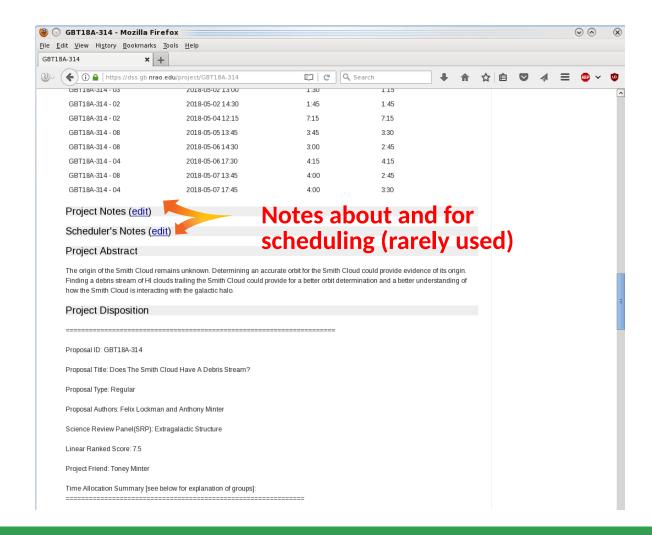






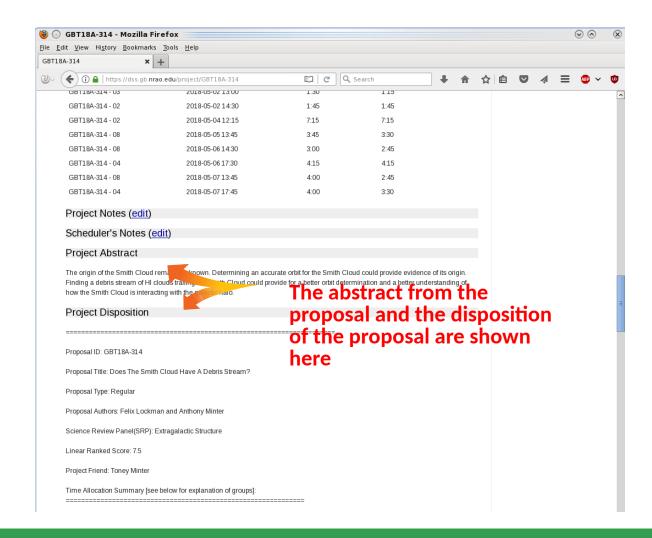
















Making changes to DSS parameters

- We are happy to help make the appropriate changes to parameters in the DSS
- You can also request to add a new person to the project team list
- Just send an email to your project friend and Toney Minter







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