The GBT Dynamic Scheduling System

Toney Minter

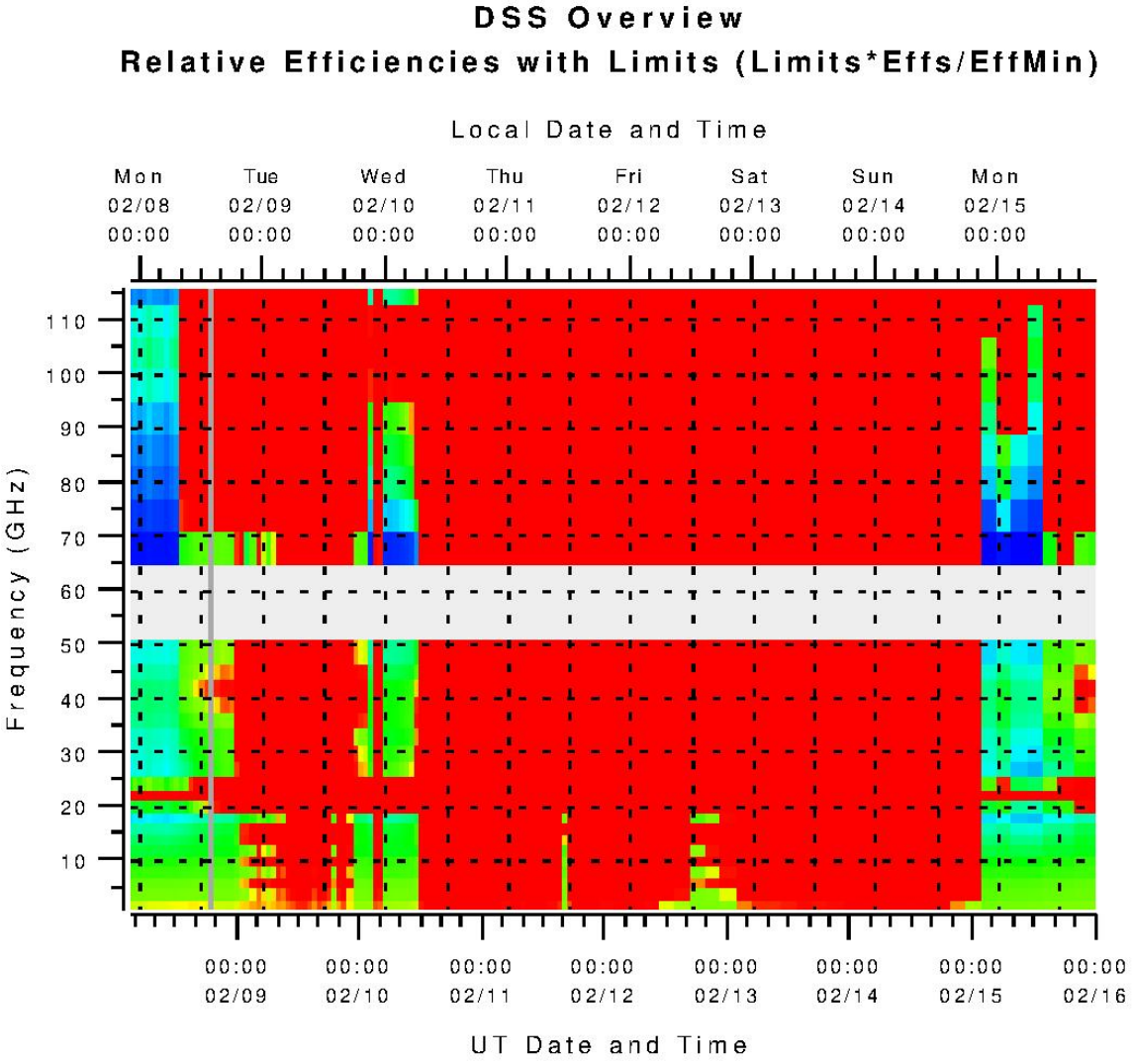
GREEN BANK OBSERVATORY

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

GREEN BANK OBSERVATORY

Dynamic Scheduling System (DSS)

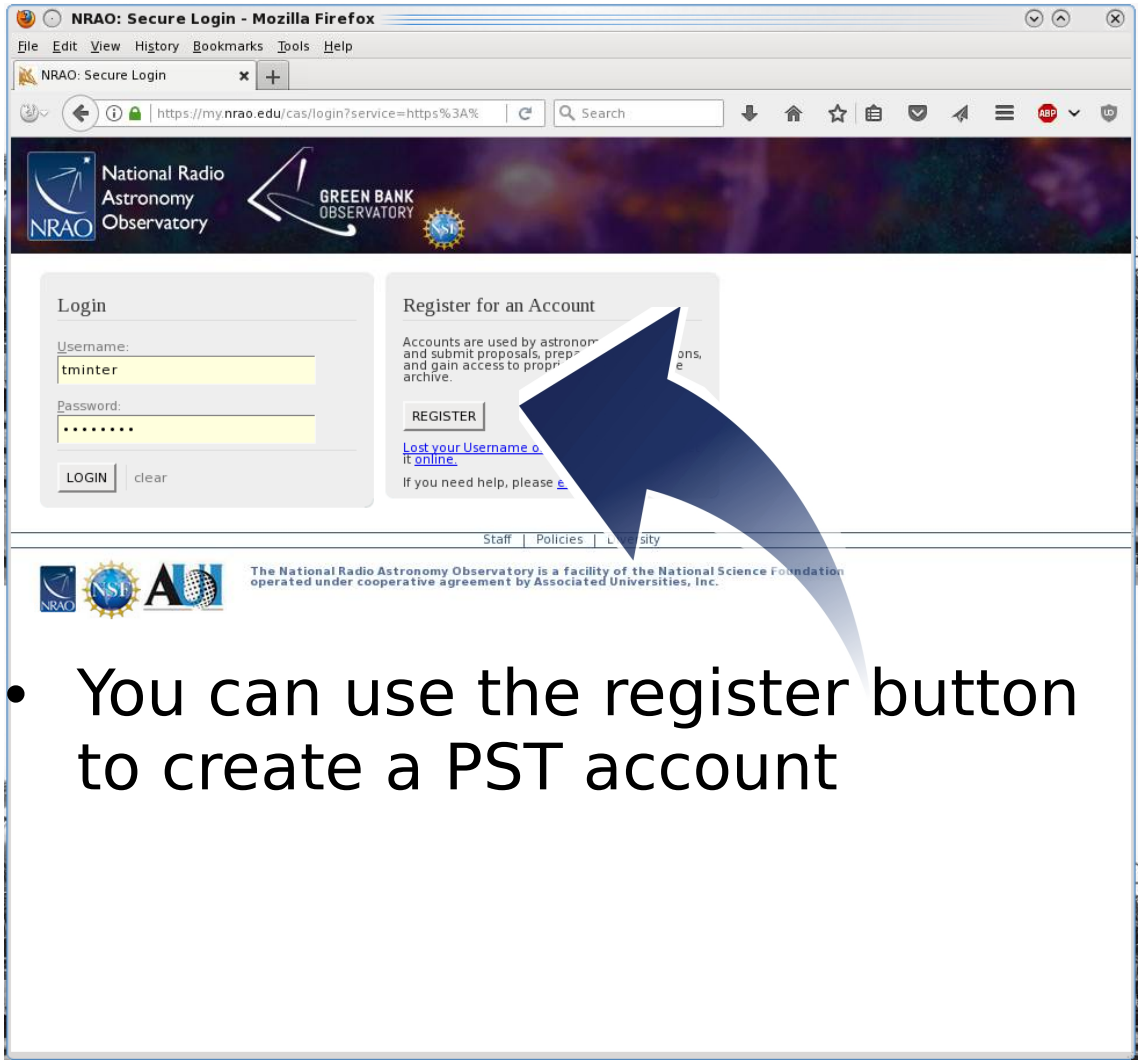


GREEN BANK OBSERVATORY

Logging into the DSS

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

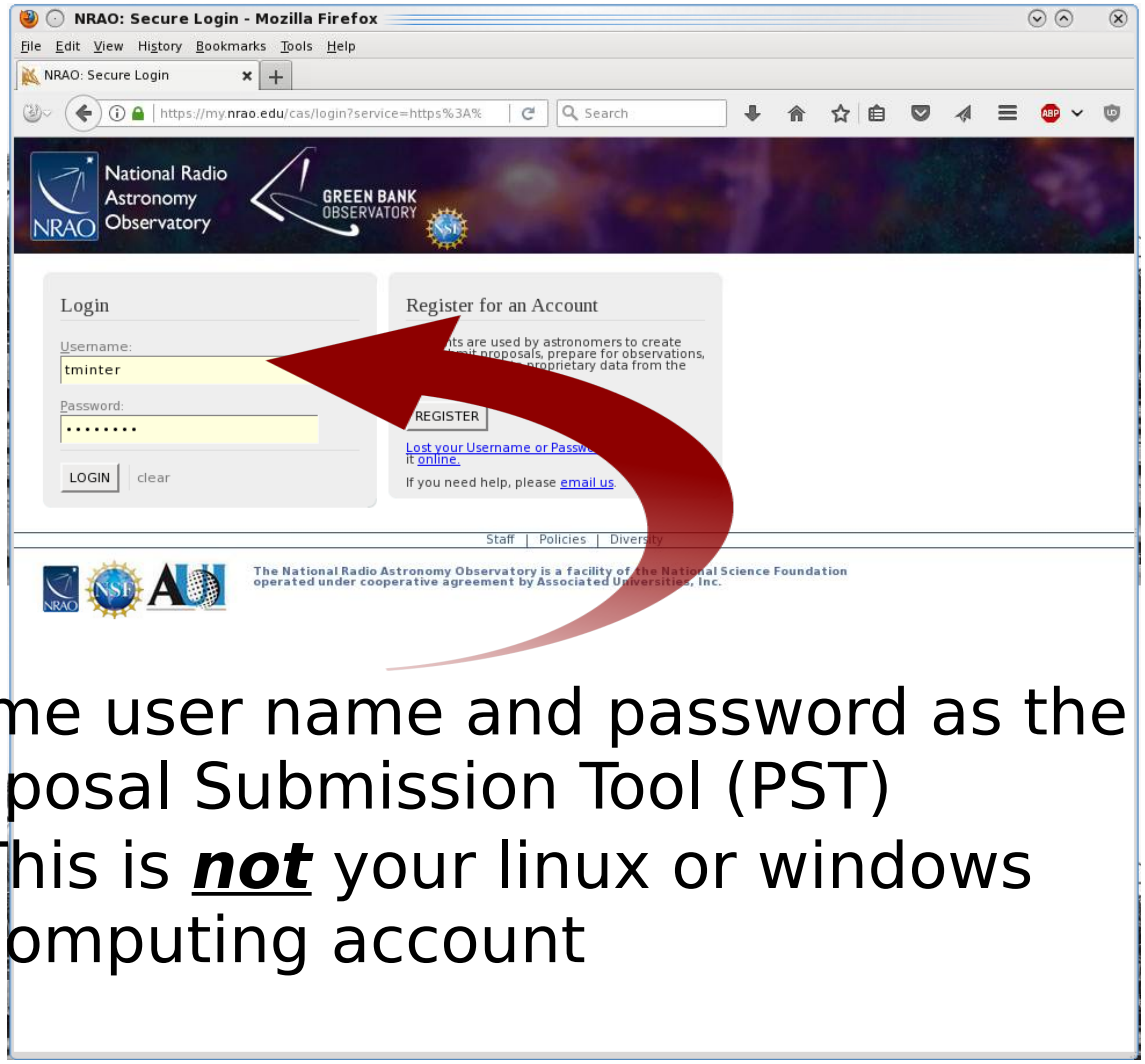
Dynamic Scheduling System



- You can use the register button to create a PST account

GREEN BANK OBSERVATORY

Dynamic Scheduling System

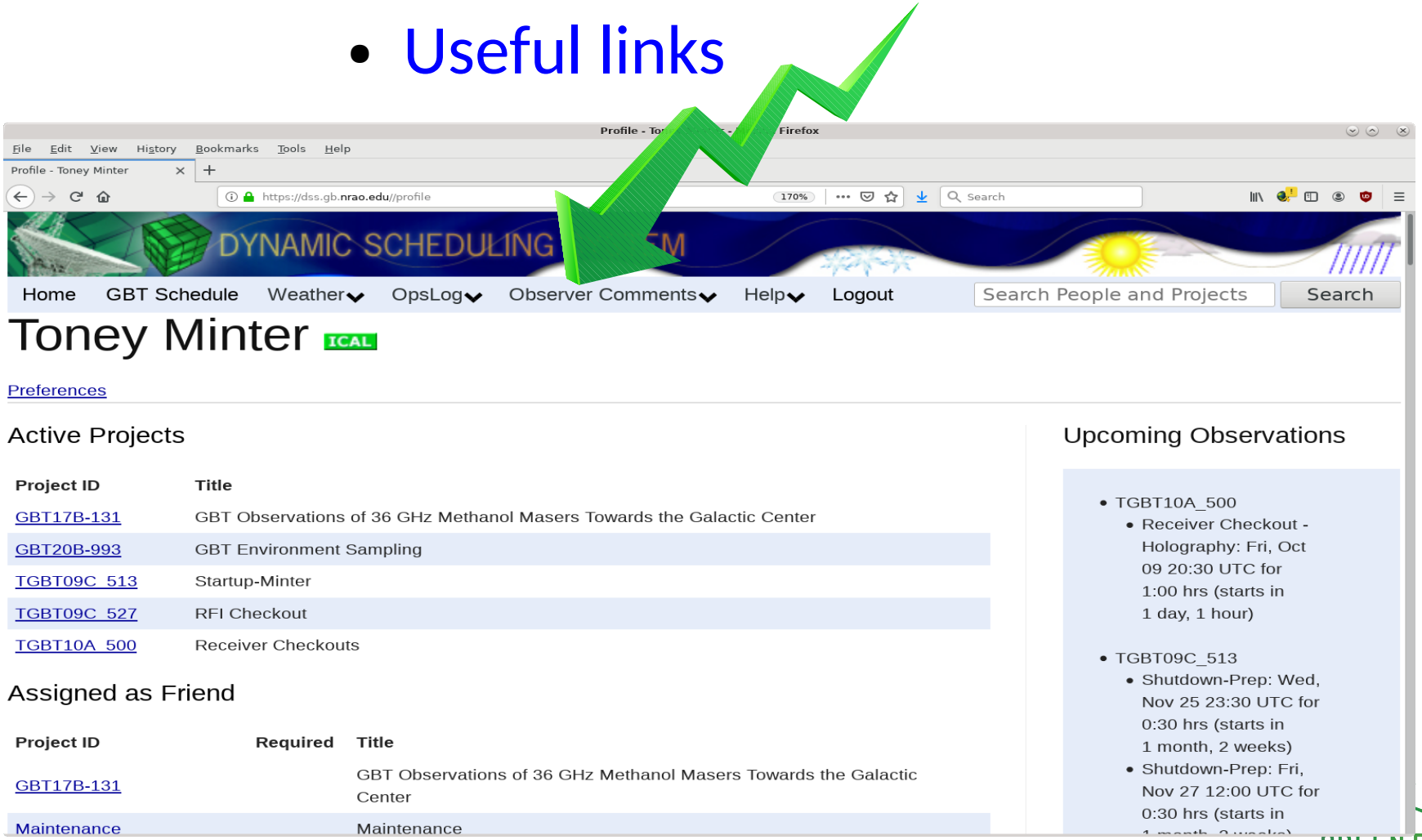


- Same user name and password as the Proposal Submission Tool (PST)
  - This is ***not*** your linux or windows computing account

GREEN BANK OBSERVATORY

DSS Profile Page

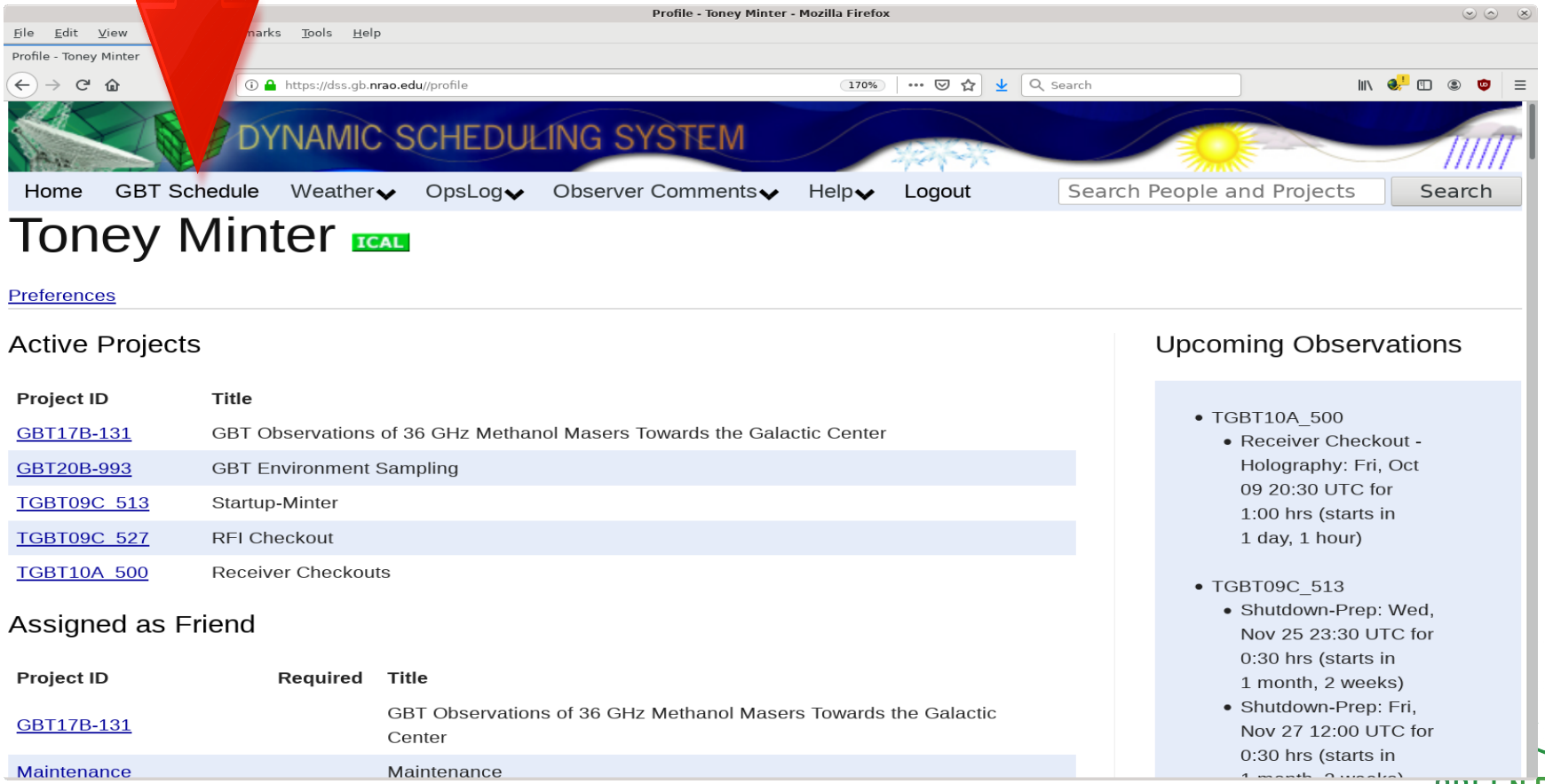
- Useful links



GREEN BANK OBSERVATORY

DSS Profile Page

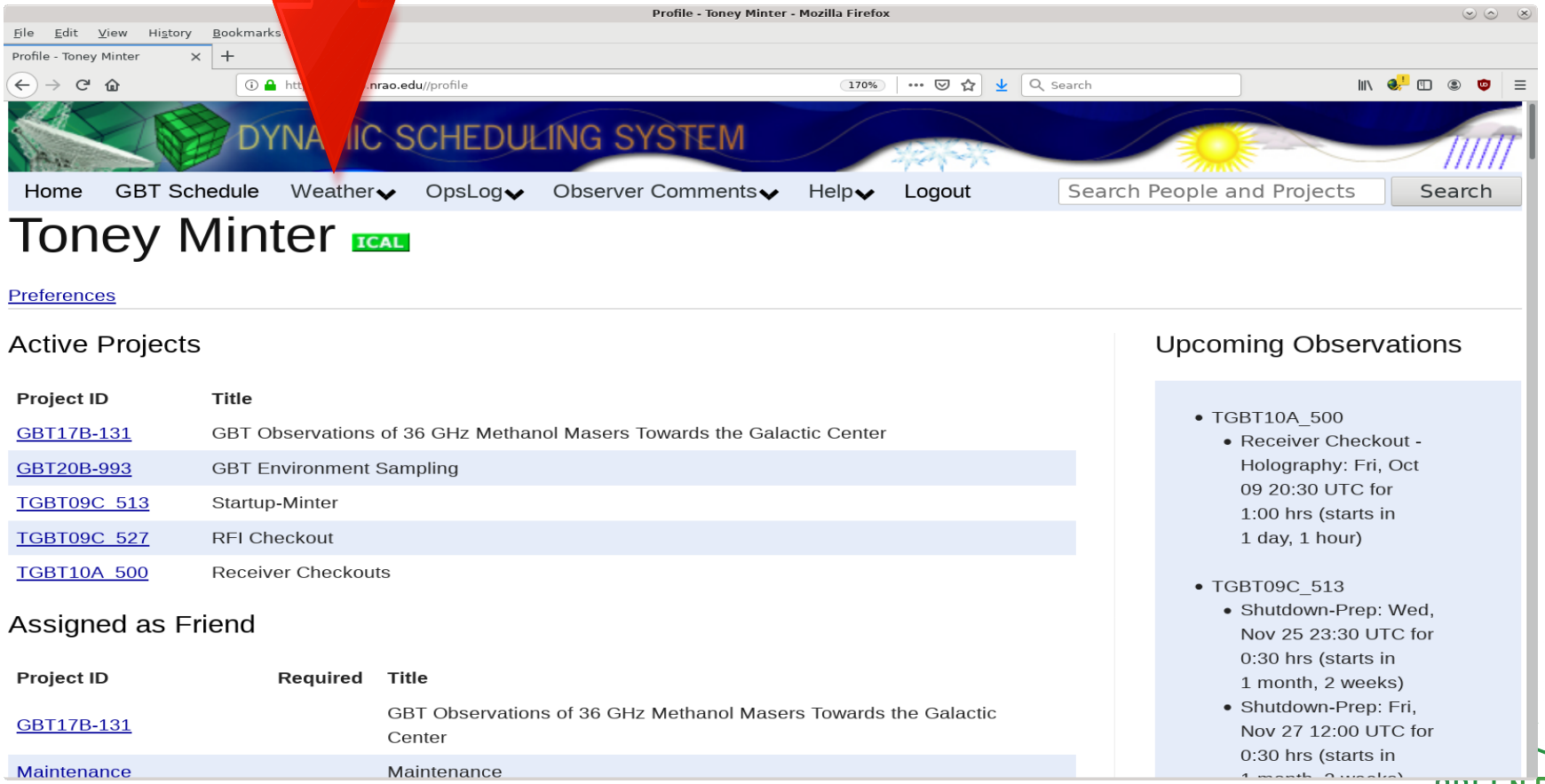
See the GBT observing schedule



GREEN BANK OBSERVATORY

DSS Profile Page

Weather forecasts used to schedule the GBT

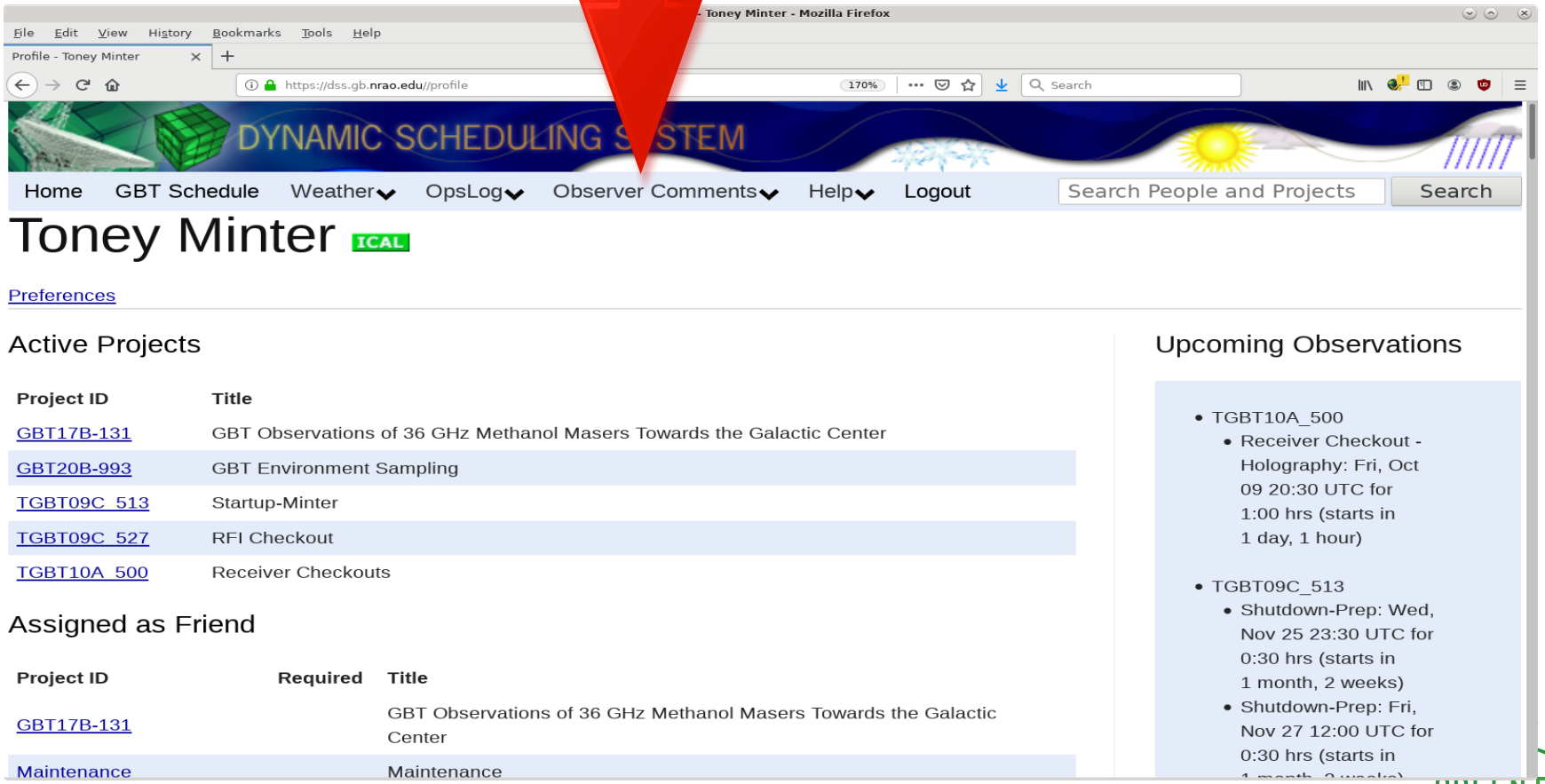


GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Profile Page

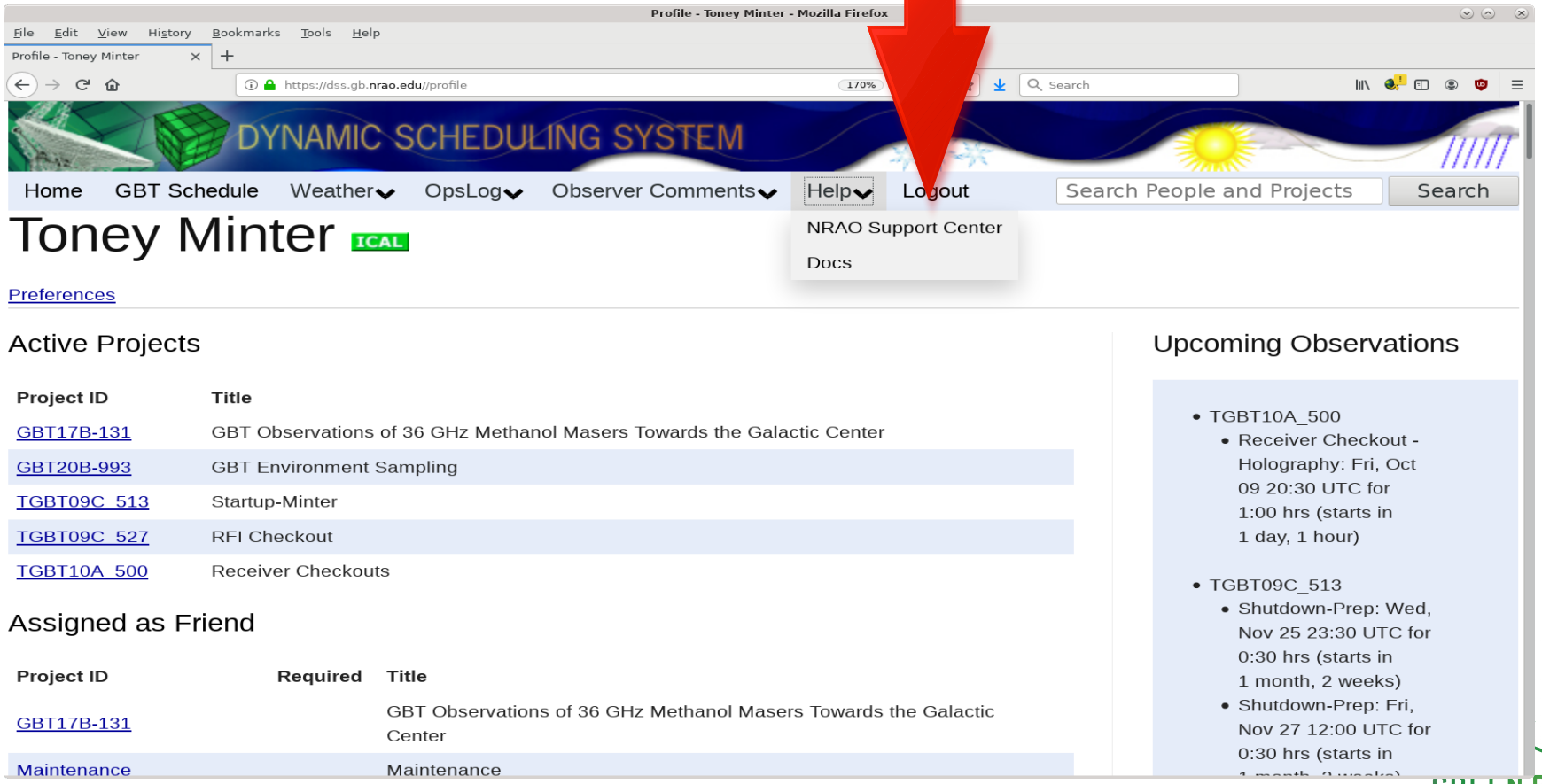
Submit comments about your observing experience



GREEN BANK OBSERVATORY

DSS Profile Page

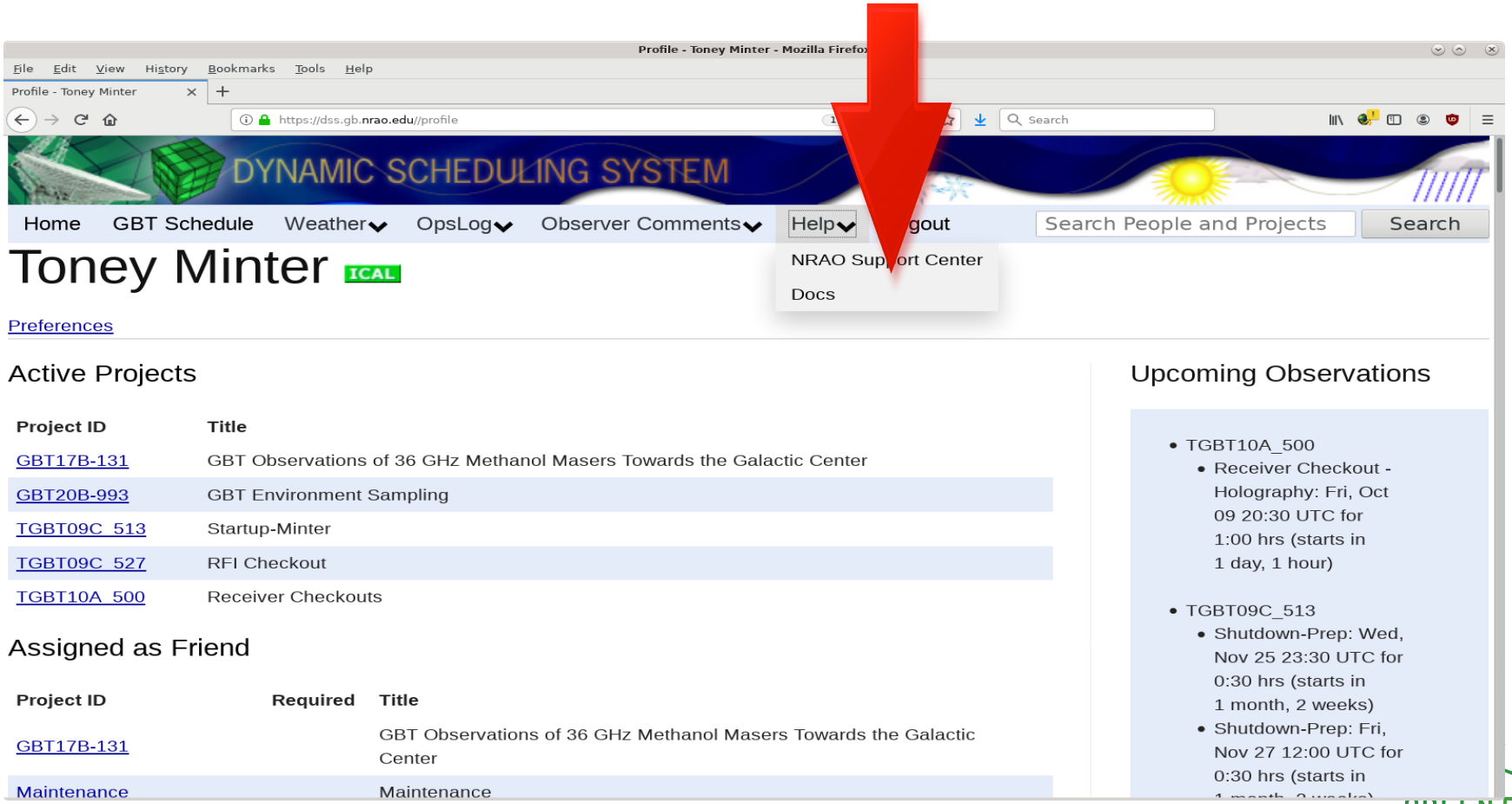
Use the helpdesk



GREEN BANK OBSERVATORY

DSS Profile Page

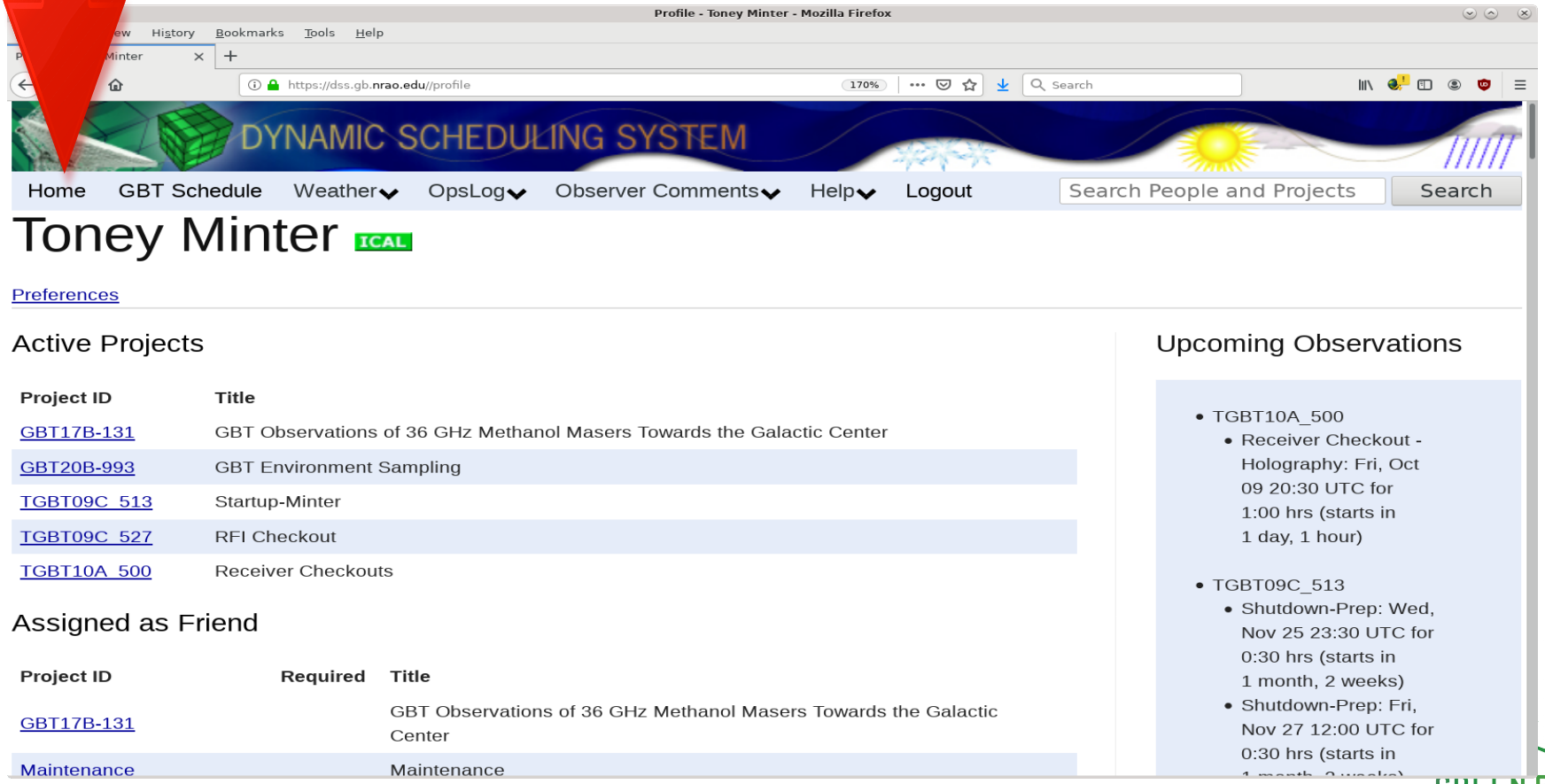
Who reads the documentation?



GREEN BANK OBSERVATORY

DSS Profile Page

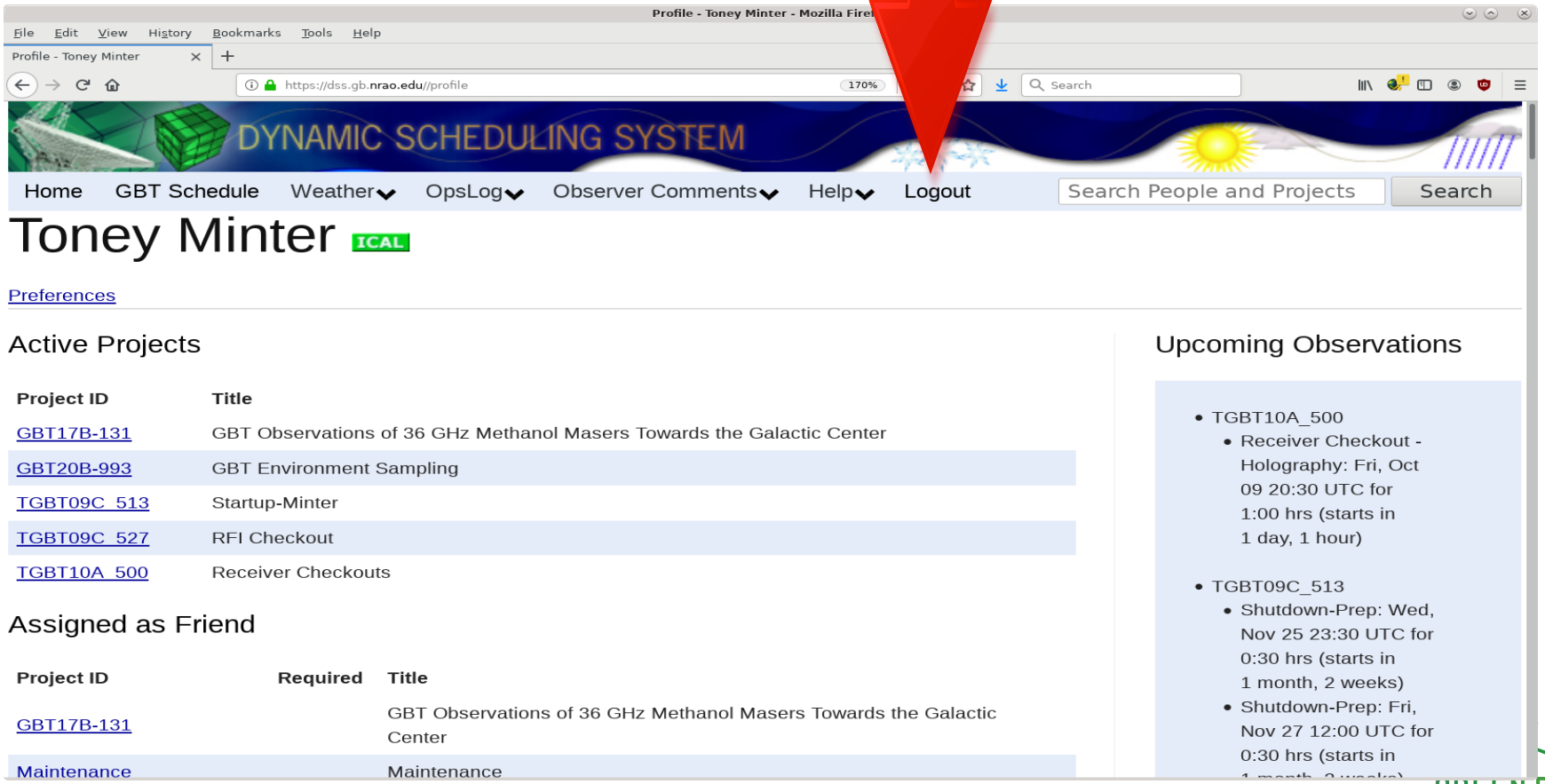
Brings you back to this page



GREEN BANK OBSERVATORY

DSS Profile Page

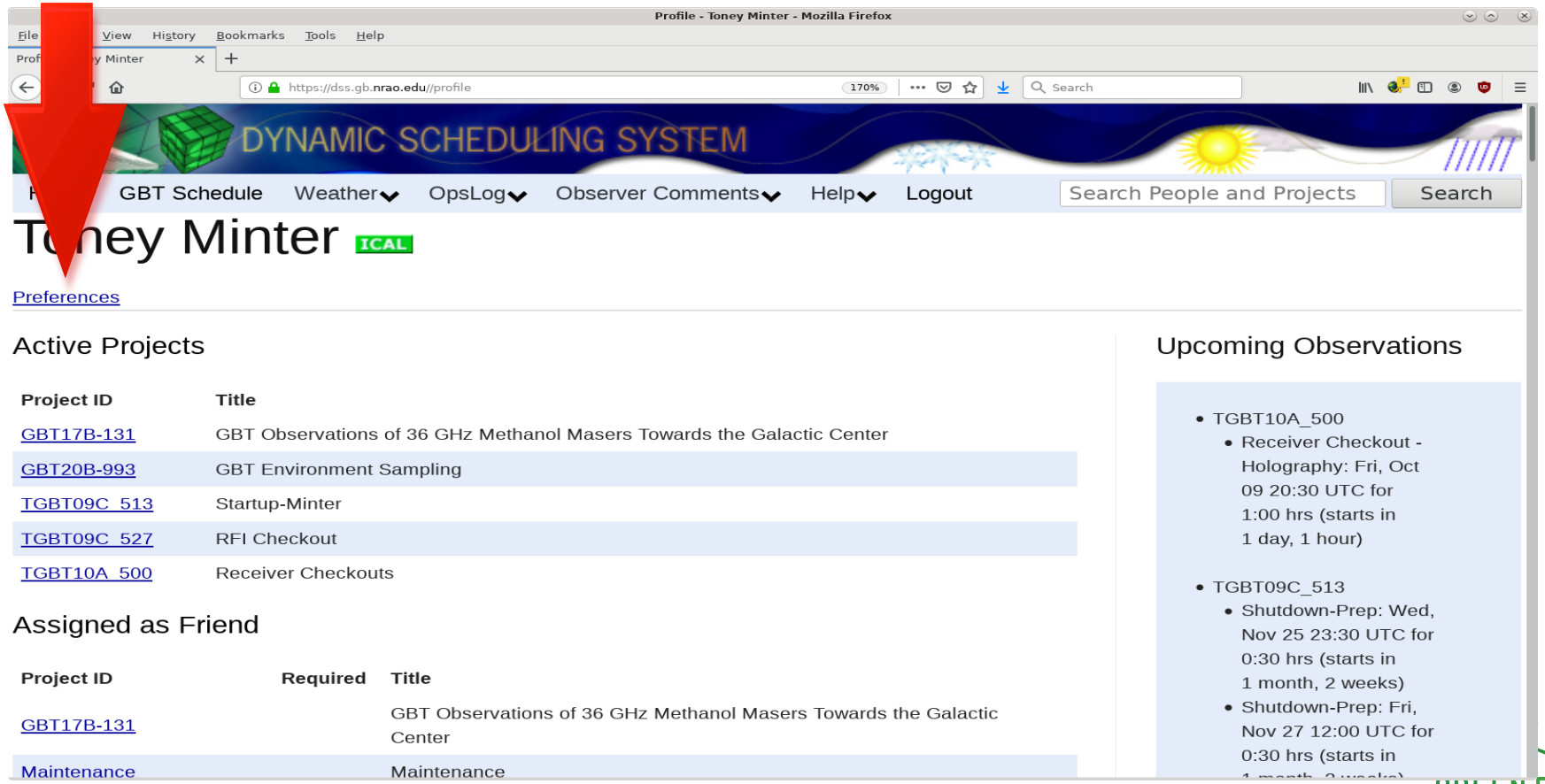
Logout of the DSS



GREEN BANK OBSERVATORY

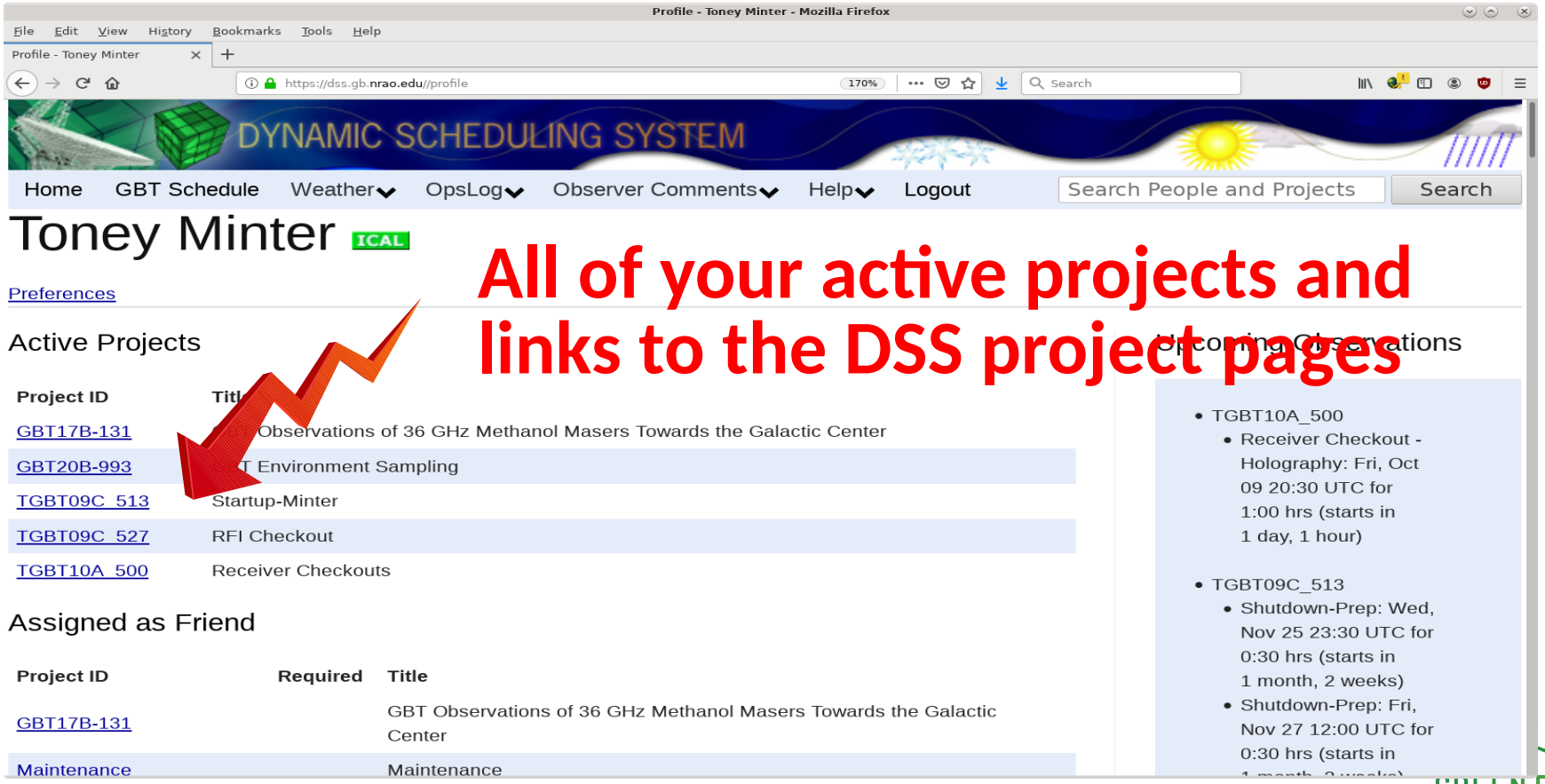
DSS Profile Page

Change your preferences



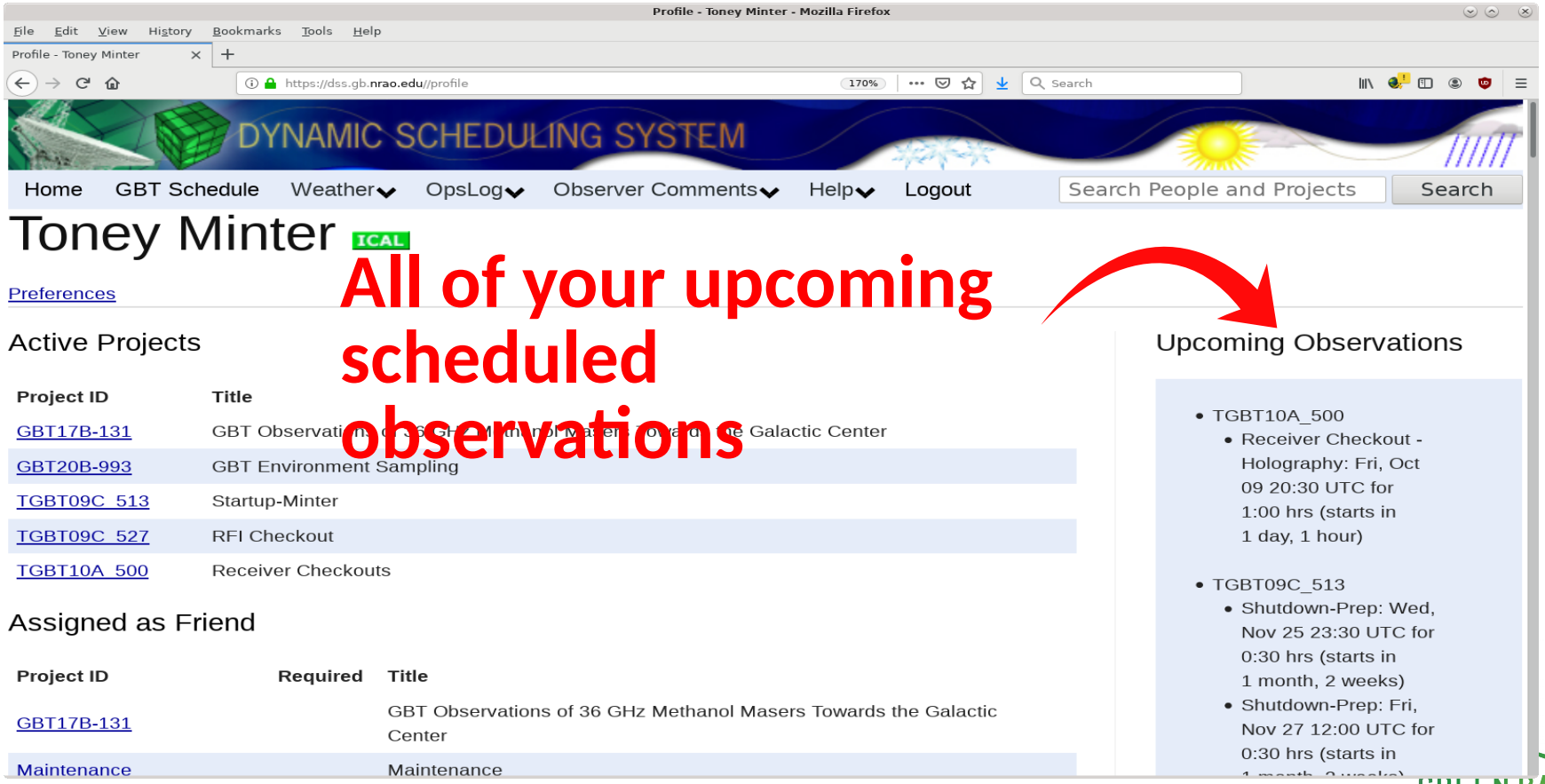
GREEN BANK OBSERVATORY

DSS Profile Page



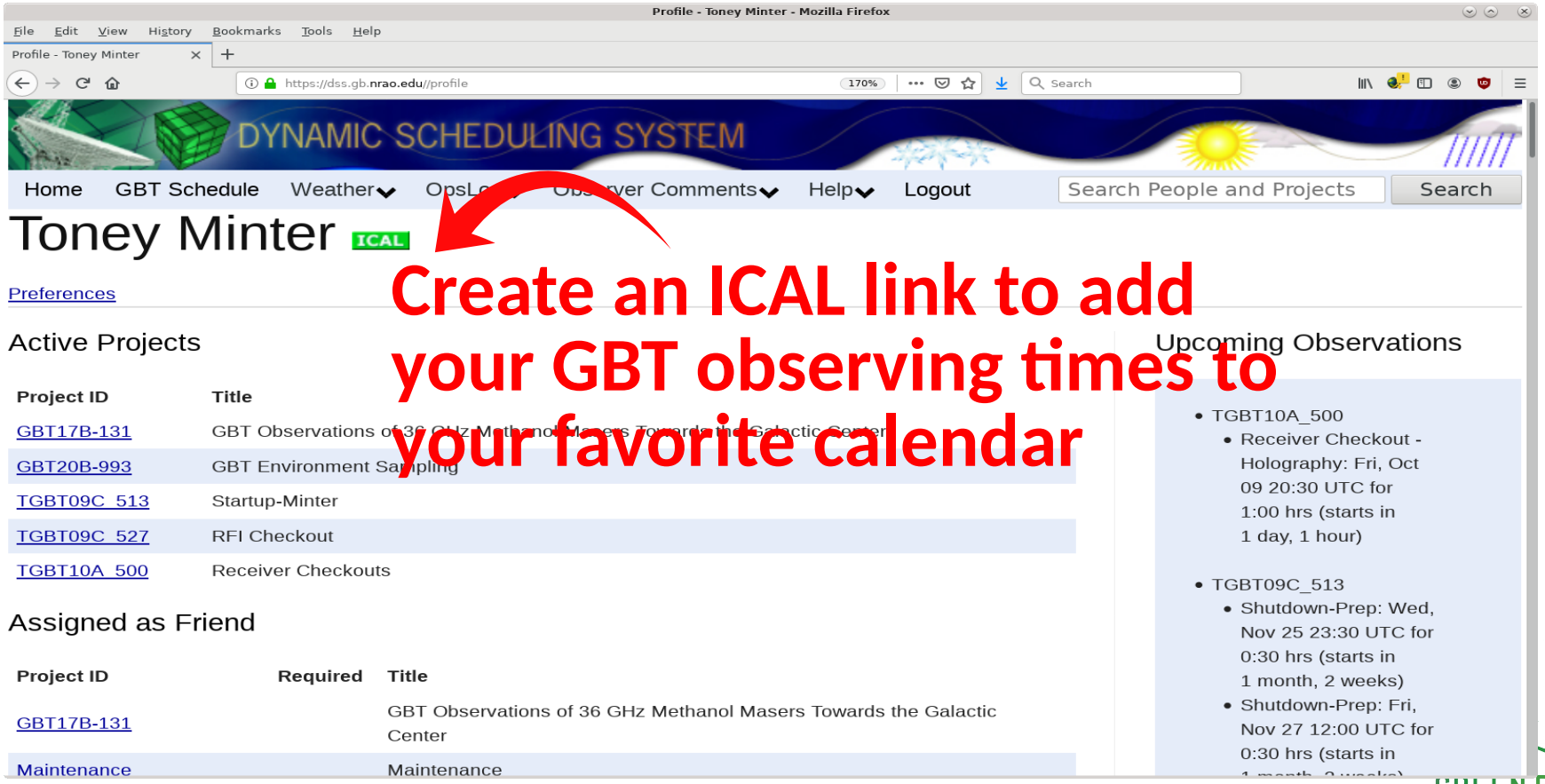
GREEN BANK OBSERVATORY

DSS Profile Page



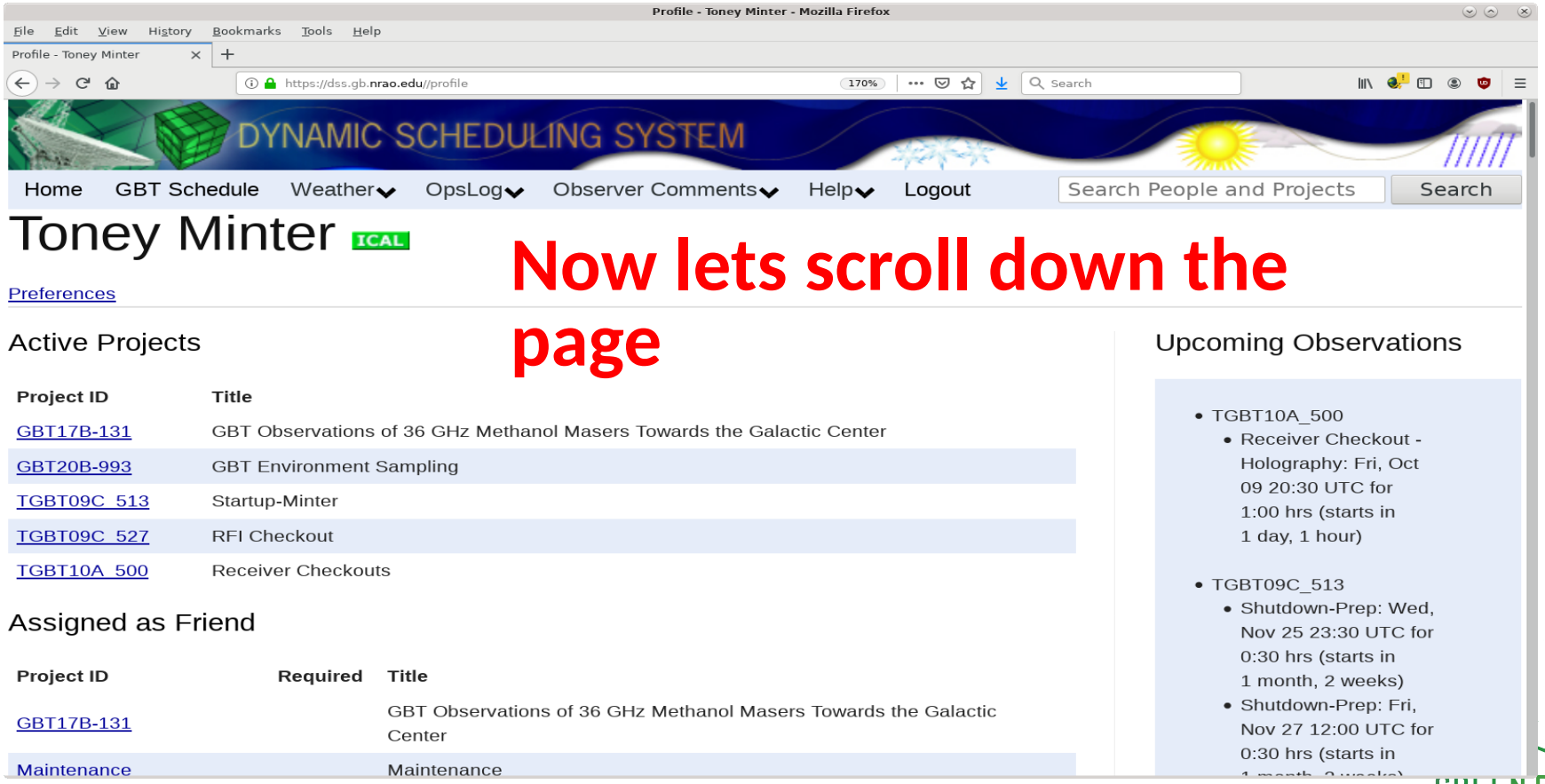
GREEN BANK OBSERVATORY

DSS Profile Page



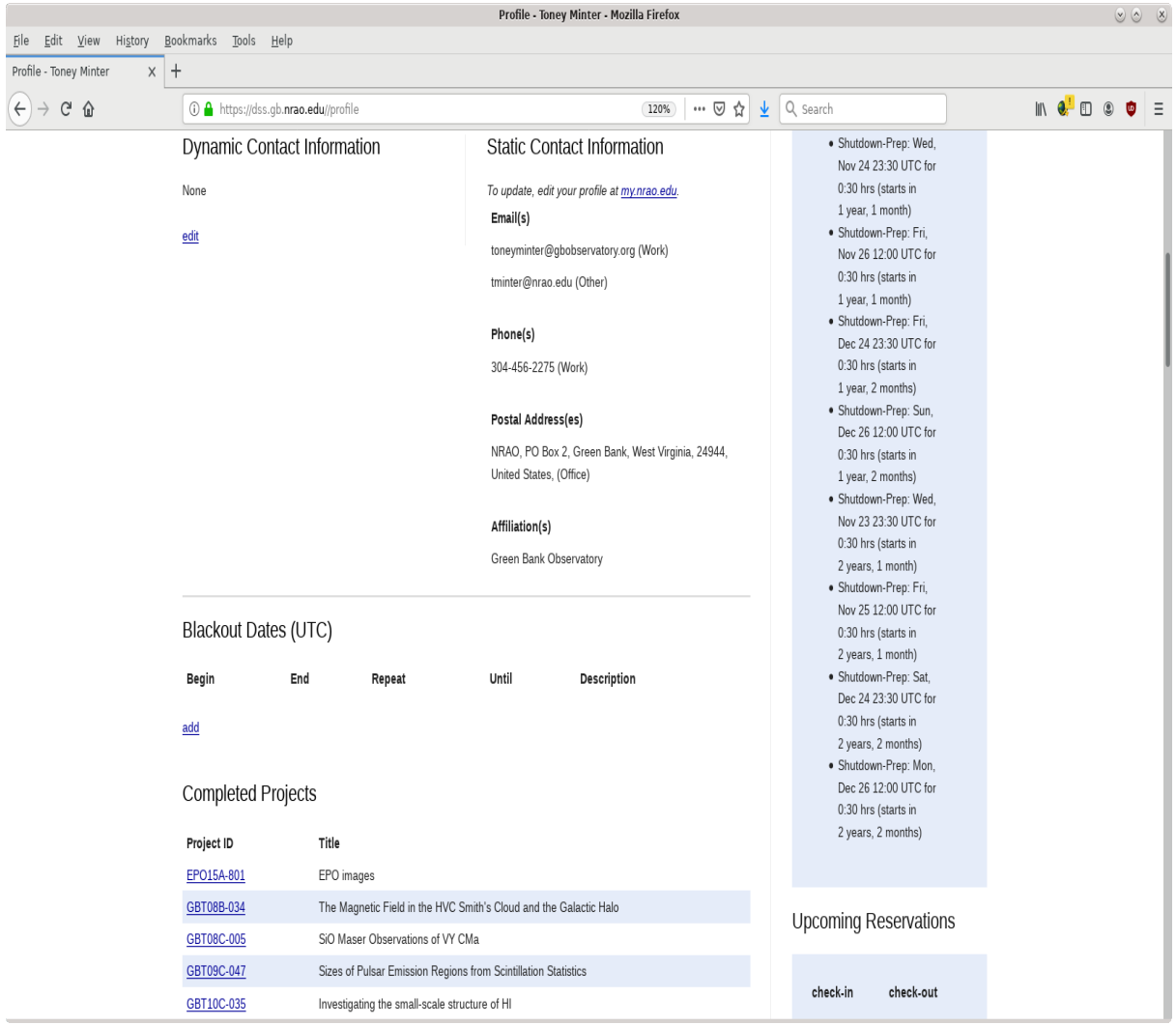
GREEN BANK OBSERVATORY

DSS Profile Page



GREEN BANK OBSERVATORY

DSS Profile Page

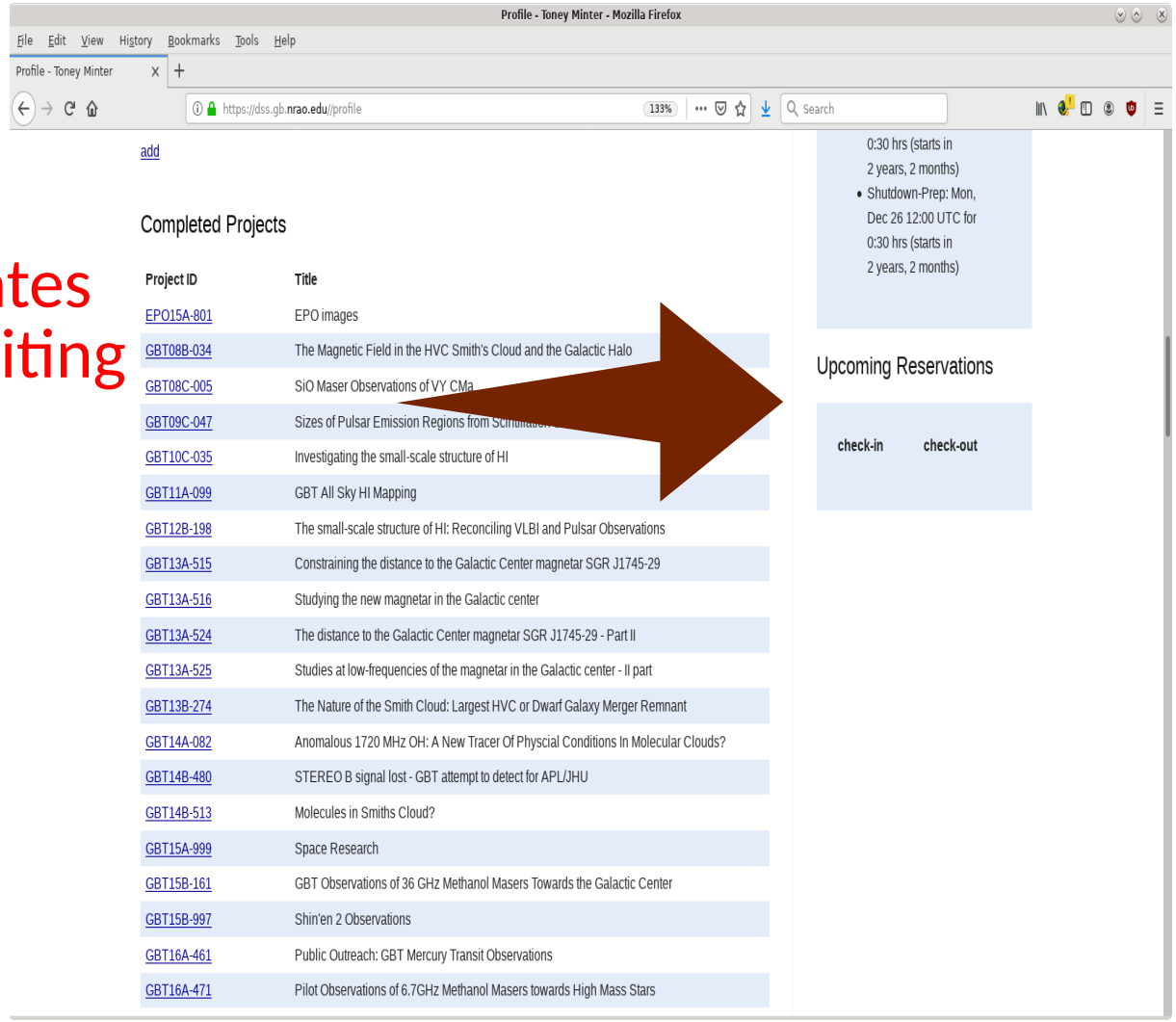


GREEN BANK OBSERVATORY

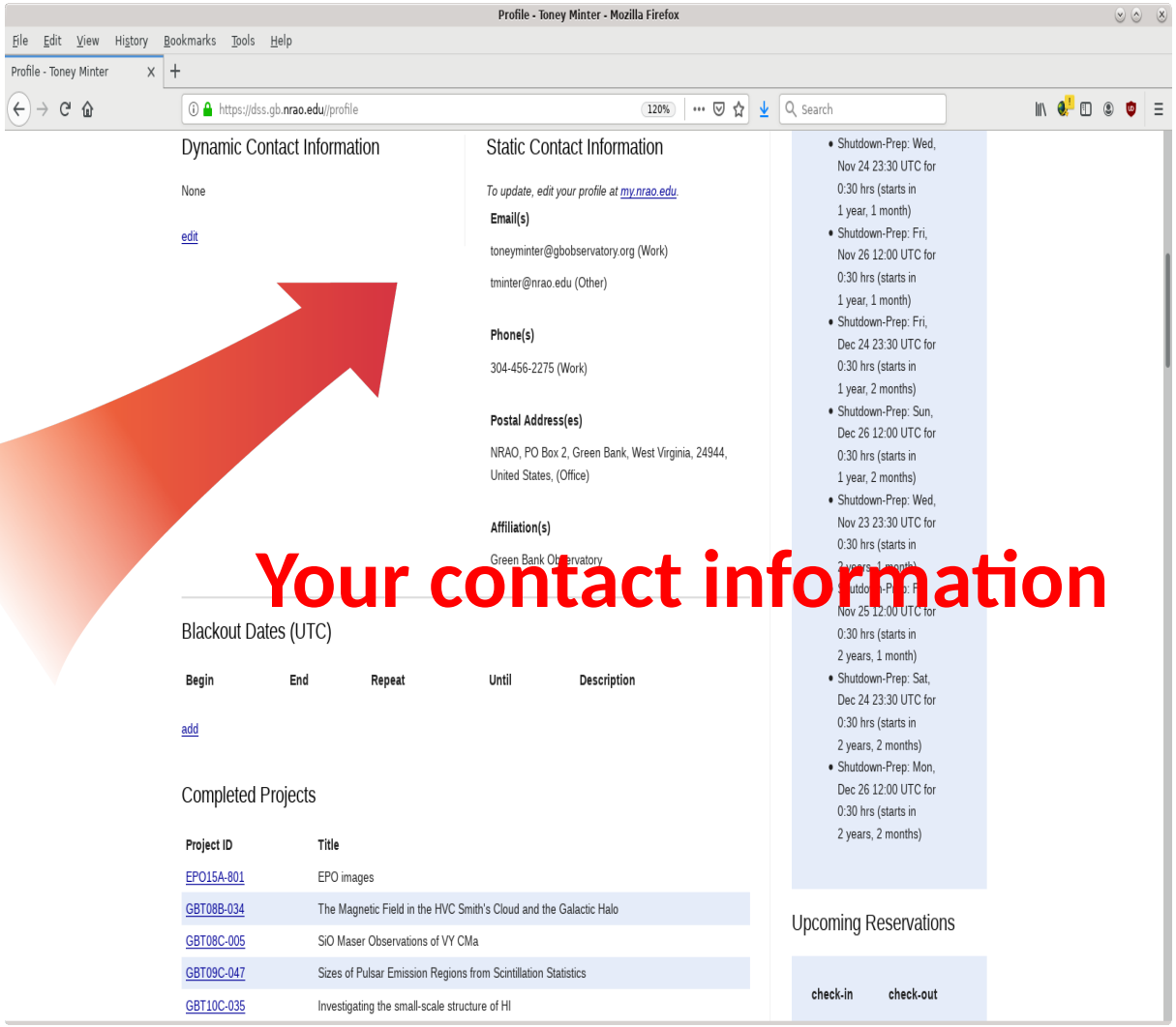
NSF Associated Universities, Inc.

DSS Profile Page

List of dates when visiting GBO



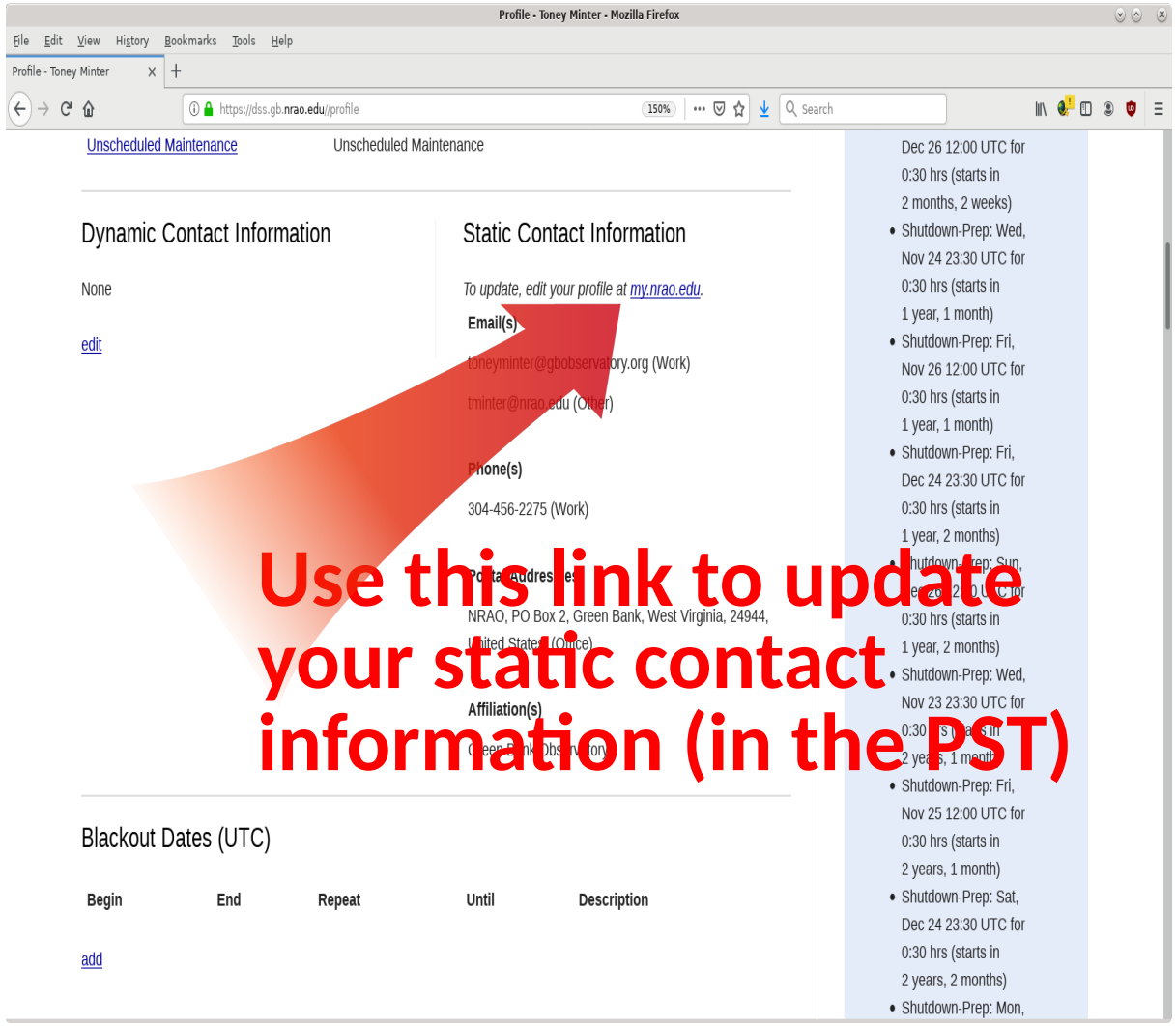
DSS Profile Page



GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

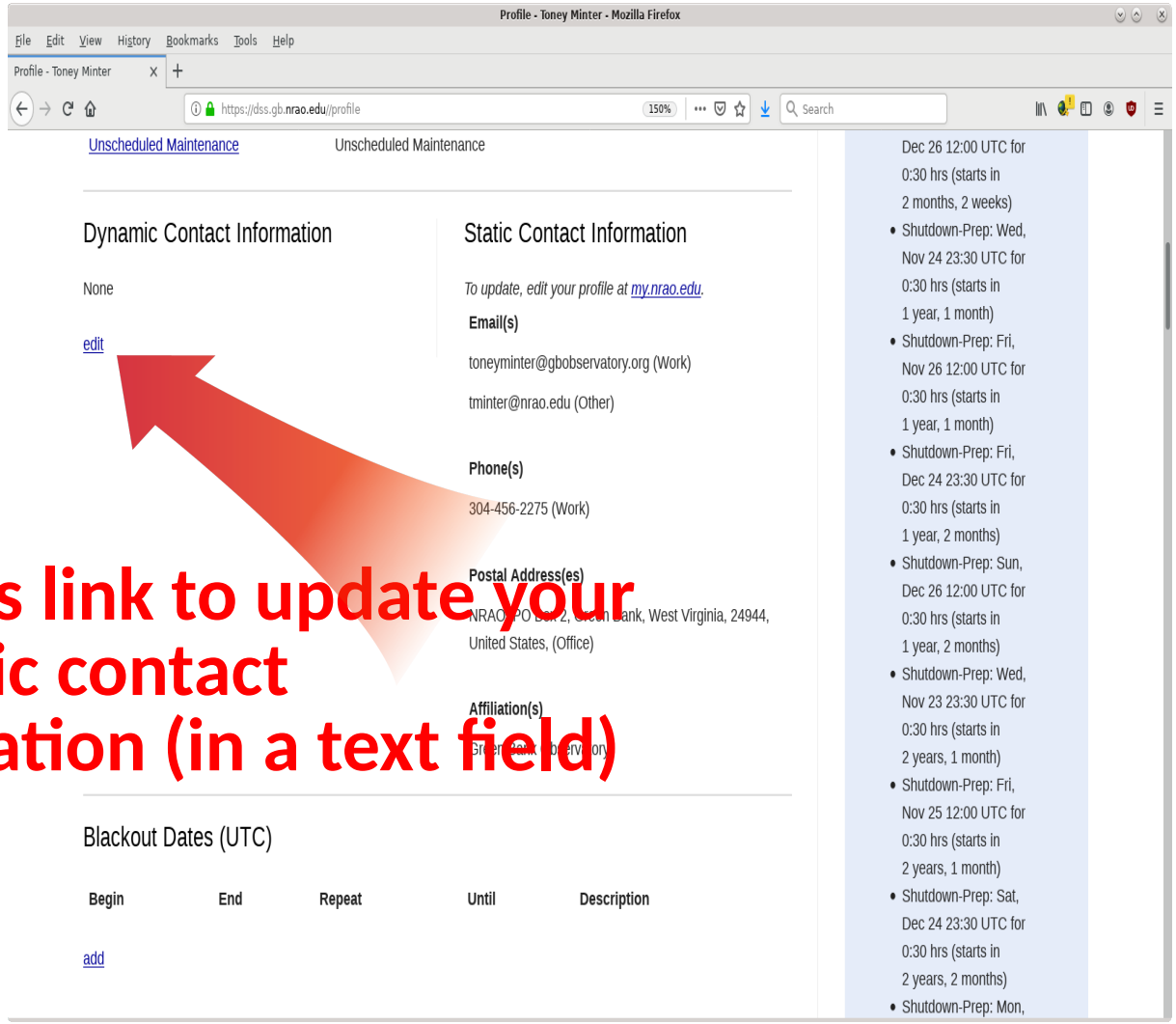
DSS Profile Page



Use this link to update your static contact information (in the PST)

GREEN BANK OBSERVATORY

DSS Profile Page

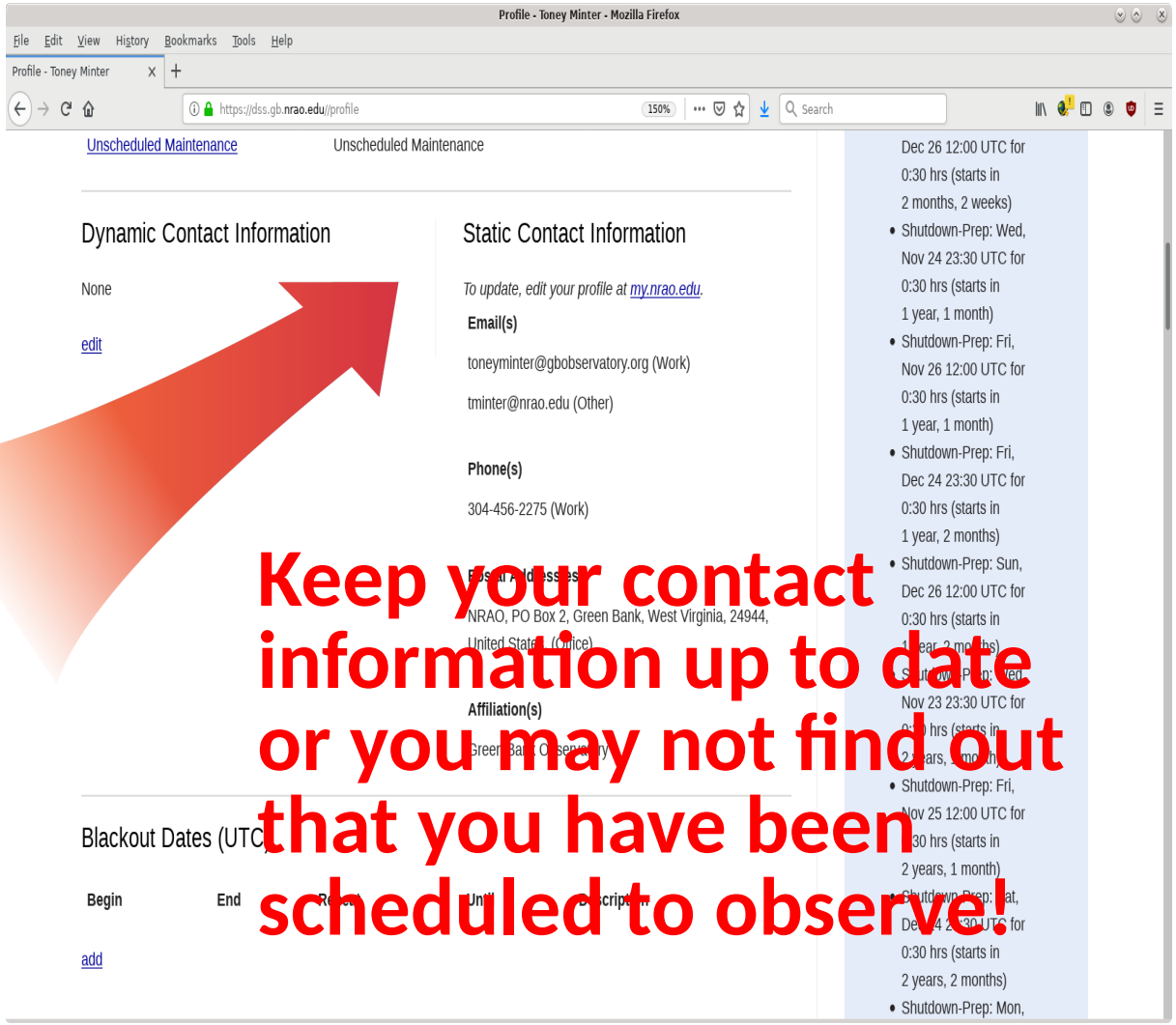


Use this link to update your dynamic contact information (in a text field)

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

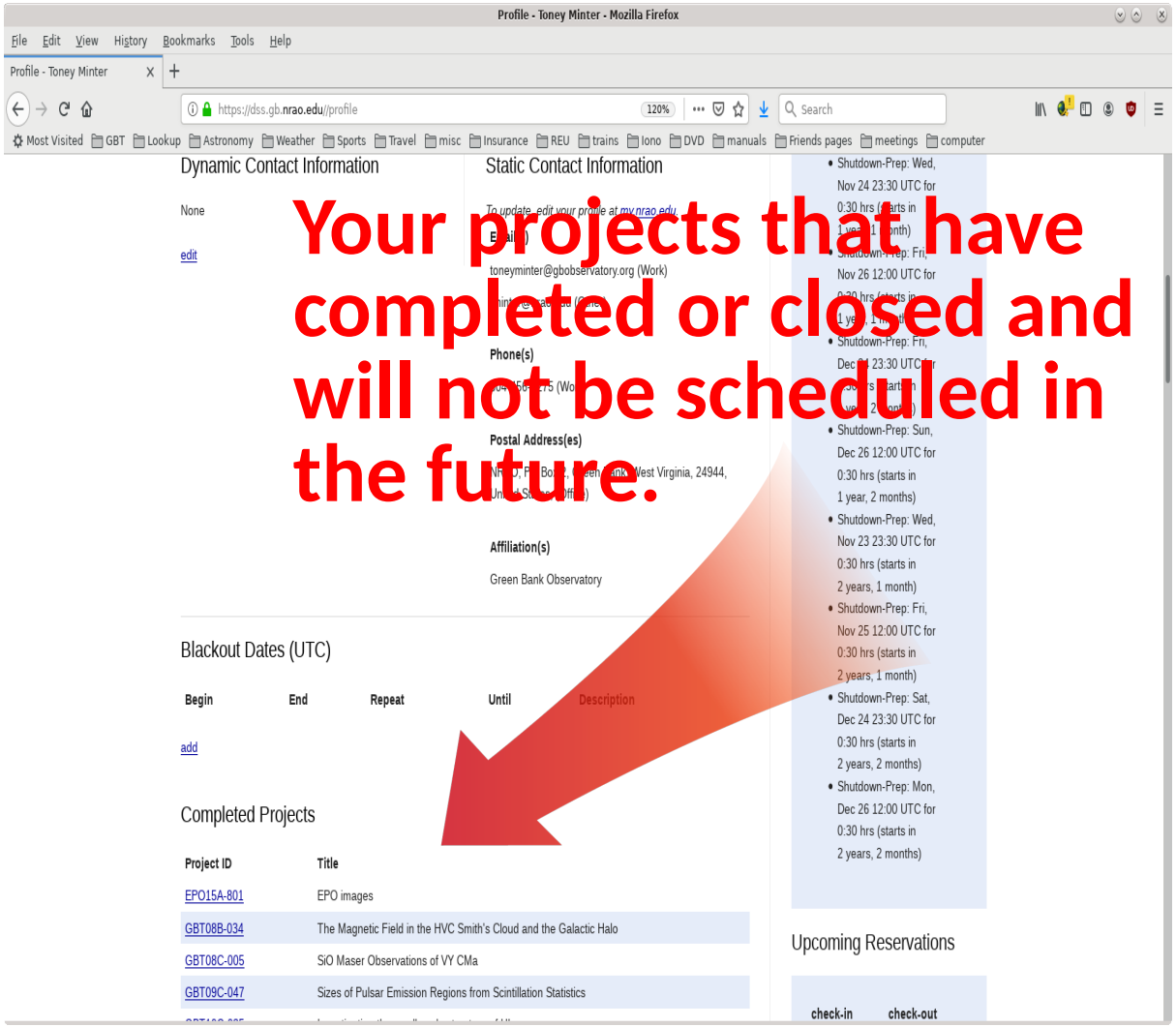
DSS Profile Page



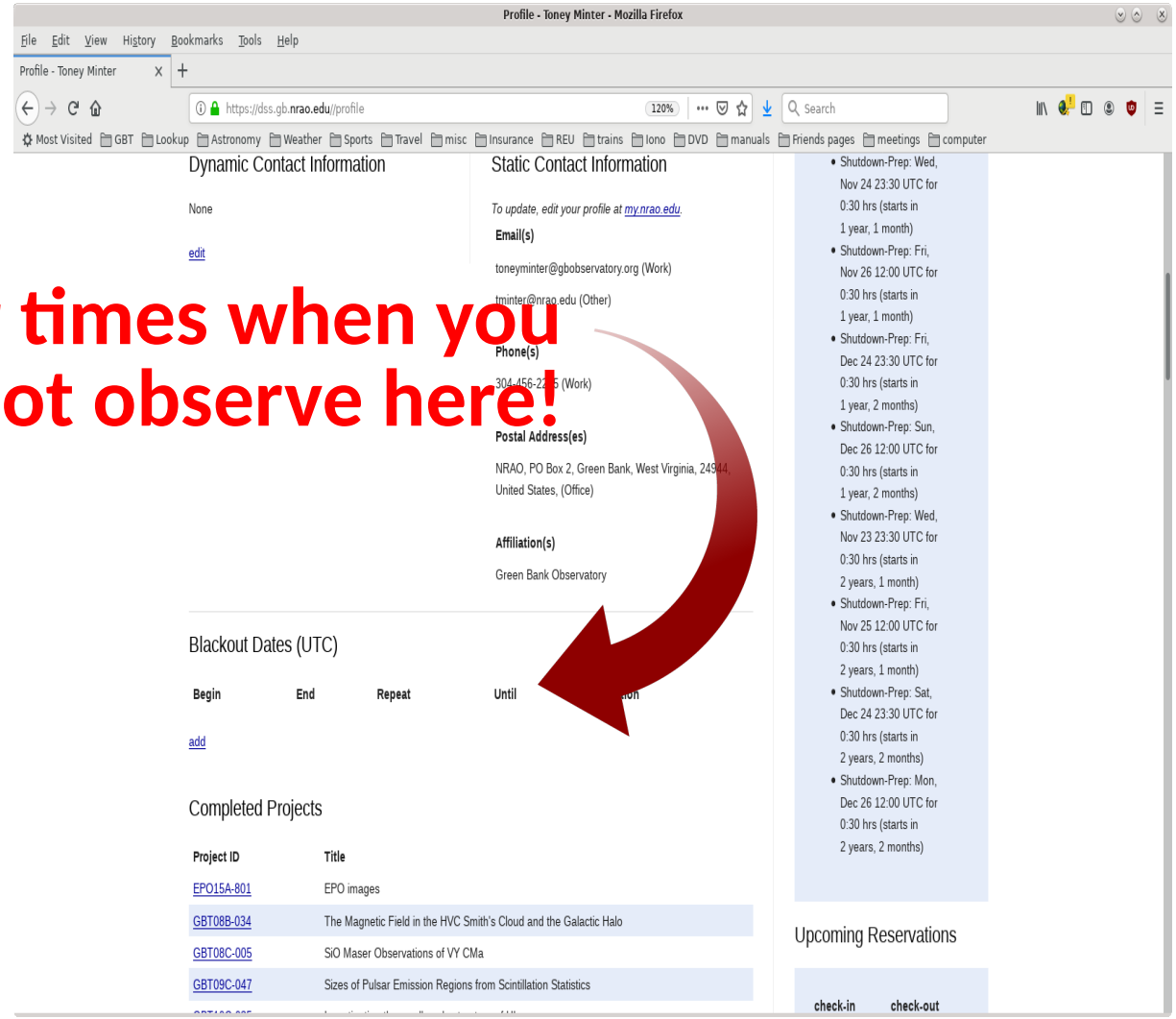
Keep your contact information up to date or you may not find out that you have been scheduled to observe!

GREEN BANK OBSERVATORY

DSS Profile Page



DSS Profile Page

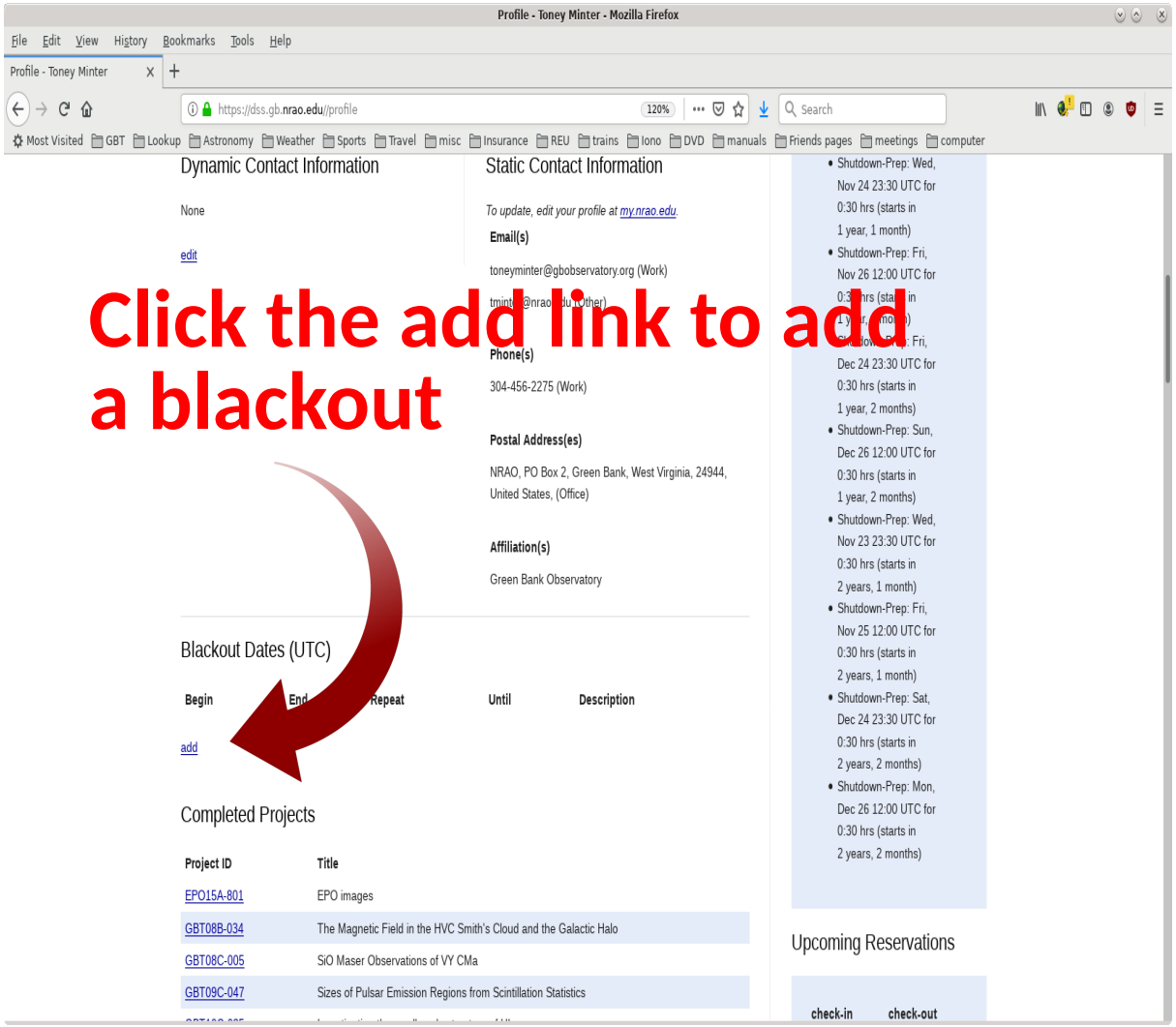


Enter times when you can not observe here!

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Profile Page

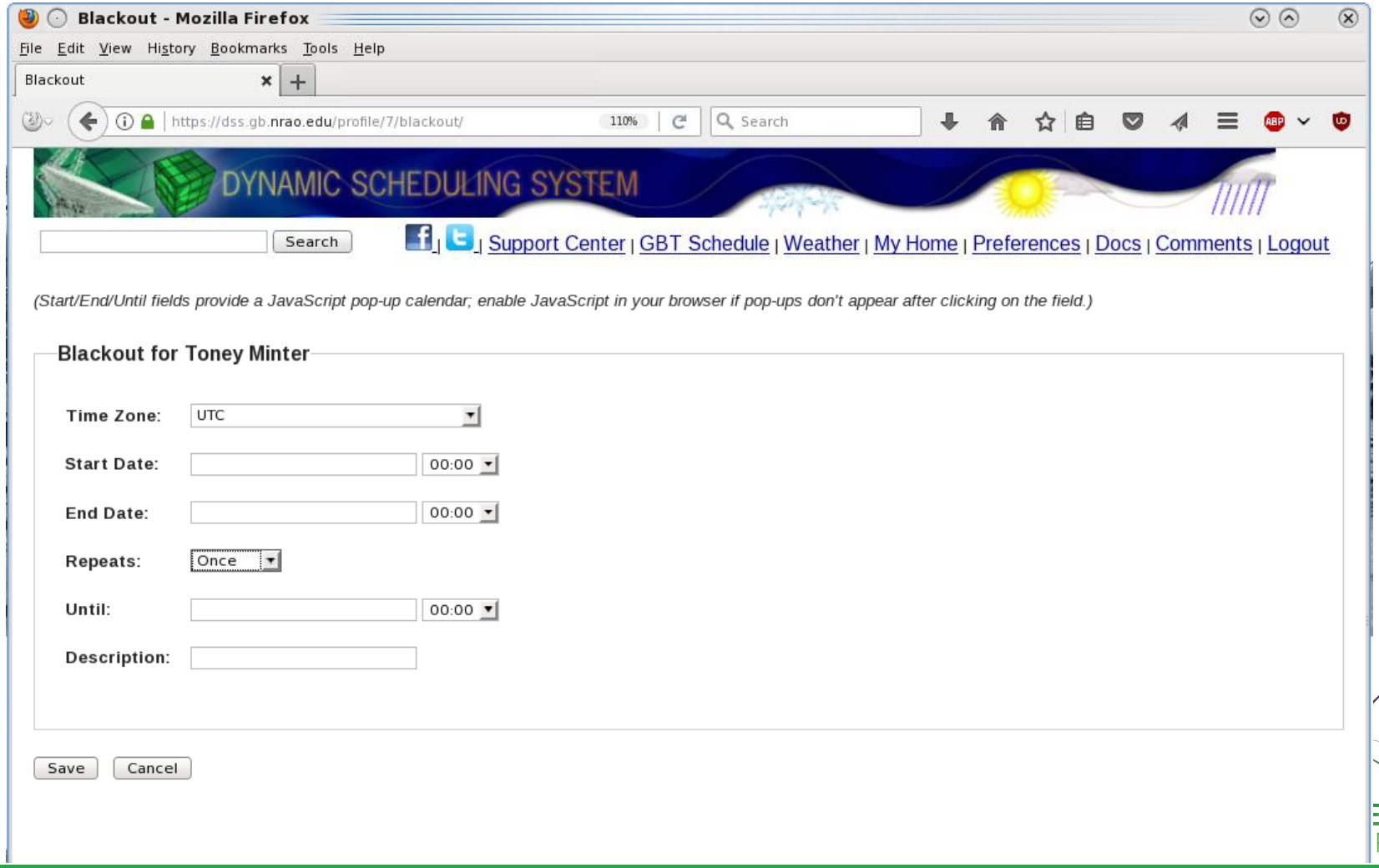


Click the add link to add a blackout

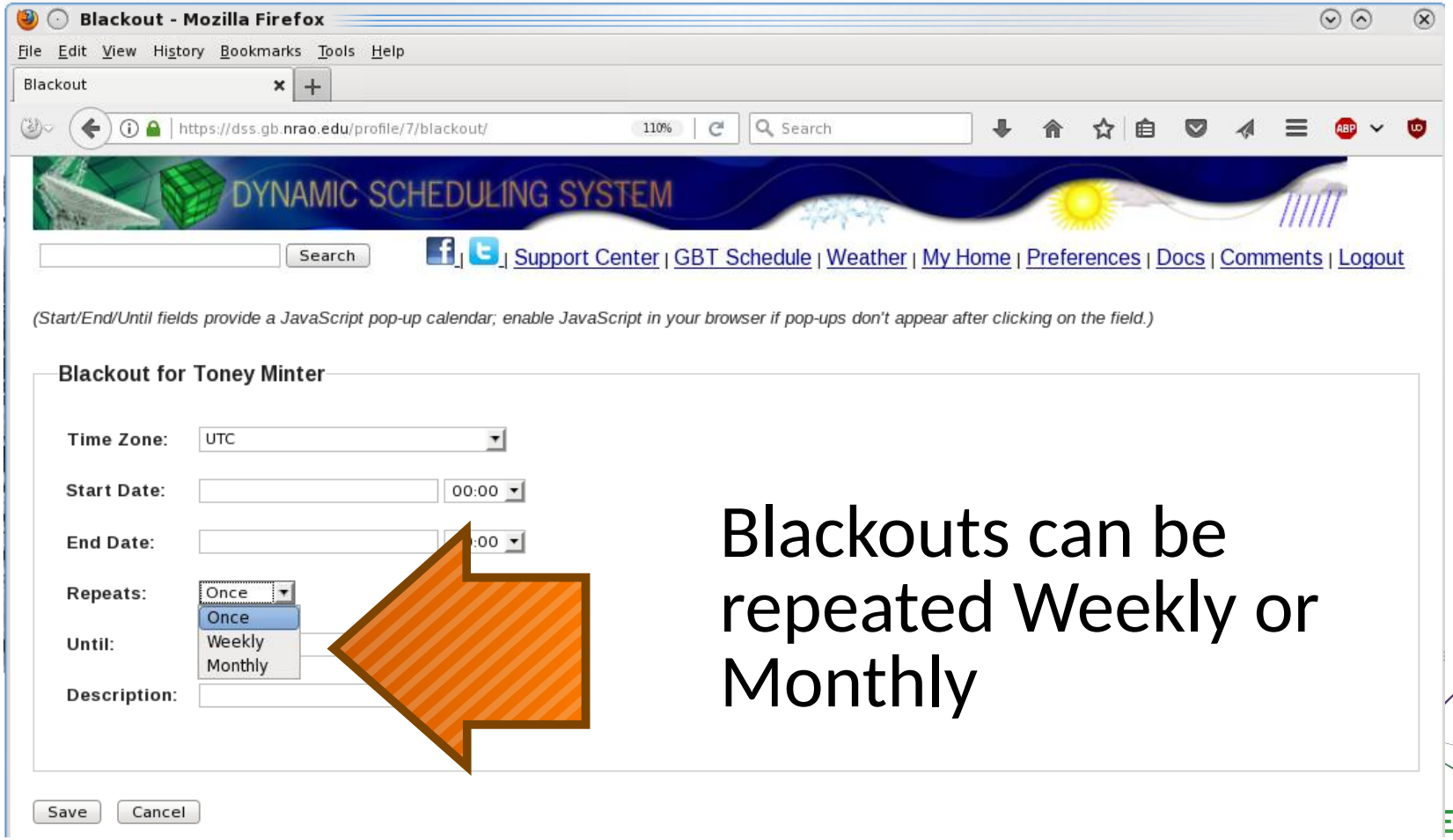
GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Blackout Entry

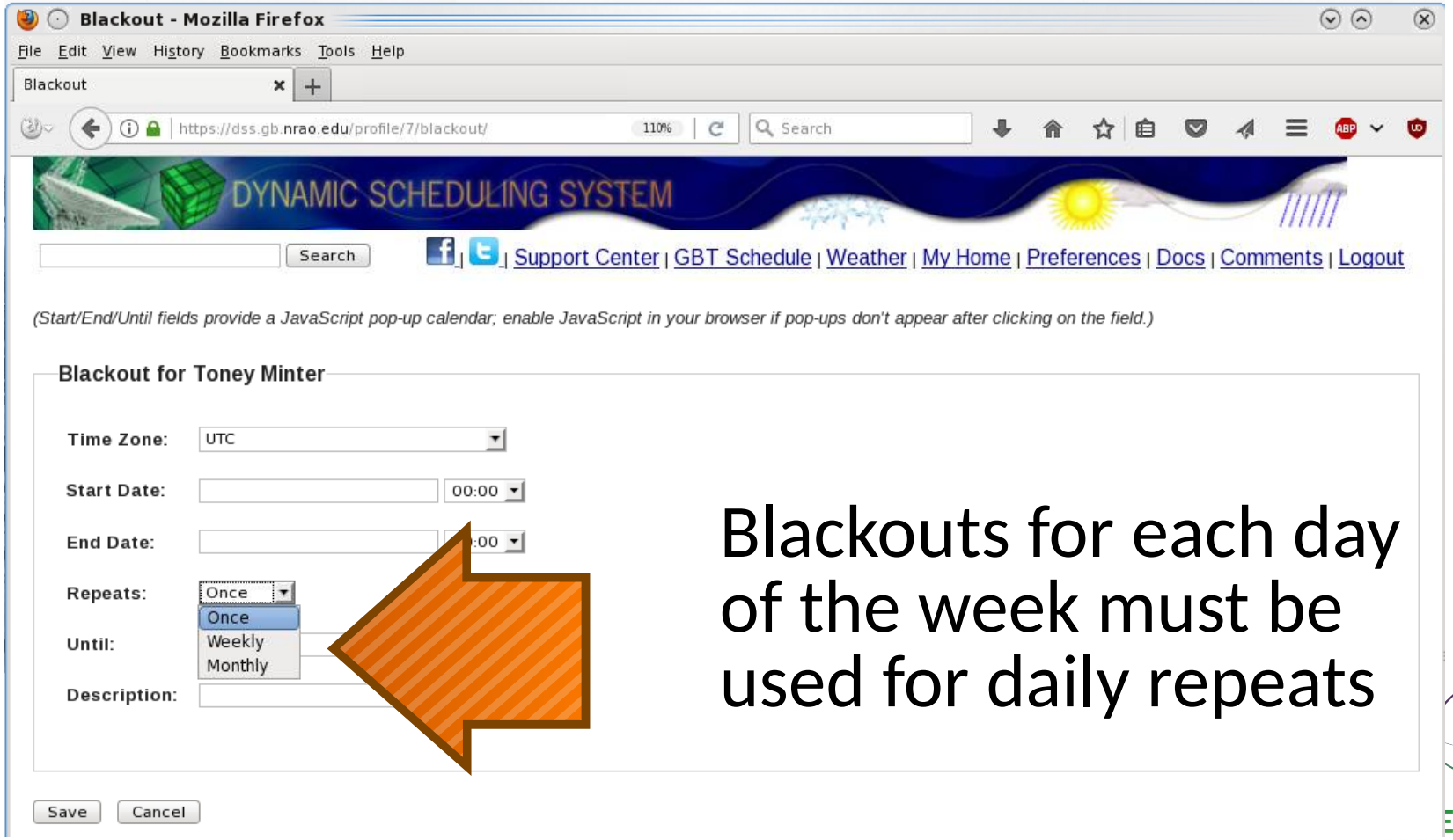


DSS Blackout Entry



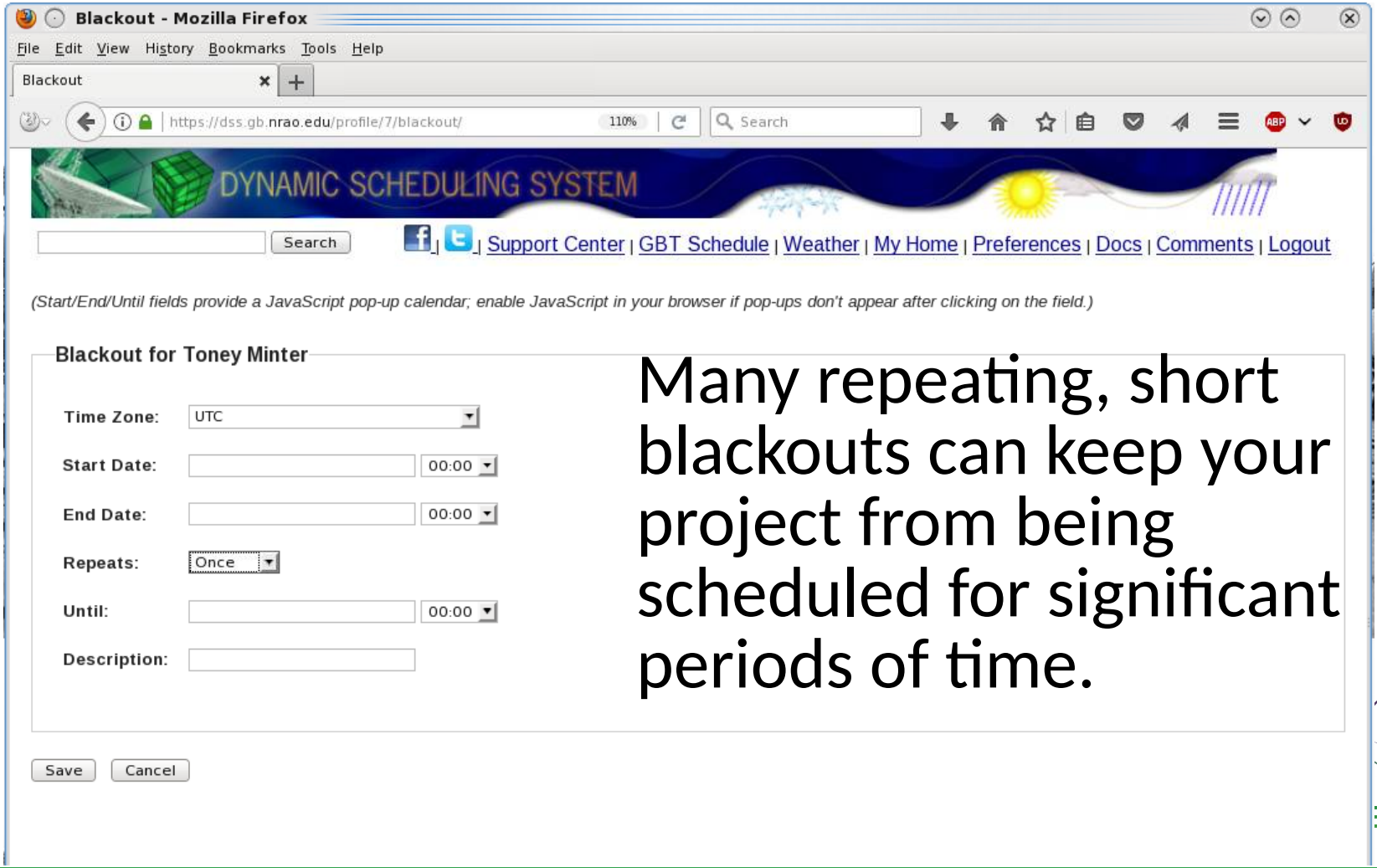
Blackouts can be repeated Weekly or Monthly

DSS Blackout Entry



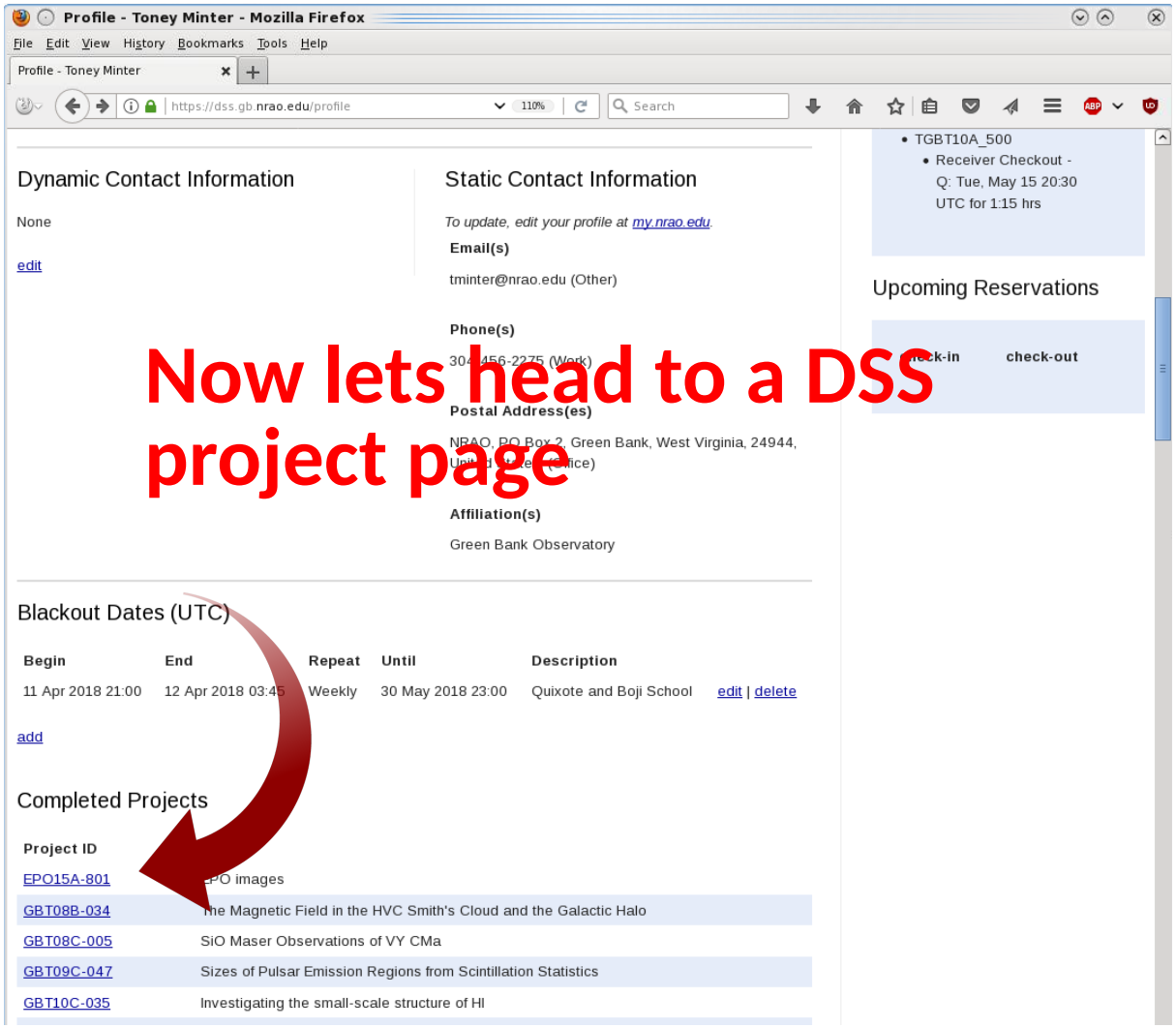
Blackouts for each day of the week must be used for daily repeats

DSS Blackout Entry



Many repeating, short blackouts can keep your project from being scheduled for significant periods of time.

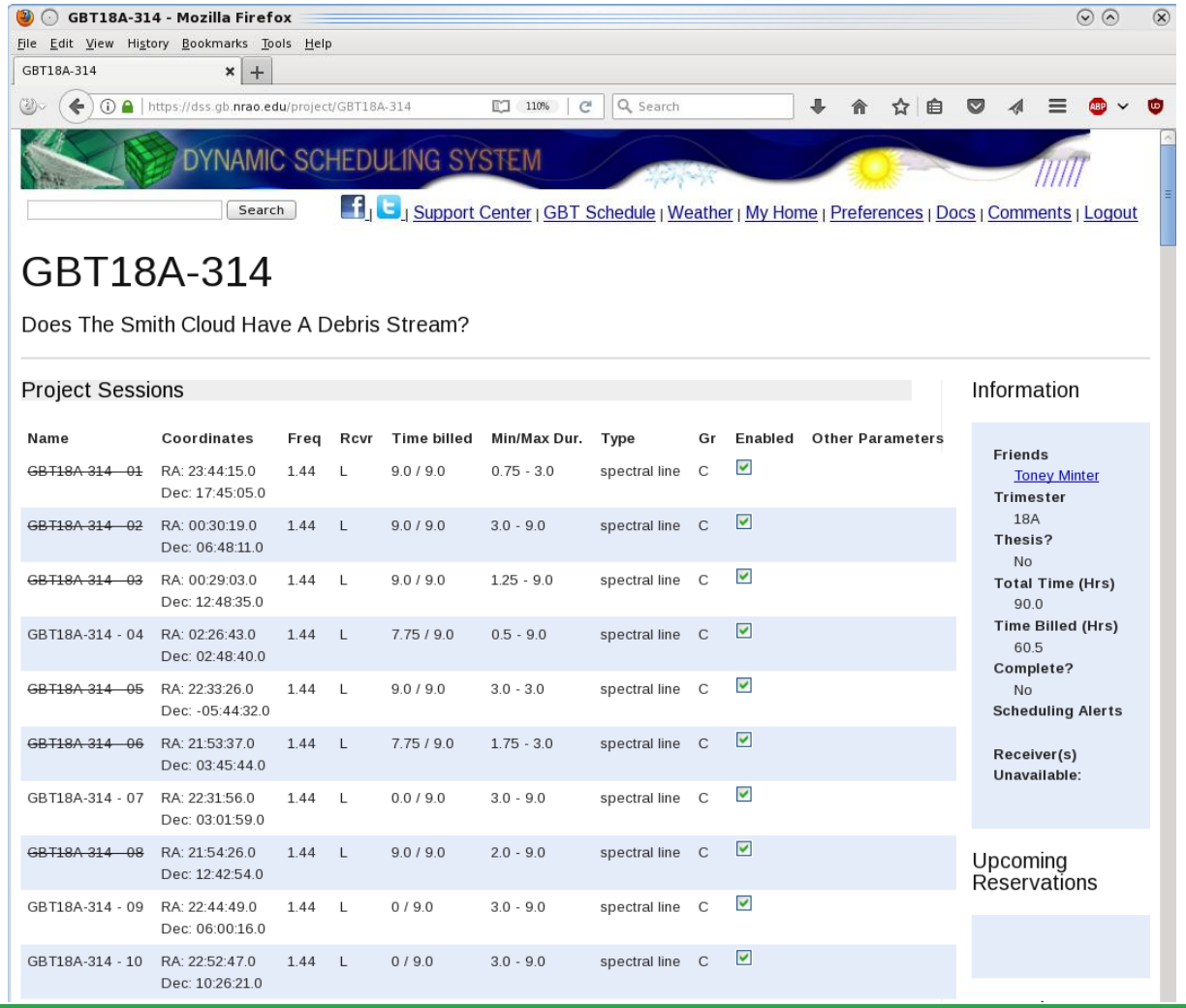
DSS Profile Page



Now lets head to a DSS project page

GREEN BANK OBSERVATORY

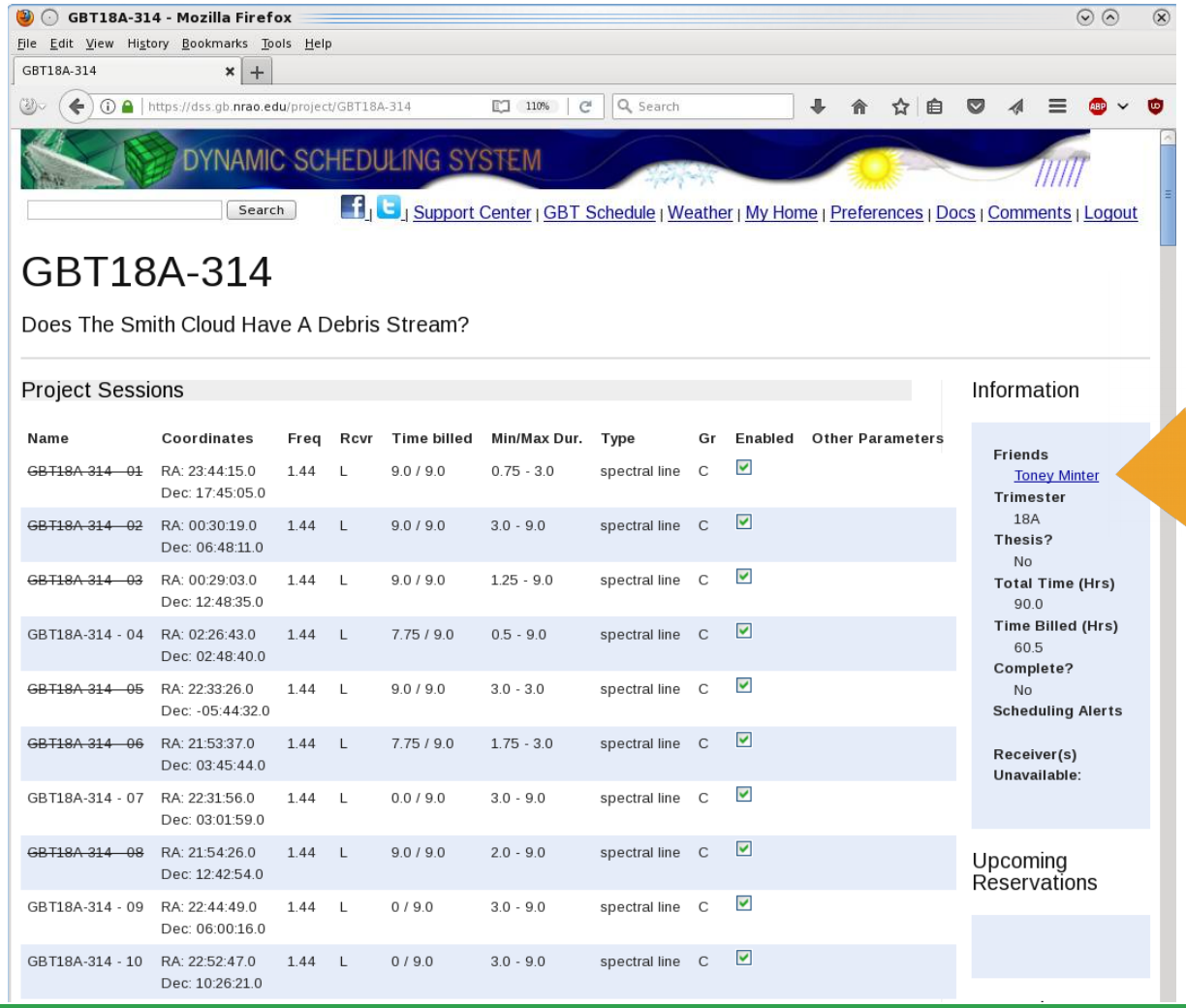
DSS Project Page



GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

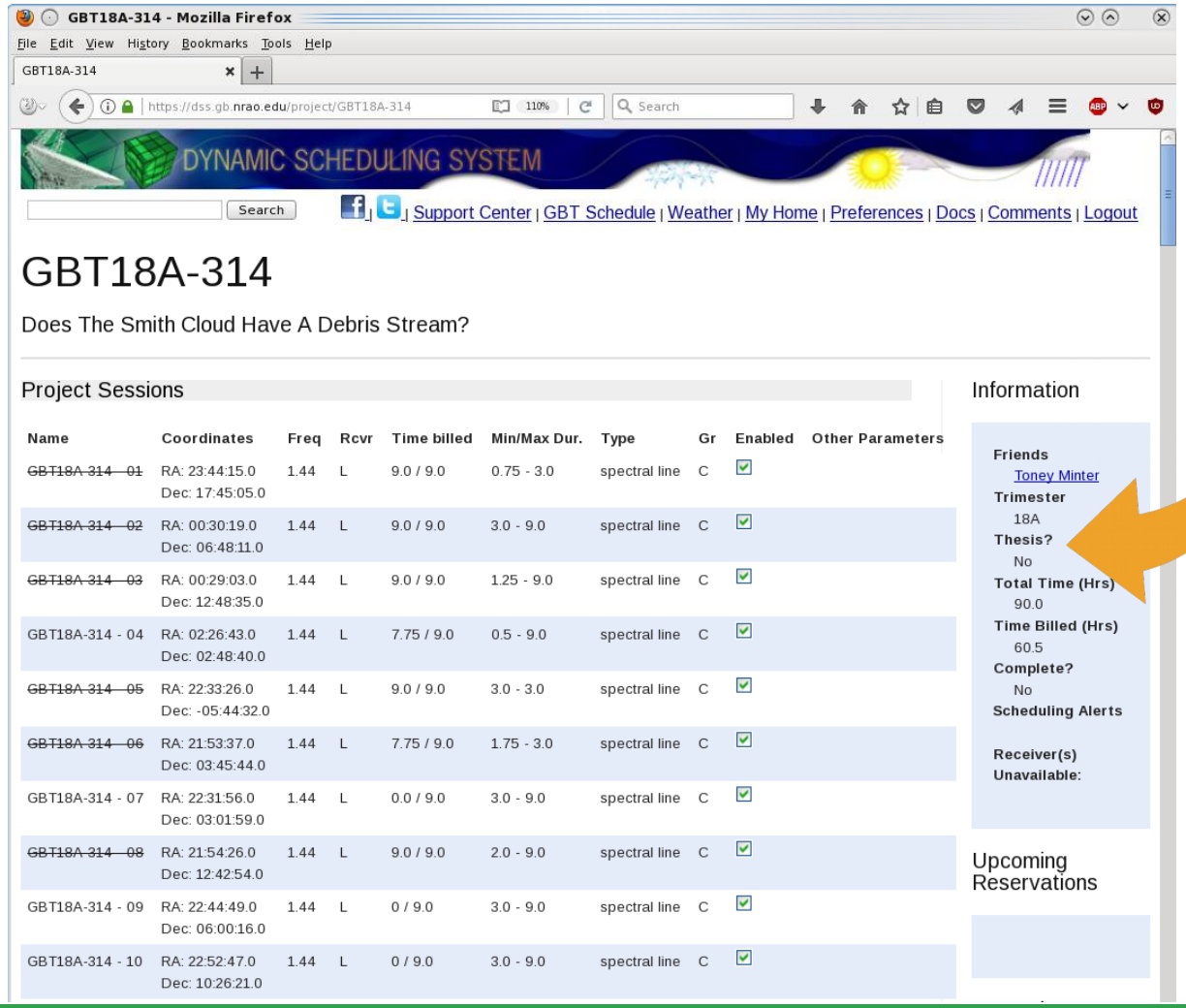
DSS Project Page



Everyone needs a friend

GREEN BANK OBSERVATORY

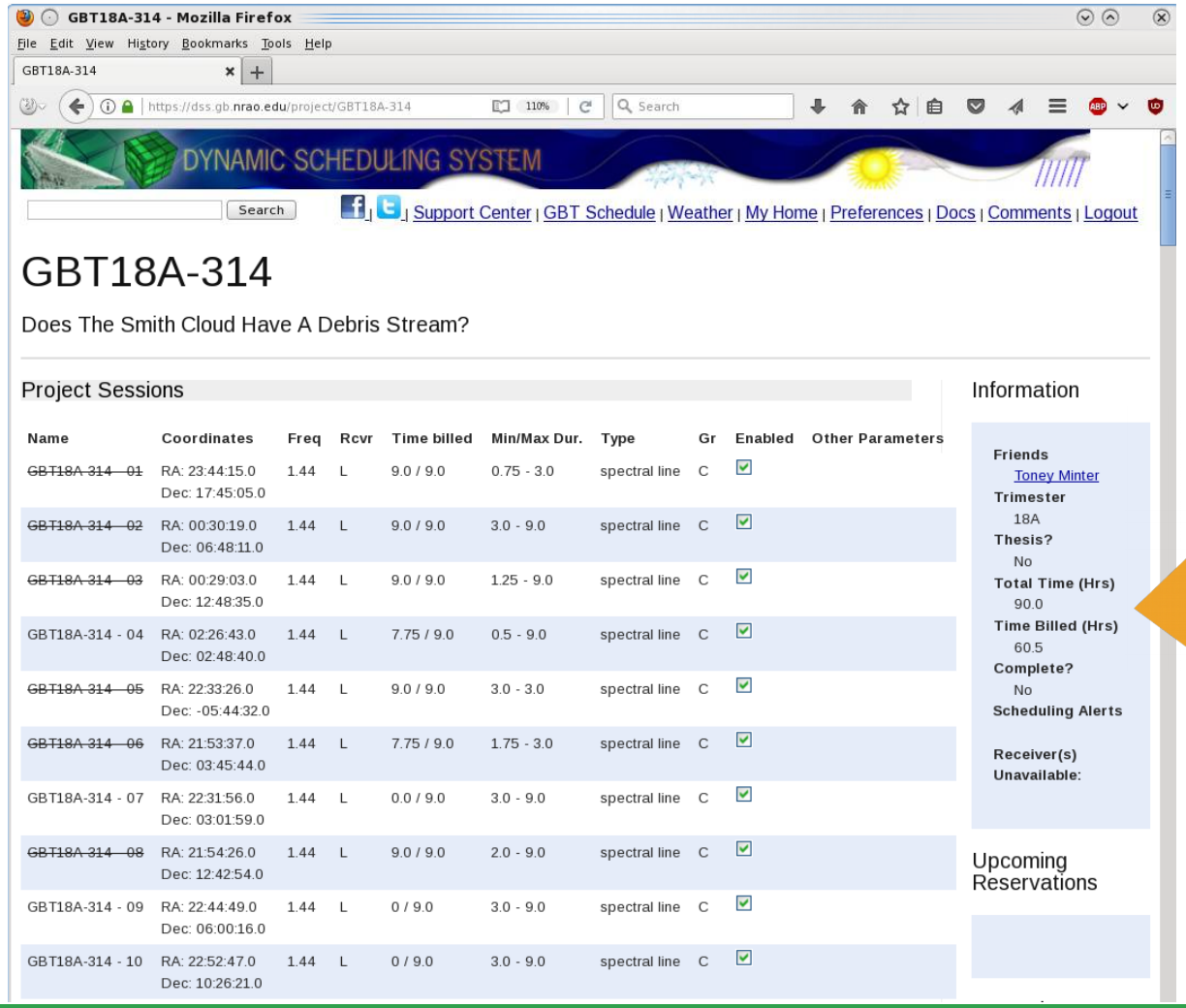
DSS Project Page



Is this a student's thesis project

GREEN BANK OBSERVATORY

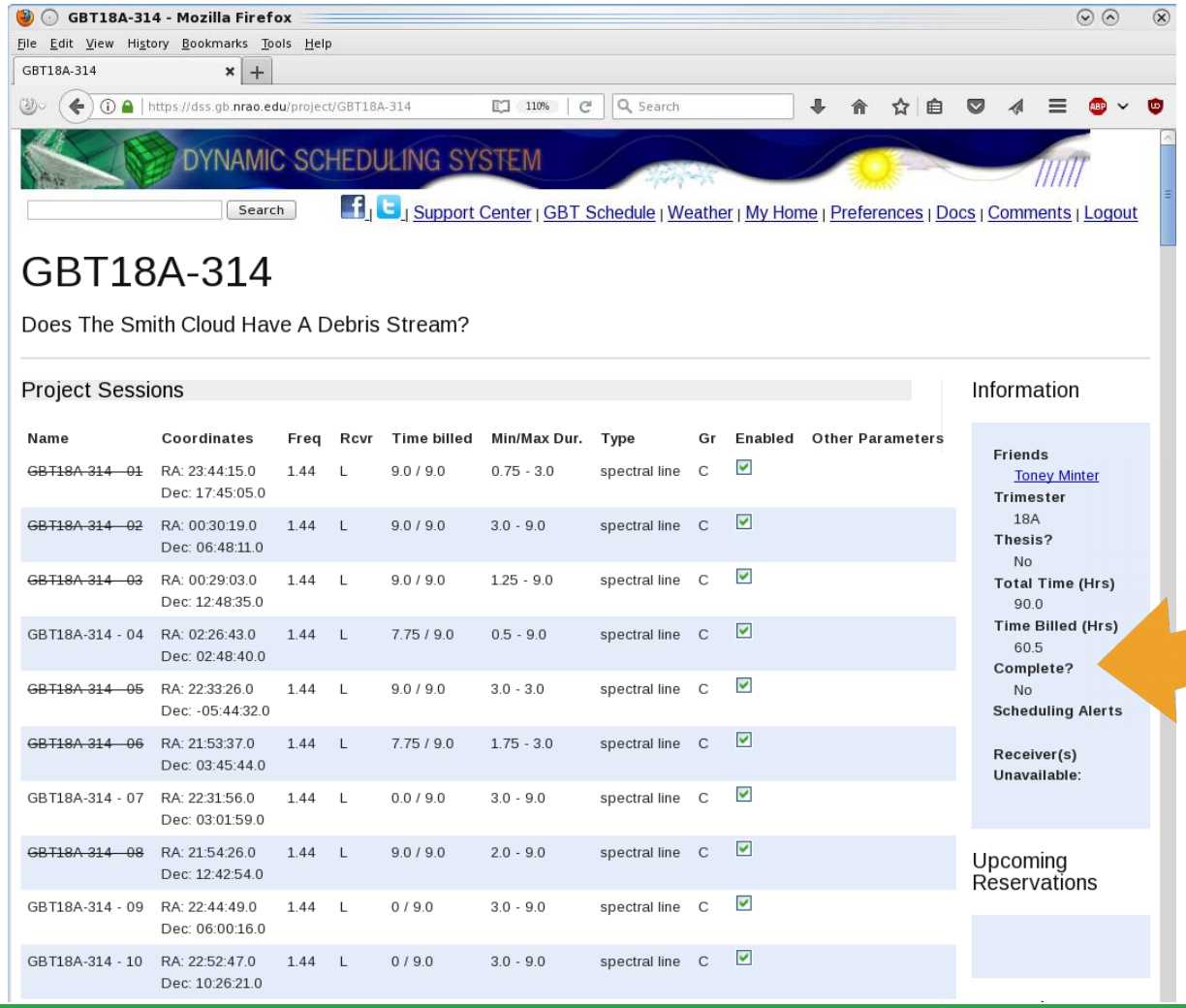
DSS Project Page



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

GREEN BANK OBSERVATORY

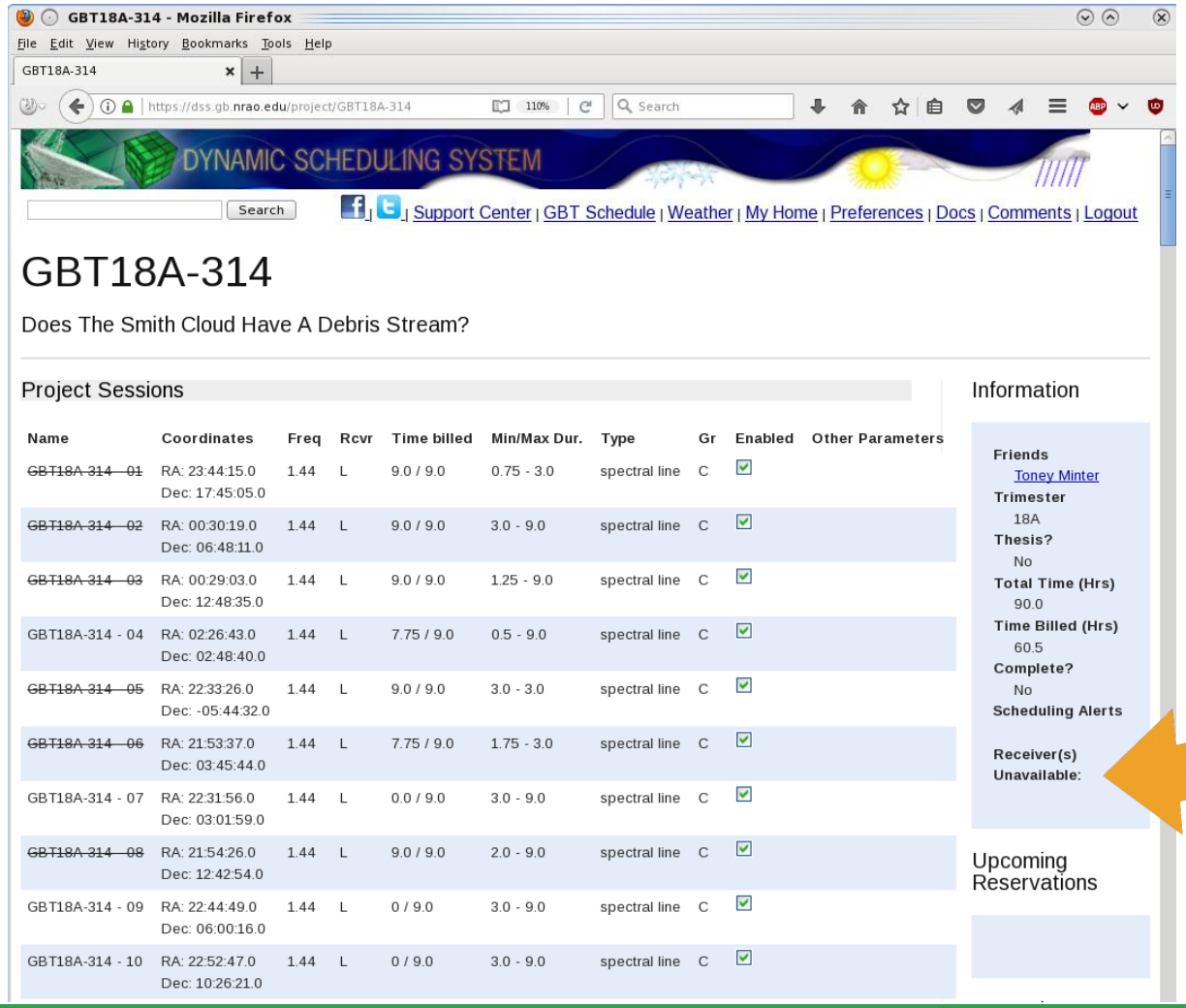
DSS Project Page



Is the project completed or closed

GREEN BANK OBSERVATORY

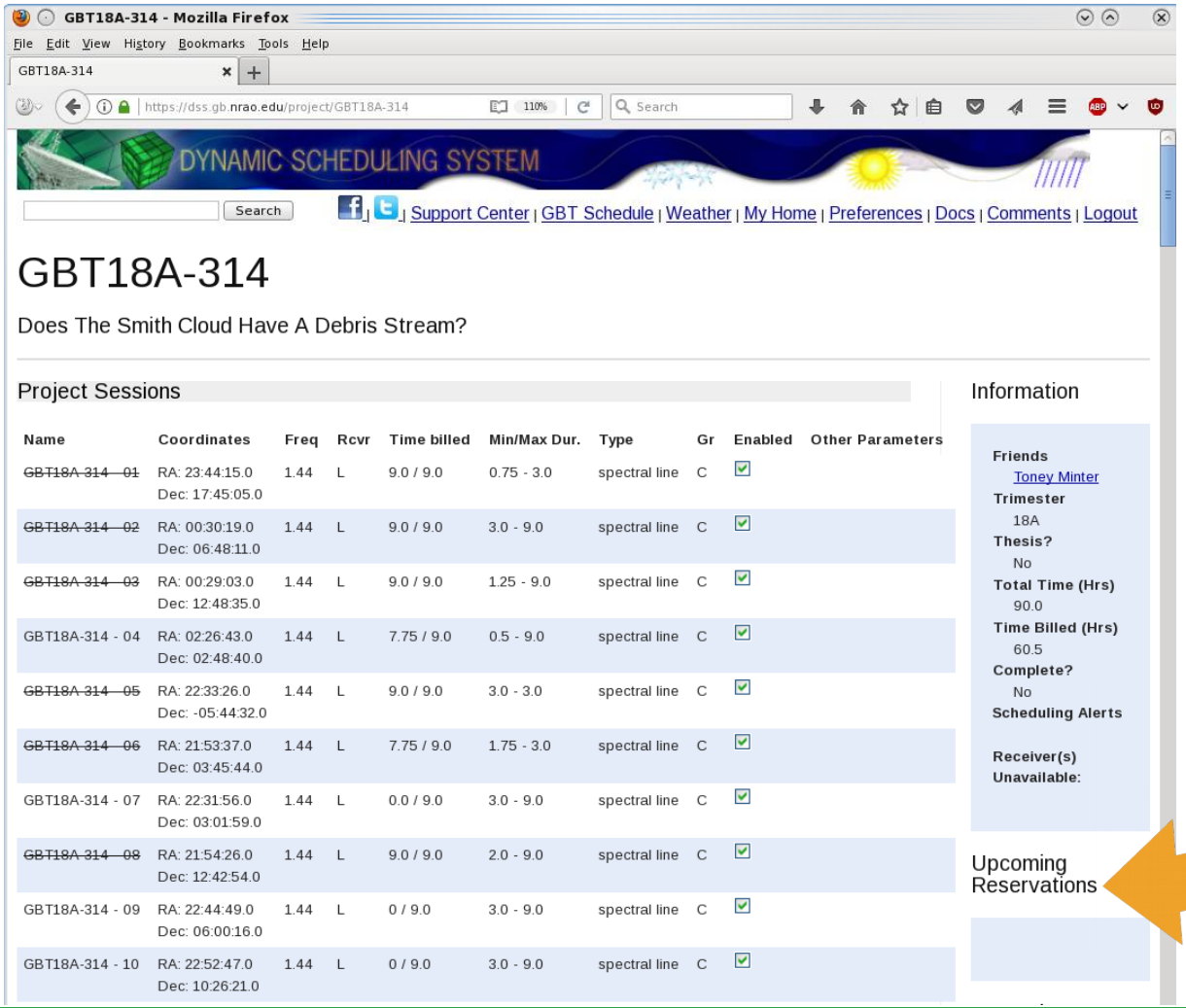
DSS Project Page



Are the receiver(s) available (uses or logic)

GREEN BANK OBSERVATORY

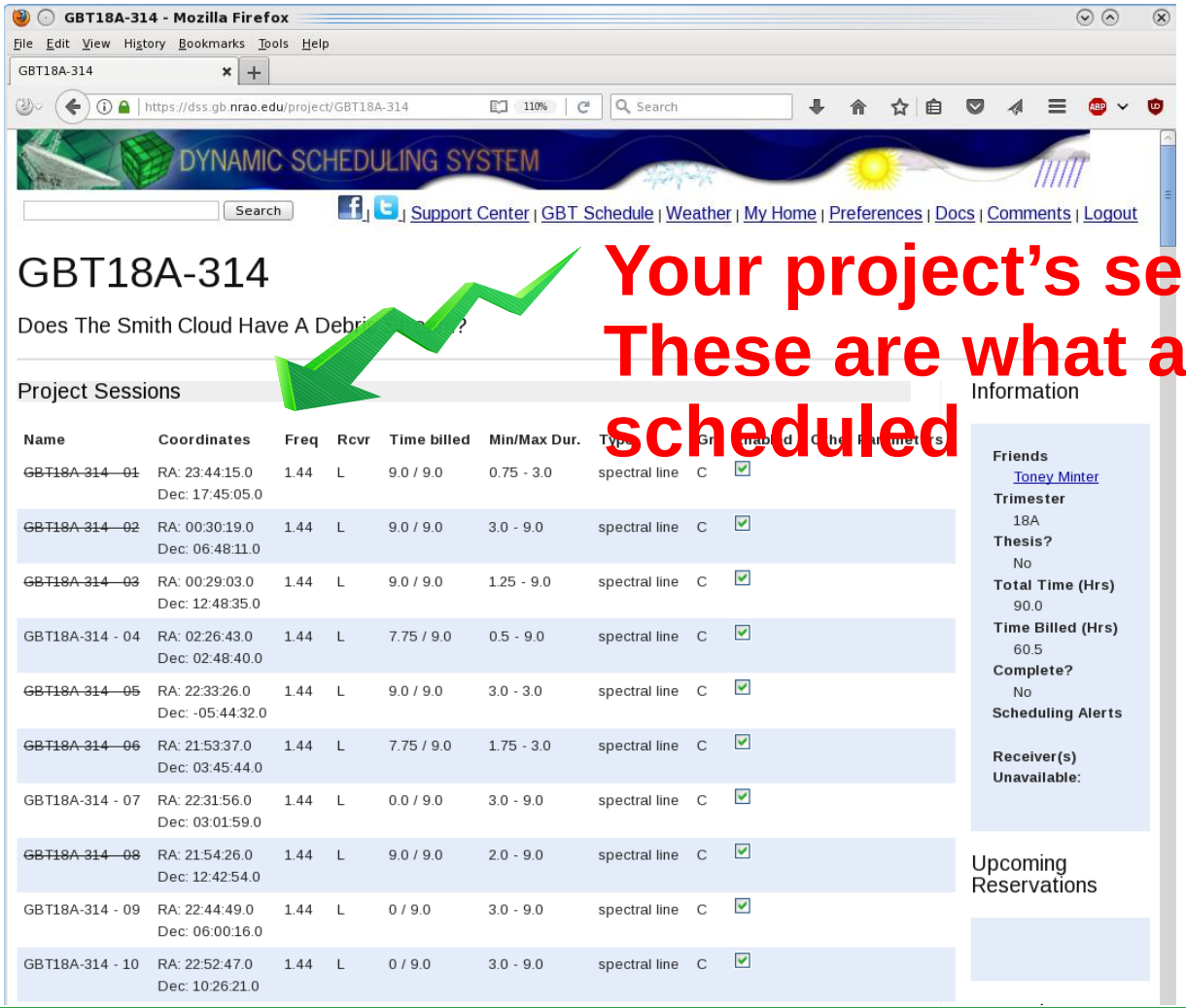
DSS Project Page



Is any project team member visiting GBO

GREEN BANK OBSERVATORY

DSS Project Page

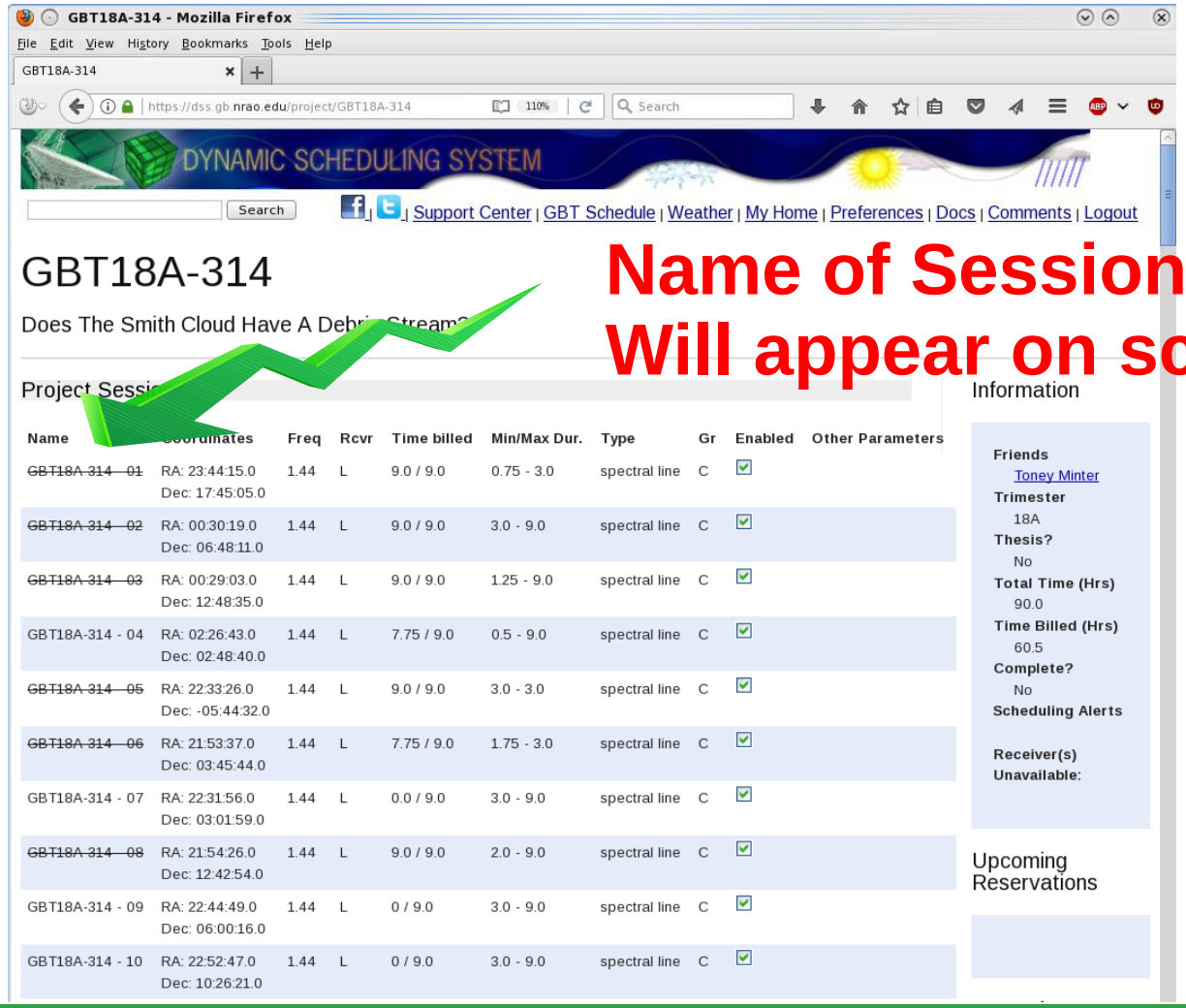


Your project's sessions
These are what are scheduled

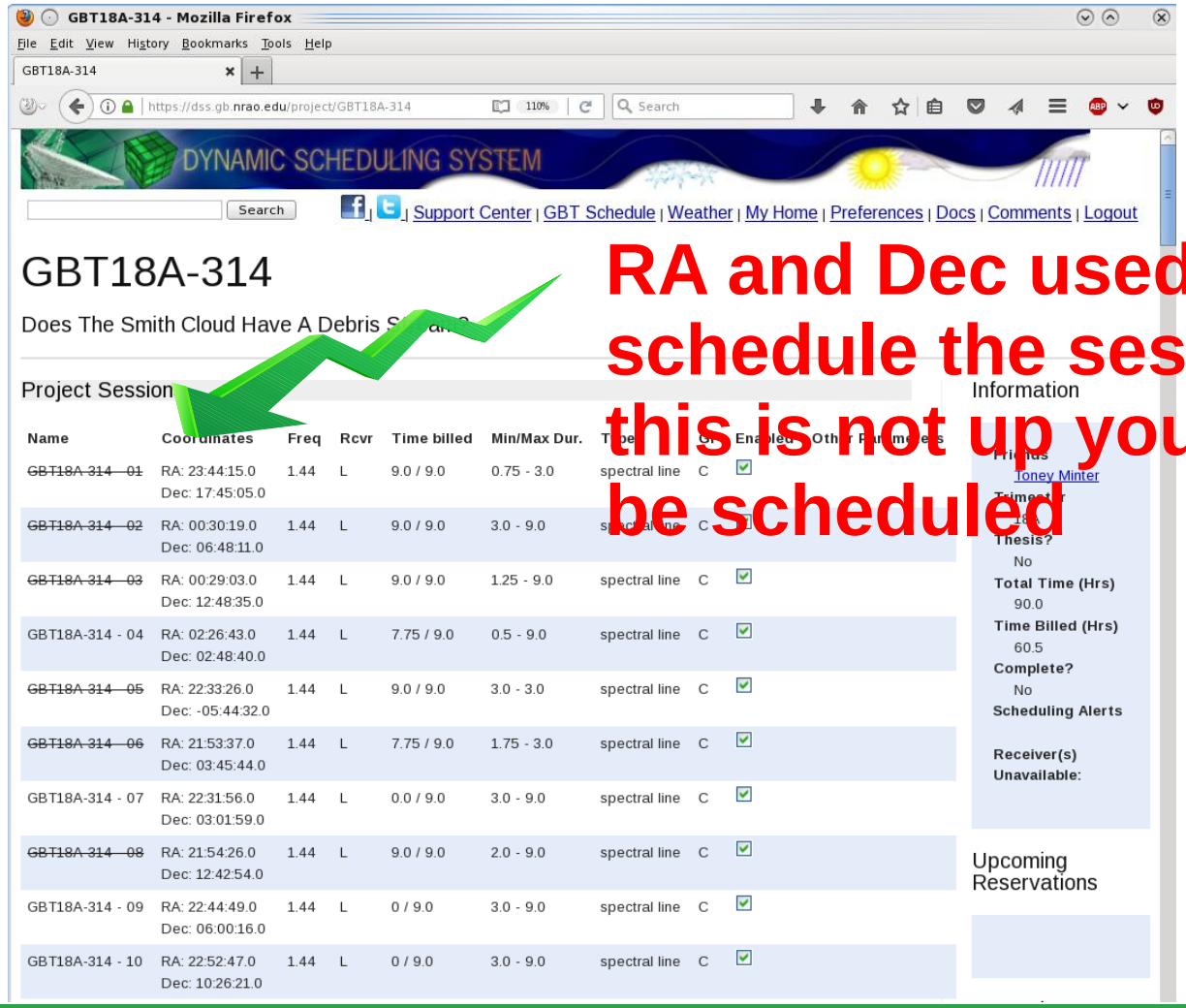
GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page



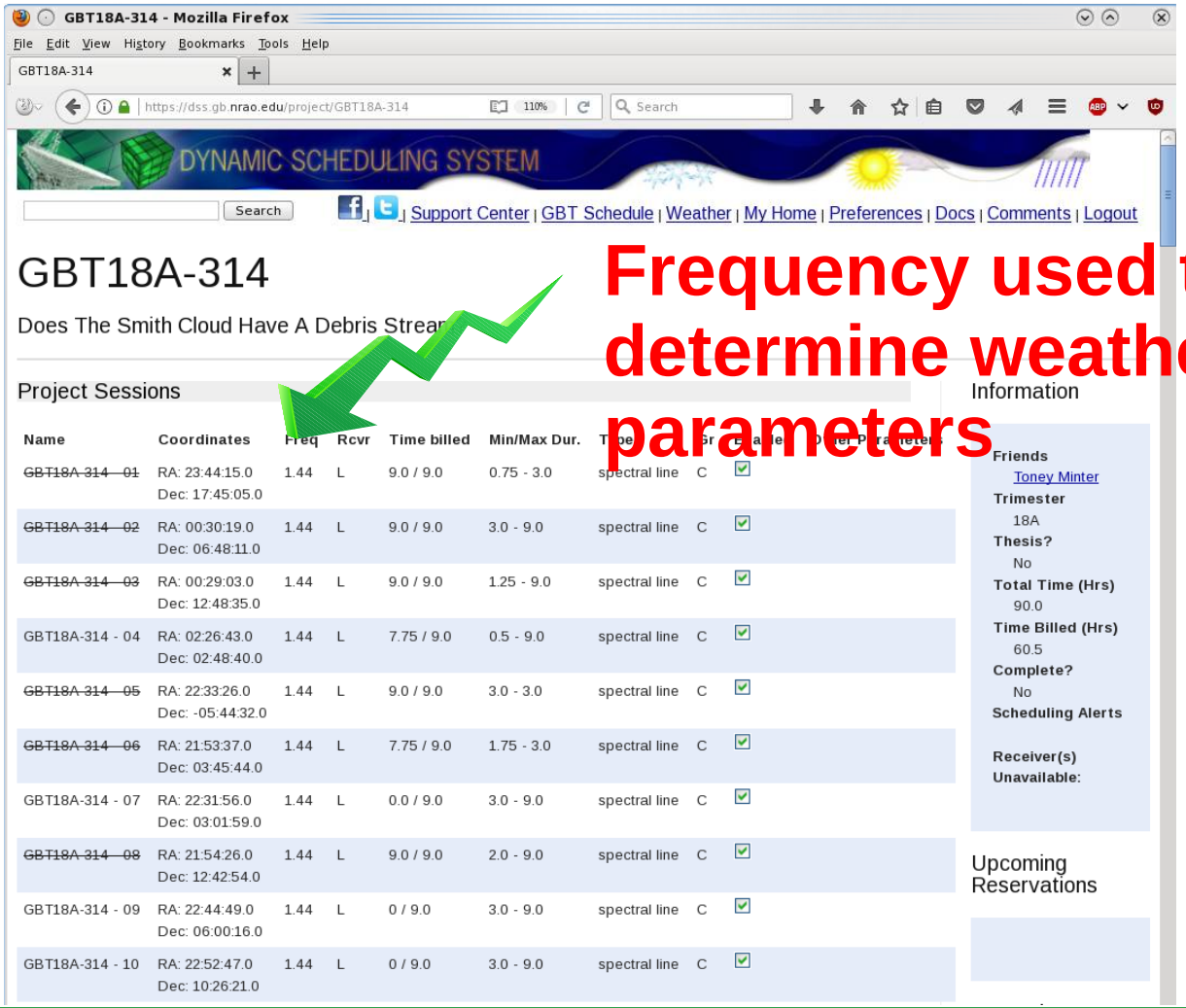
DSS Project Page



RA and Dec used to schedule the session – if this is not up you will not be scheduled

GREEN BANK OBSERVATORY

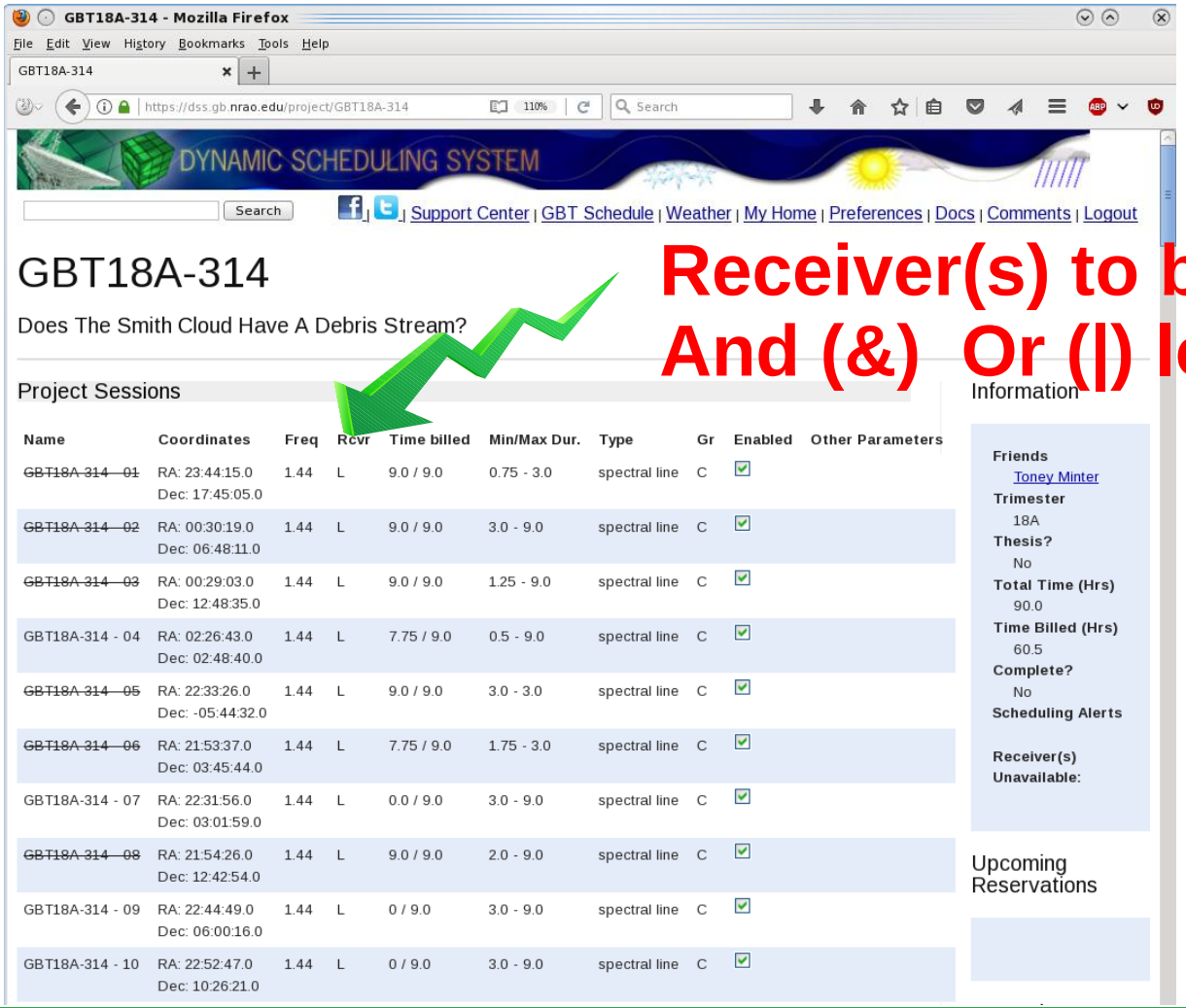
DSS Project Page



GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

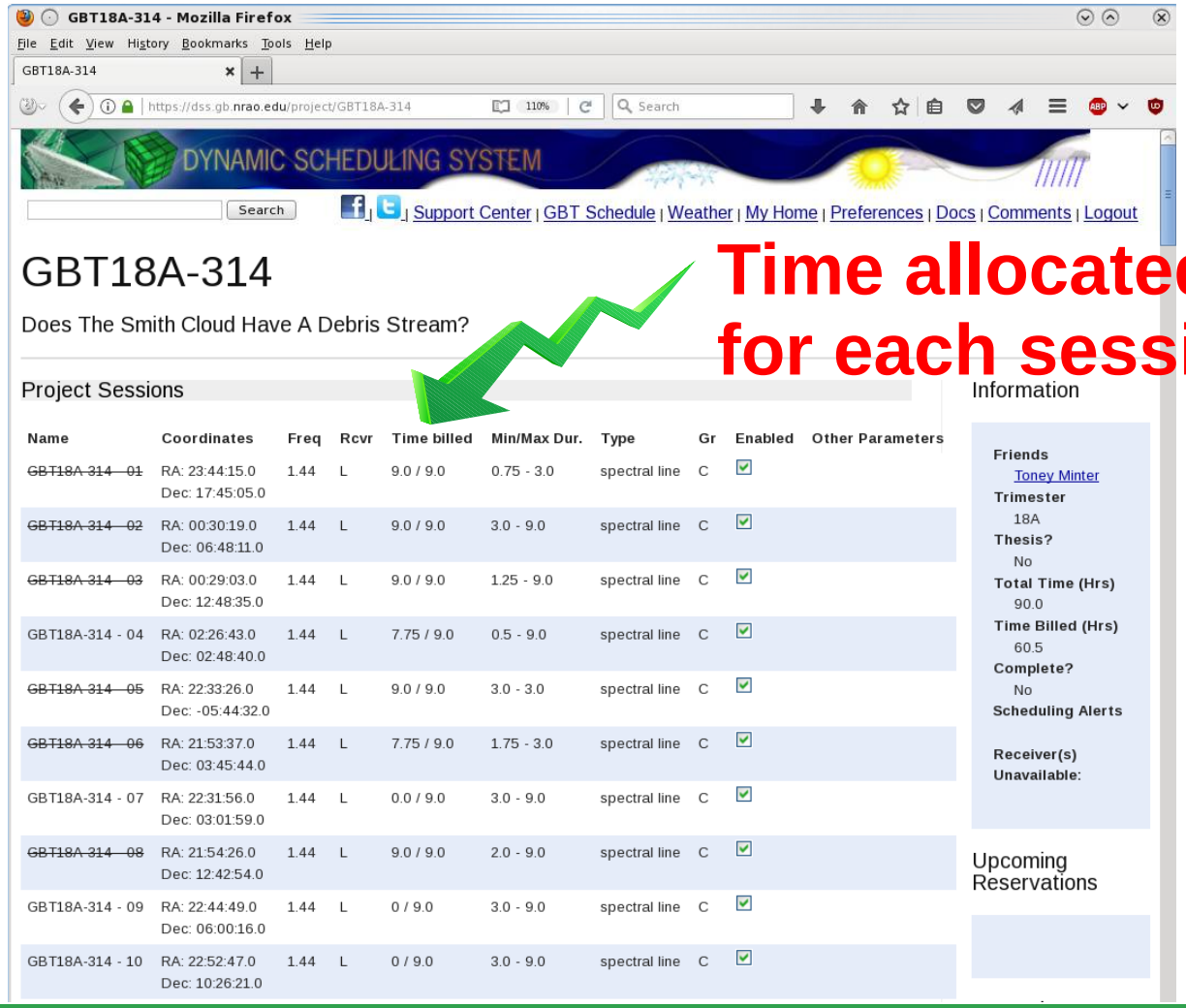


Receiver(s) to be used
And (&) Or (|) logic used

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

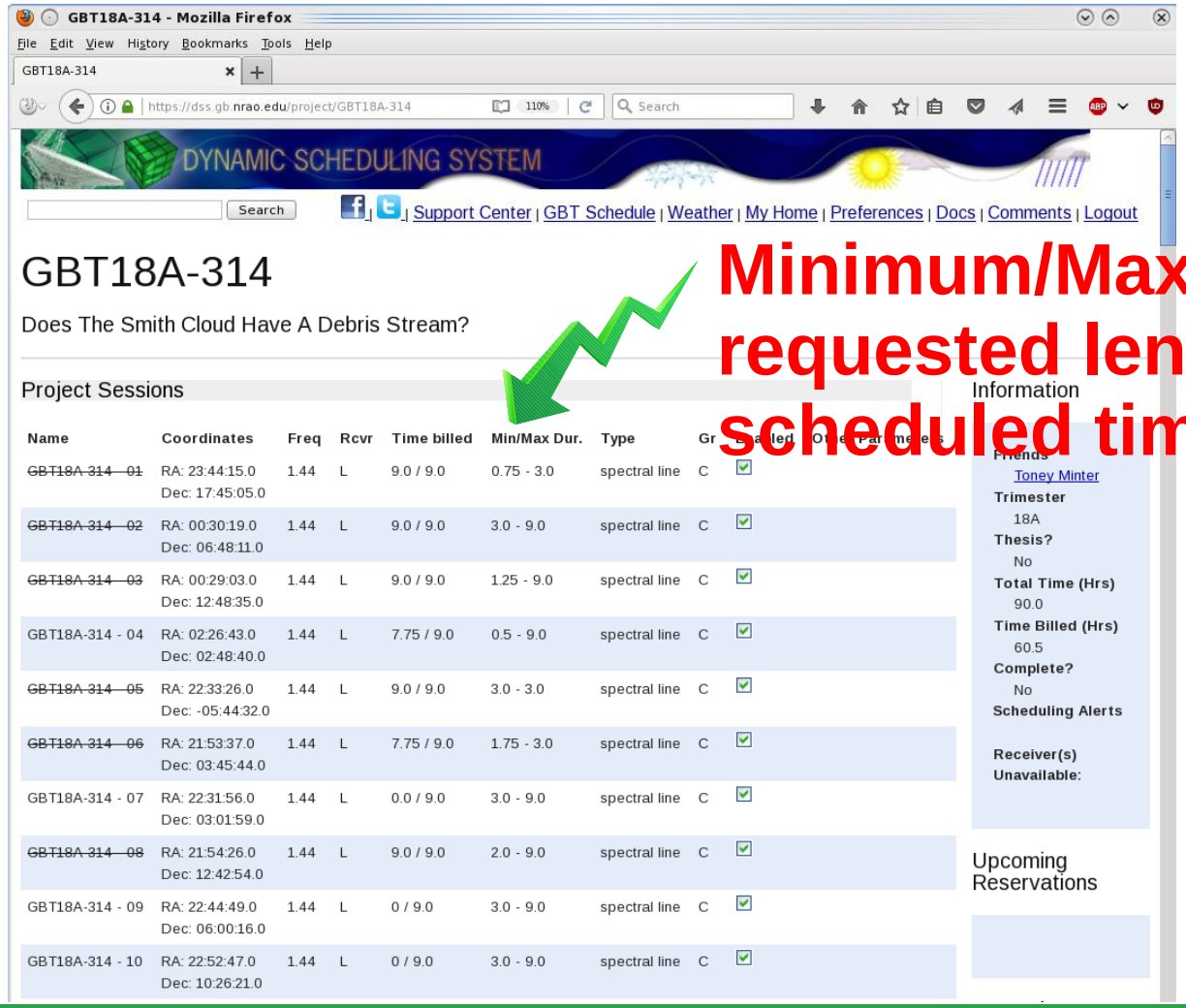
DSS Project Page



Time allocated and used for each session

GREEN BANK OBSERVATORY

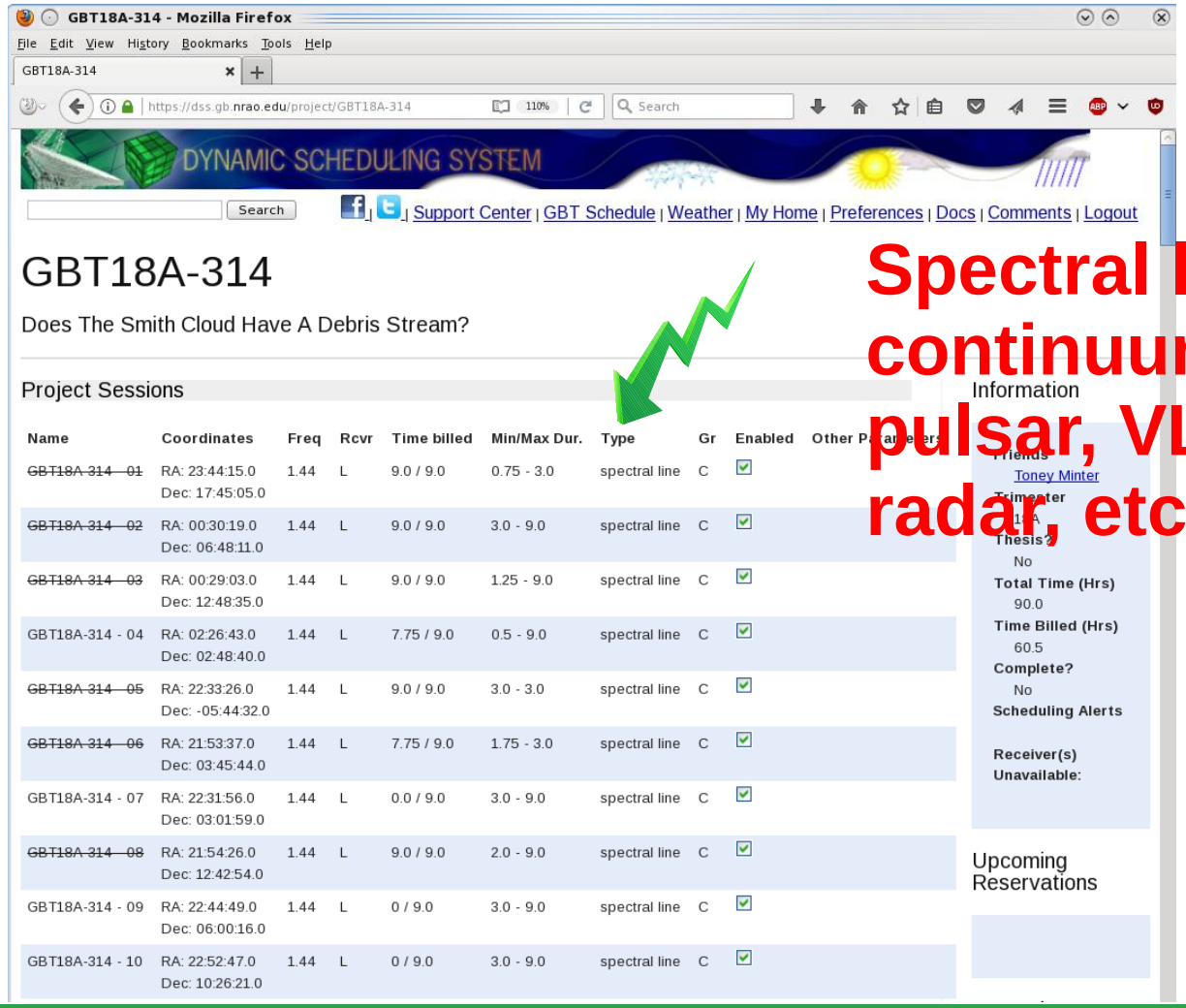
DSS Project Page



Minimum/Maximum requested length of scheduled time

GREEN BANK OBSERVATORY

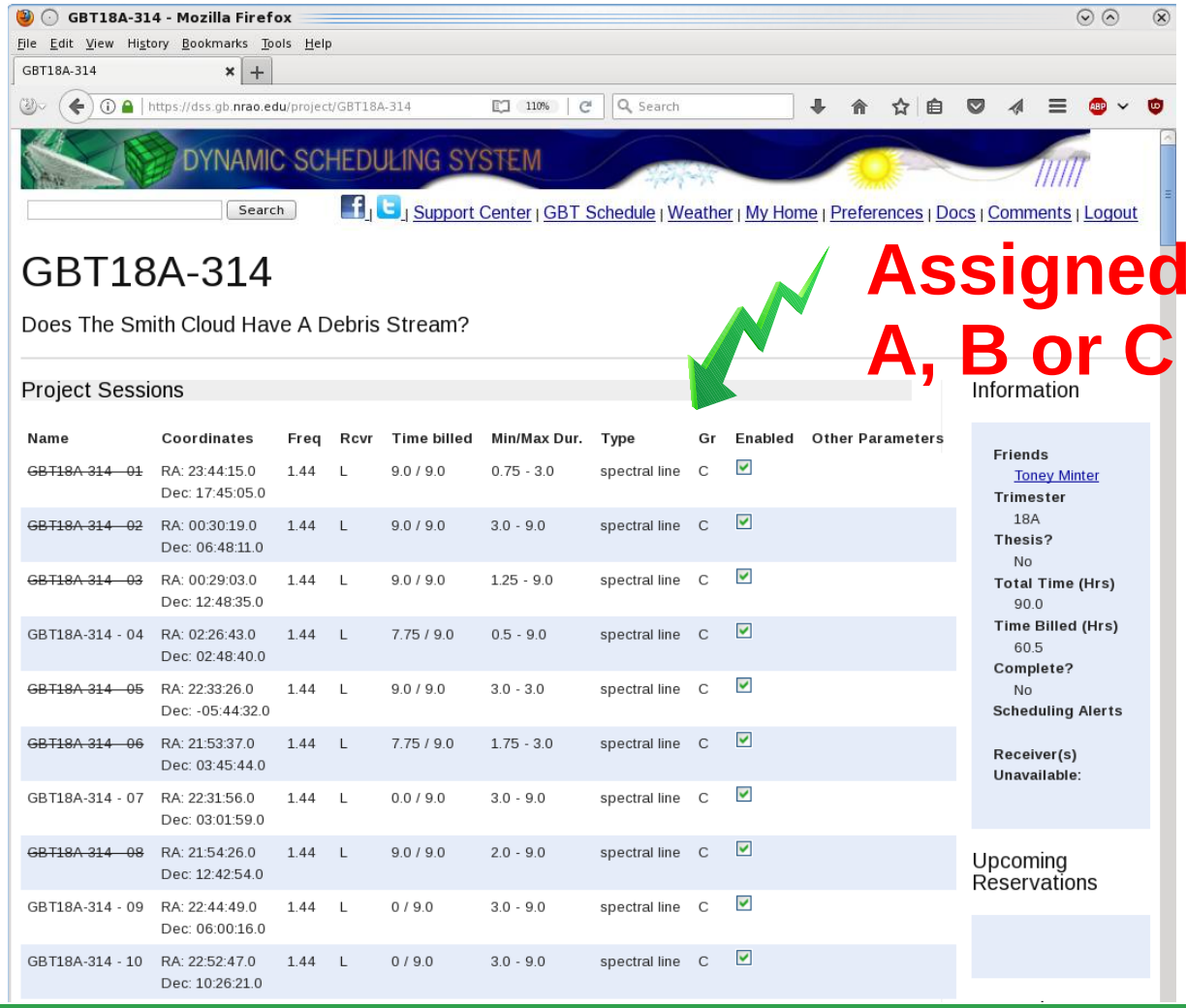
DSS Project Page



Spectral line, continuum, pulsar, VLBI, radar, etc.

GREEN BANK OBSERVATORY

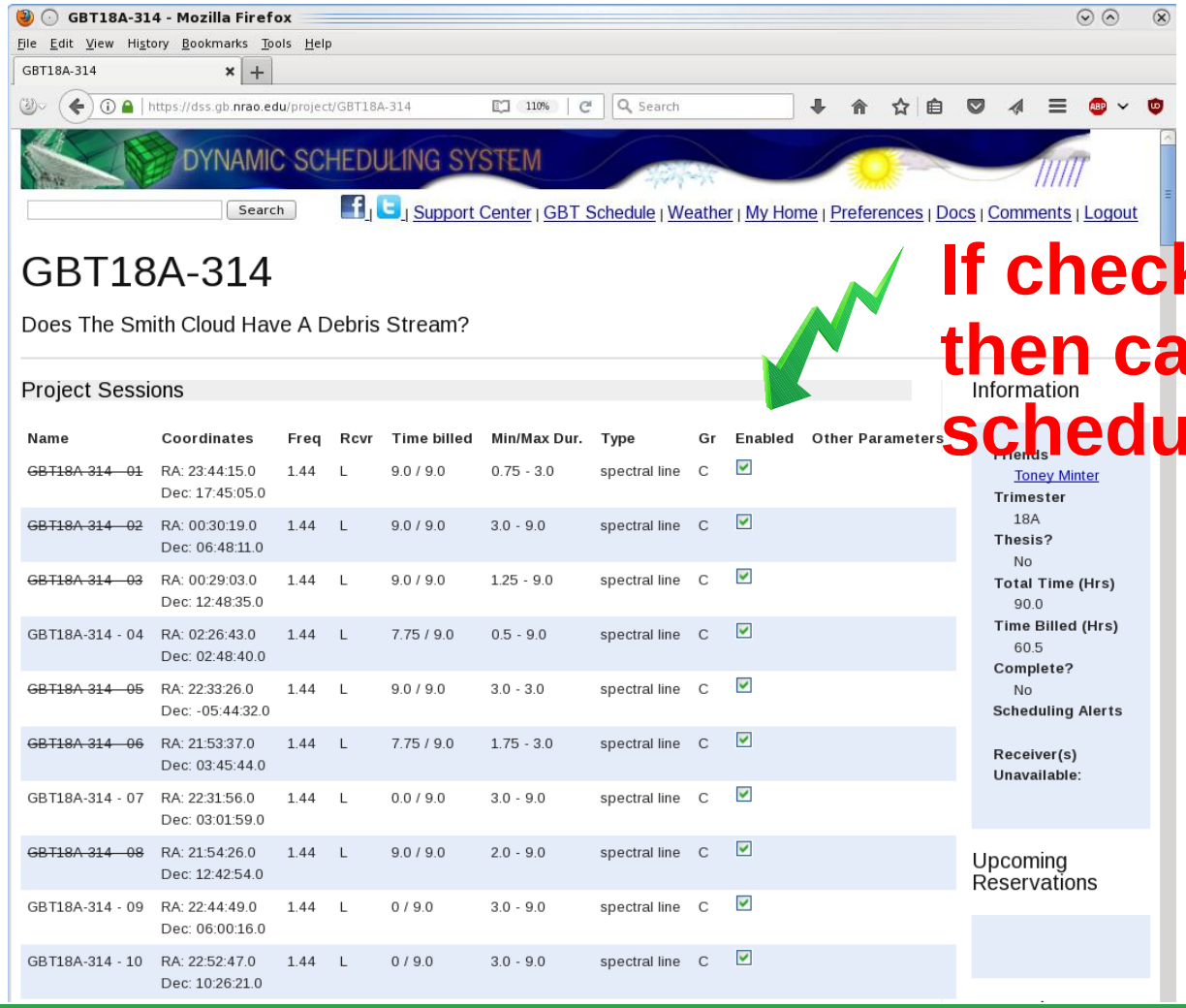
DSS Project Page



Assigned priority A, B or C

GREEN BANK OBSERVATORY

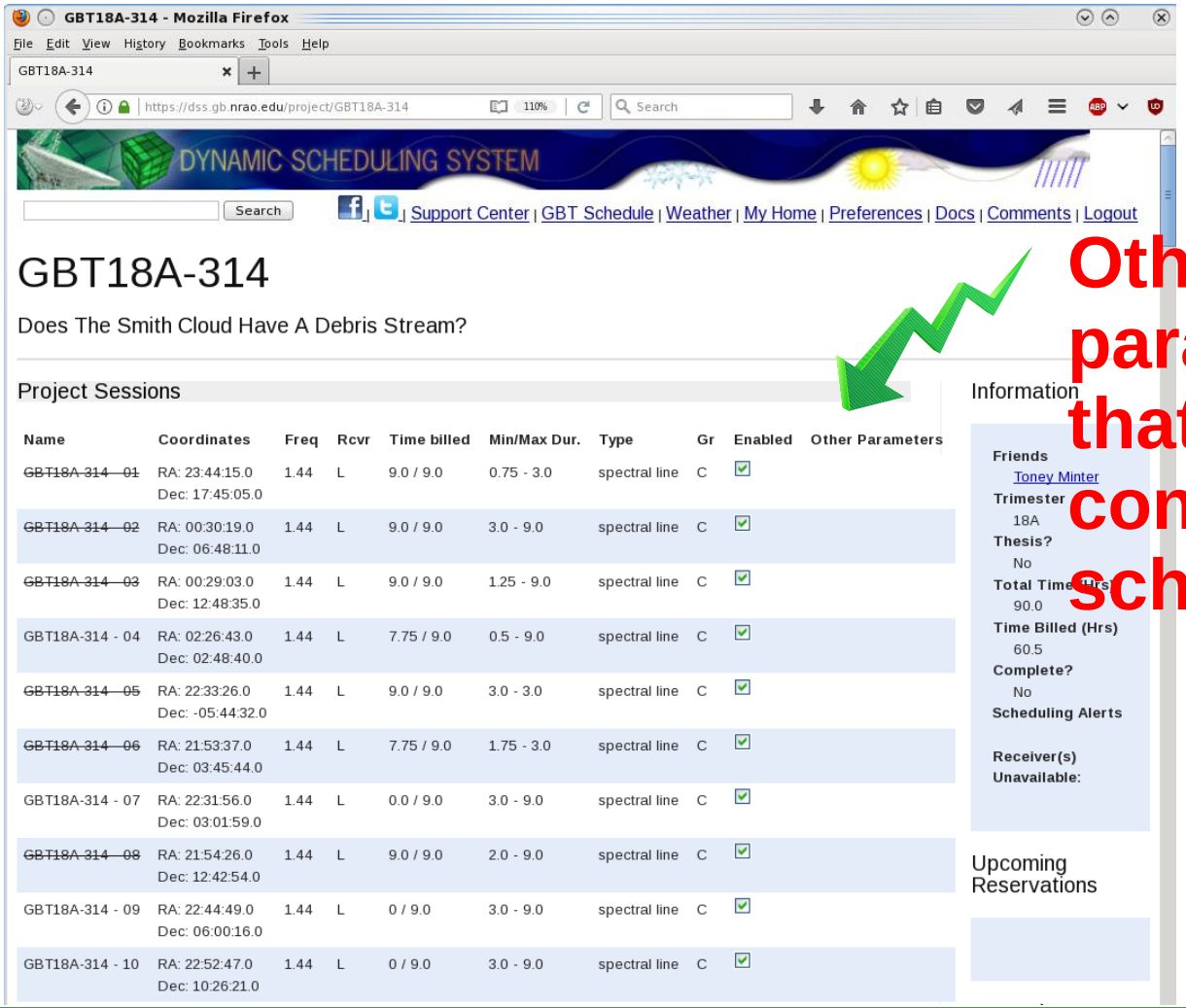
DSS Project Page



If checked then can be scheduled

GREEN BANK OBSERVATORY

DSS Project Page



Other parameters that control scheduling

GREEN BANK OBSERVATORY

DSS Parameters

- 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

GREEN BANK OBSERVATORY

DSS Parameters

- 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

GREEN BANK OBSERVATORY

DSS Parameters

- 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

GREEN BANK OBSERVATORY

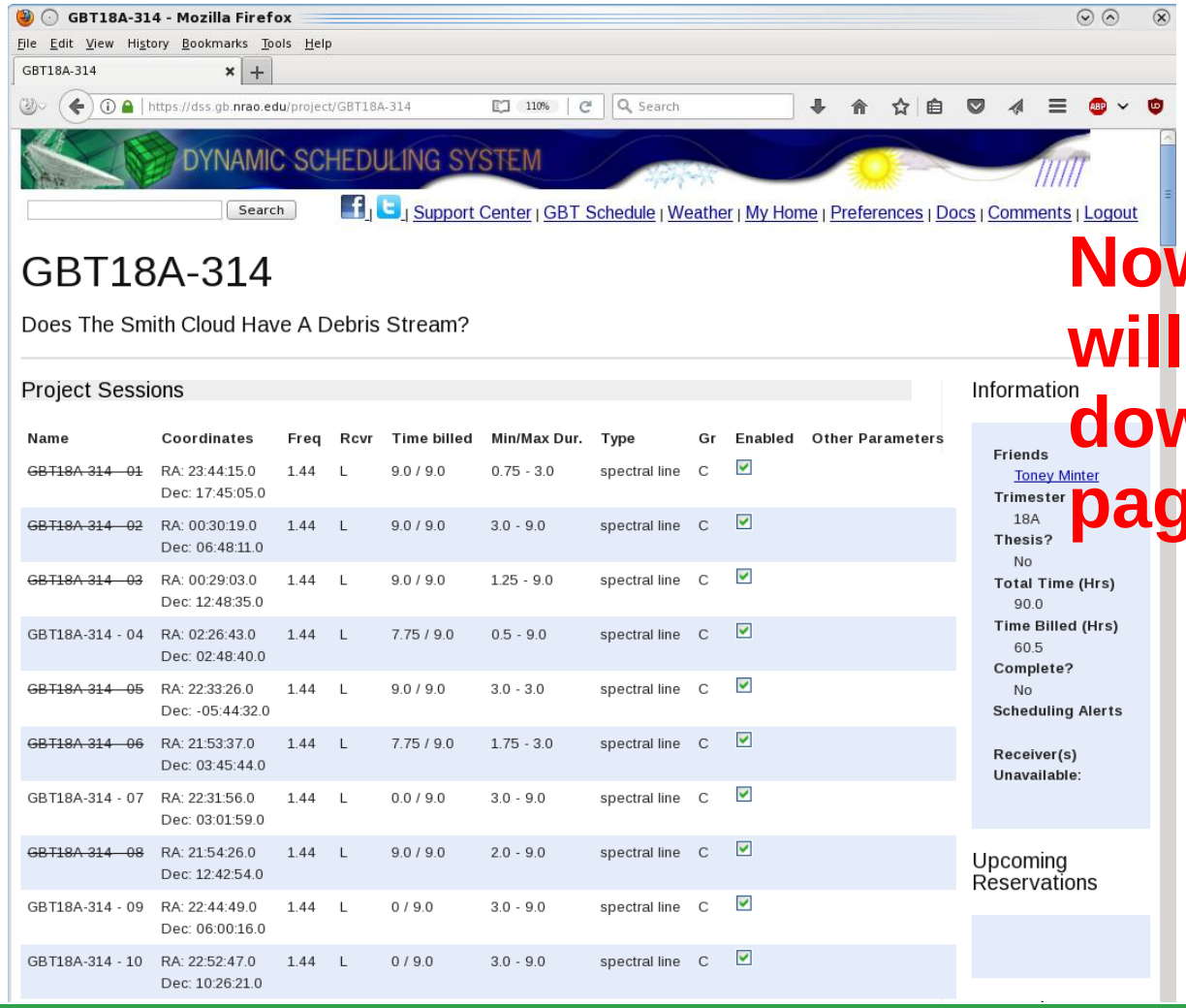
NSF Associated Universities, Inc.

DSS Parameters

- 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

GREEN BANK OBSERVATORY

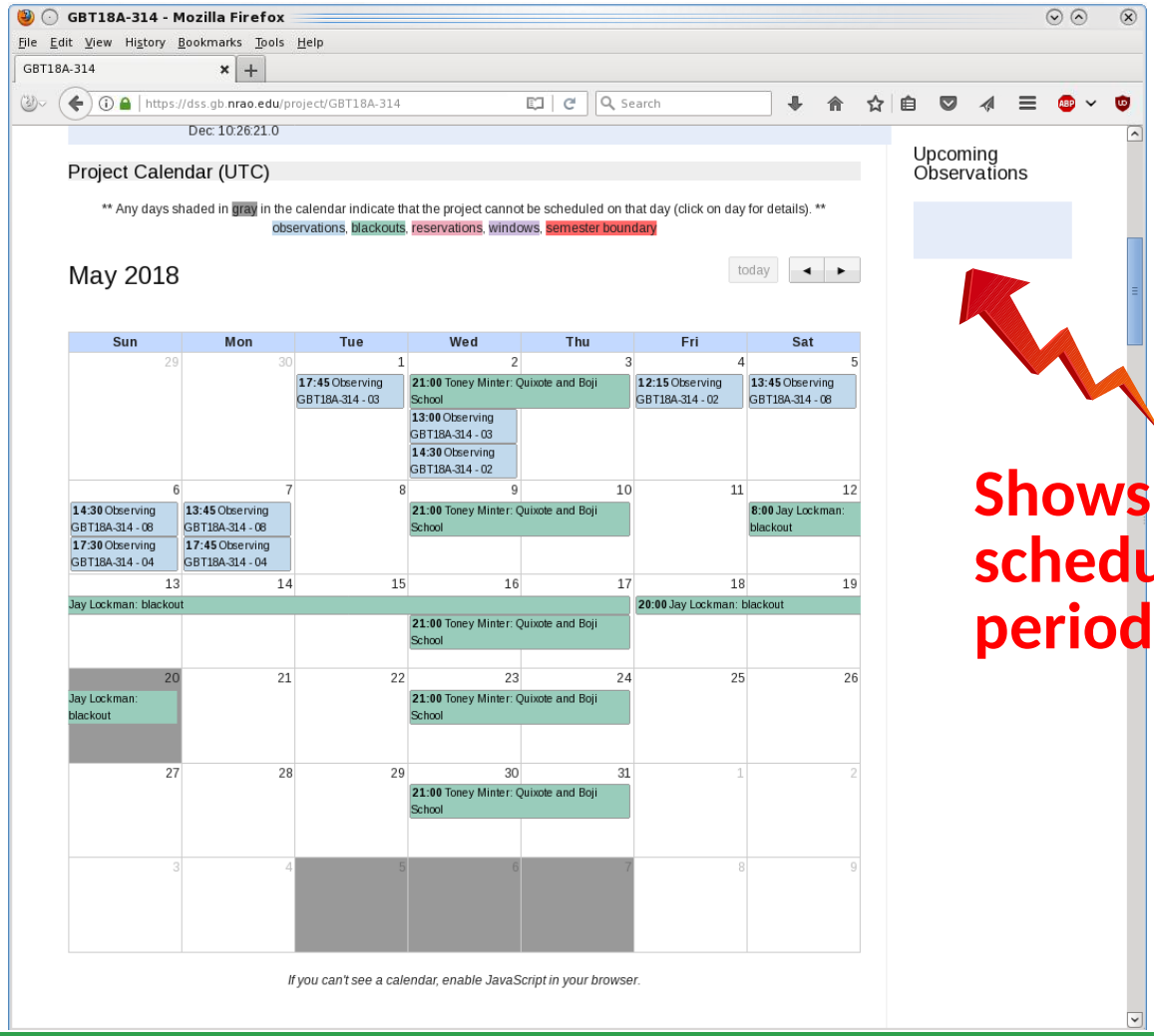
DSS Project Page



Now we will scroll down the page

GREEN BANK OBSERVATORY

DSS Project Page

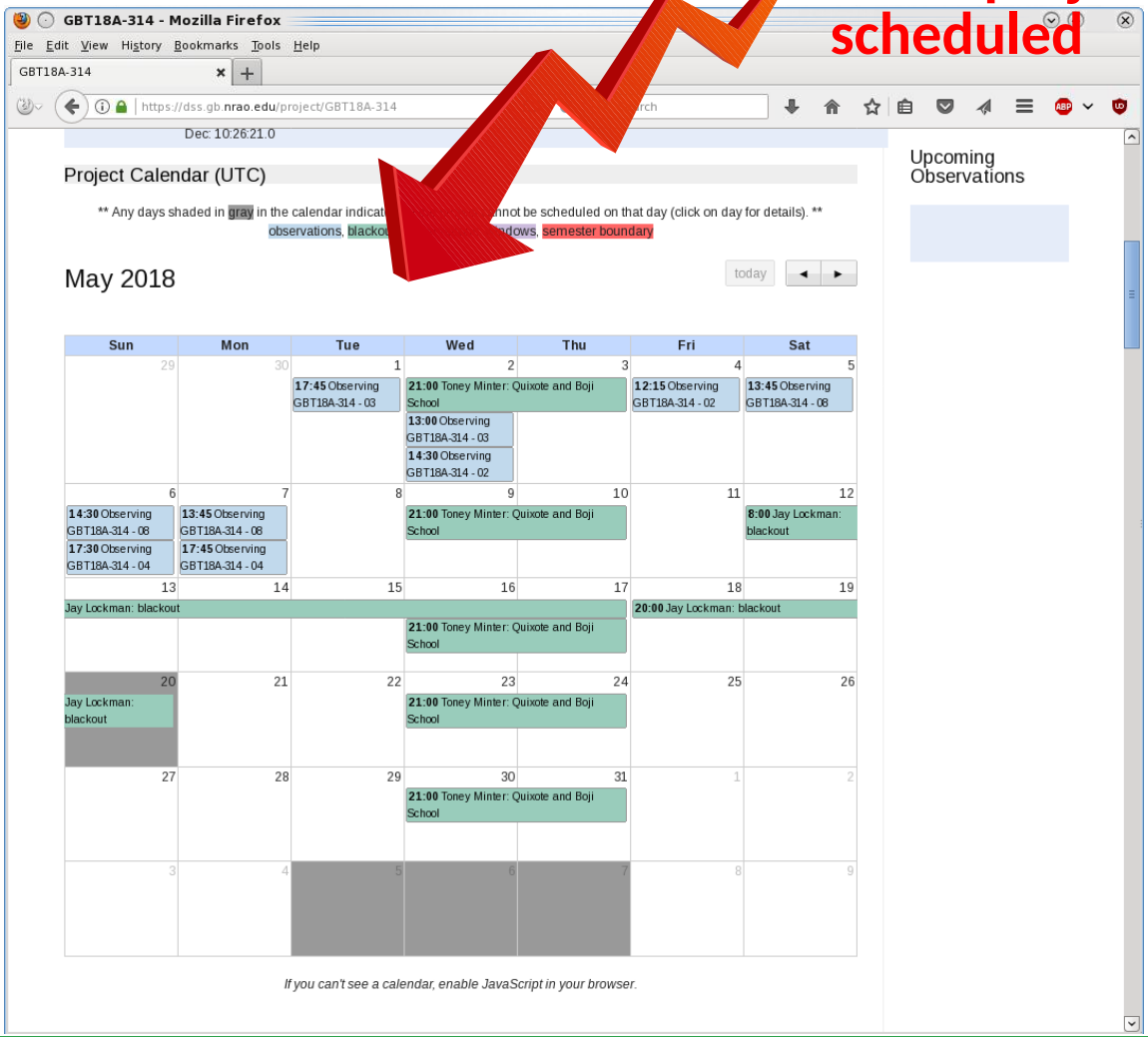


Shows upcoming scheduled periods

GREEN BANK OBSERVATORY

DSS Project Page

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

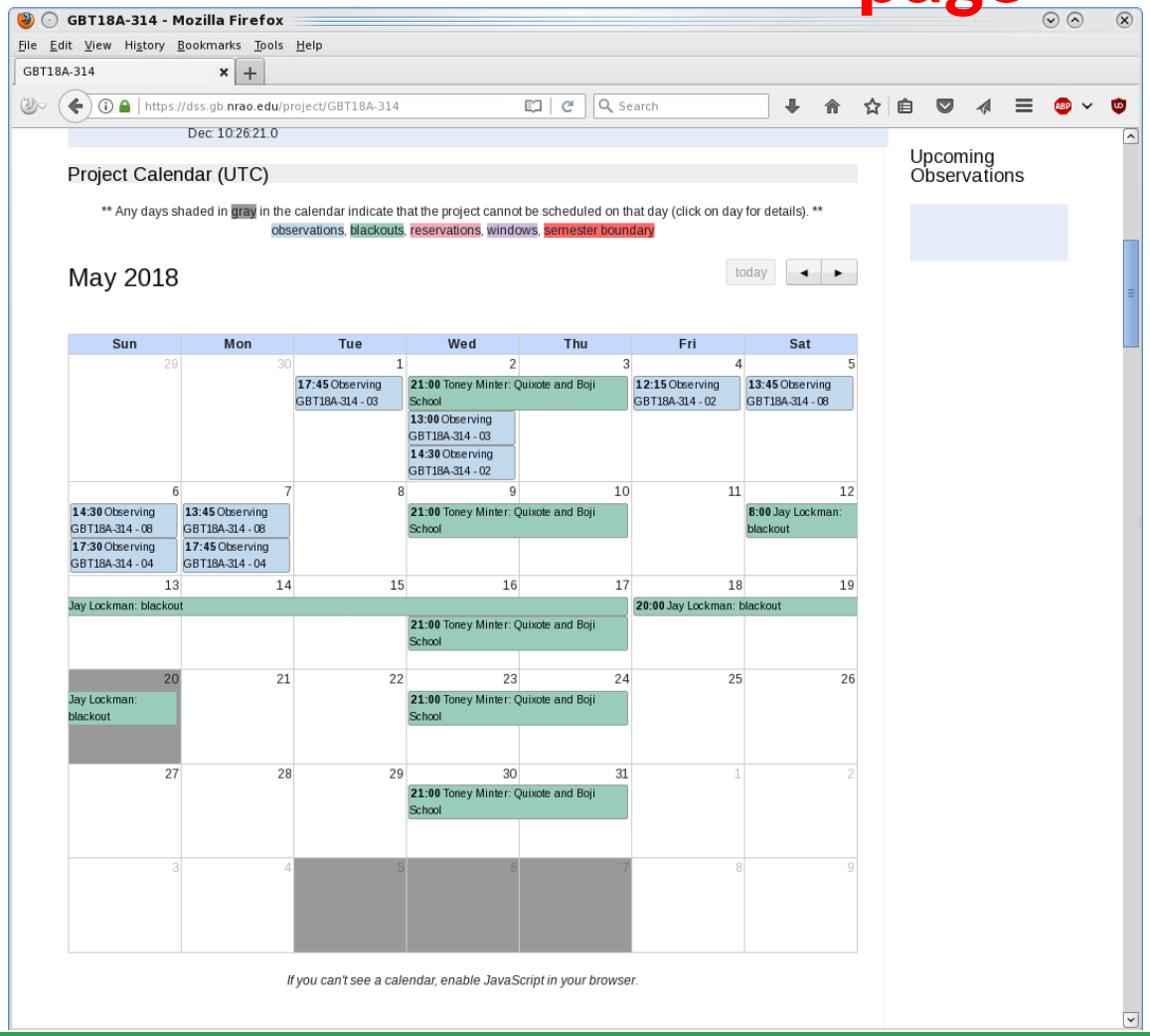


GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

Now we will scroll down the page

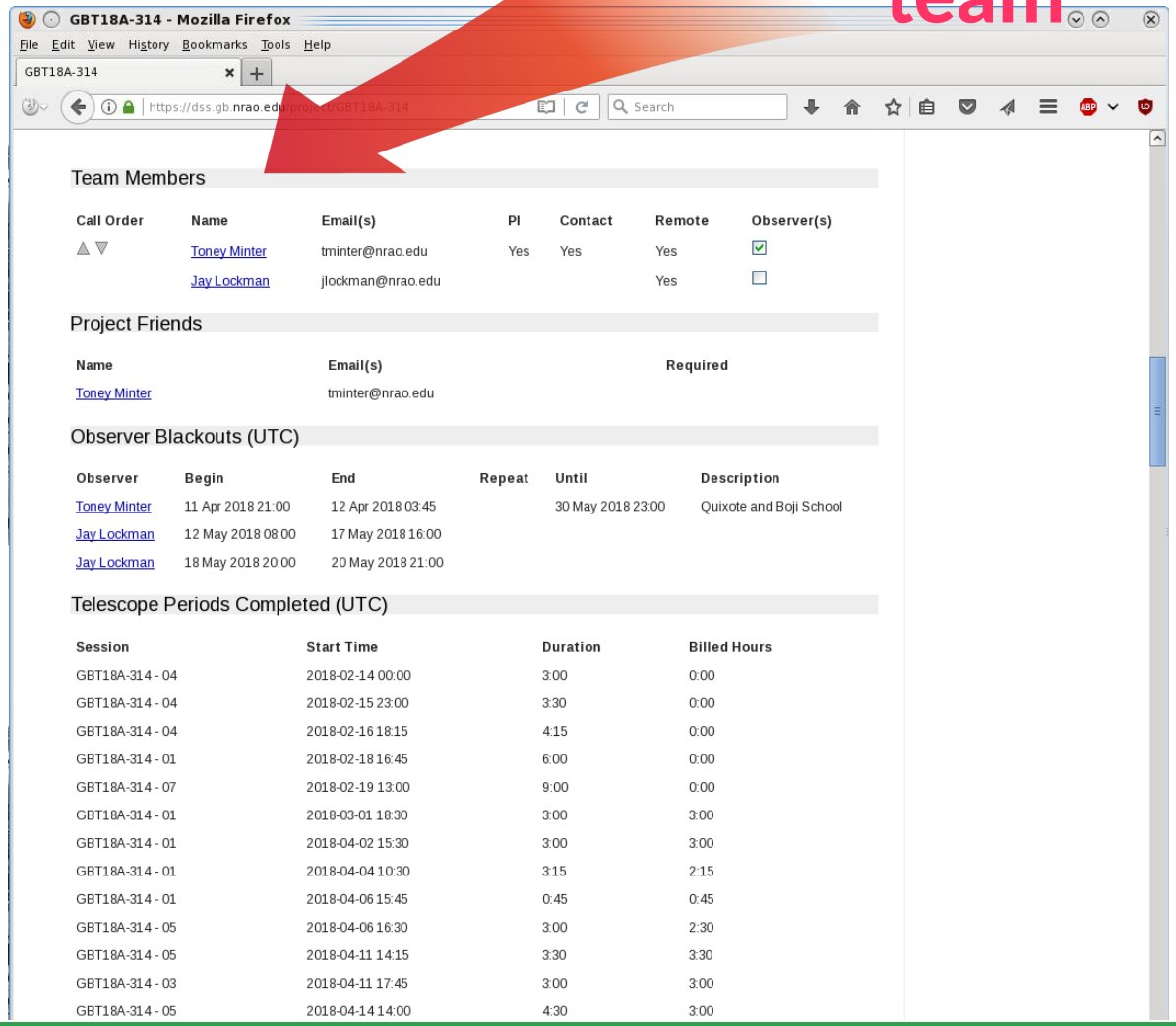


GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

The members of your project team

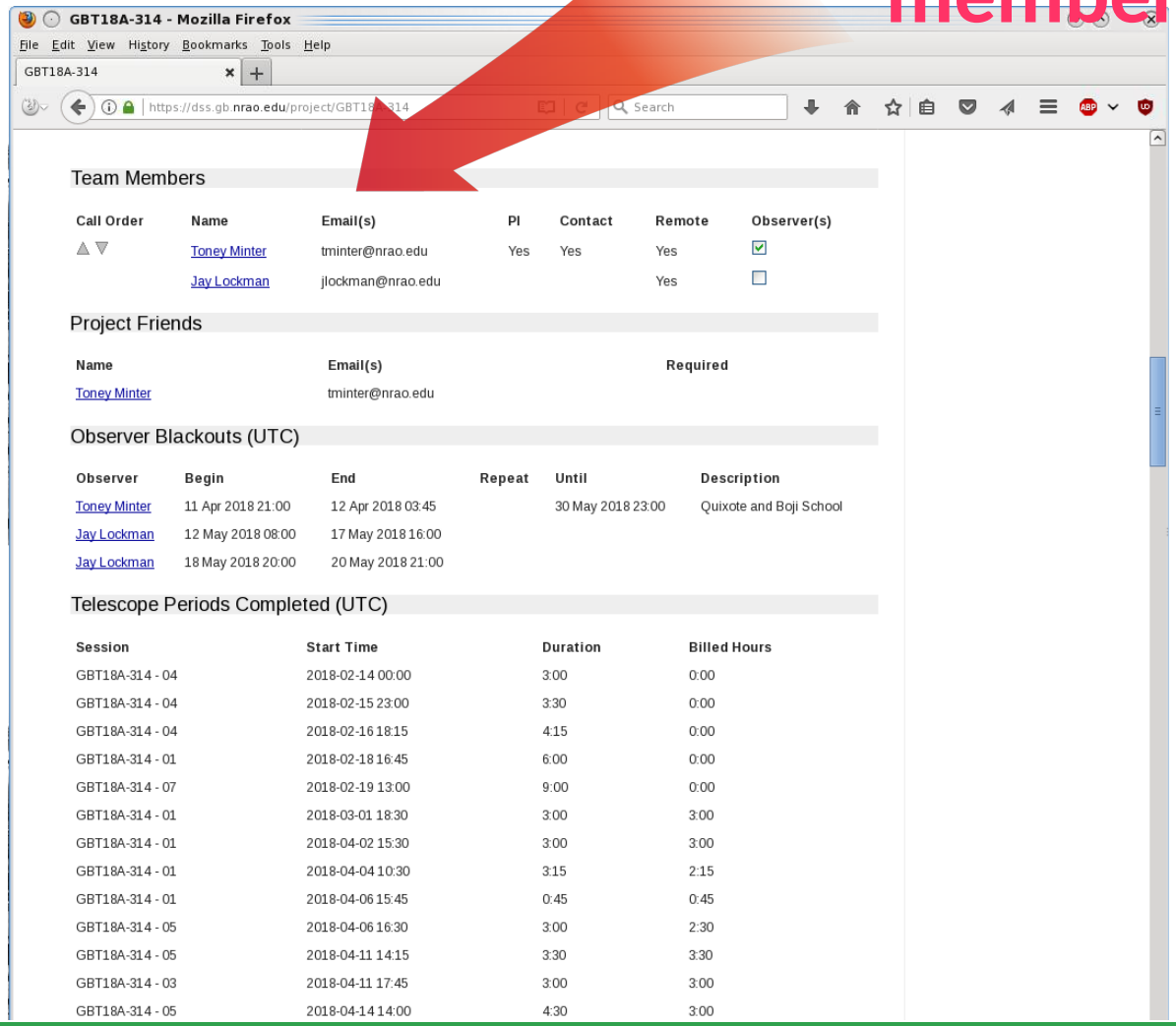


GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

Emails of project team members



Team Members

Call Order	Name	Email(s)	PI	Contact	Remote	Observer(s)
▲ ▼	Toney Minter	tminter@nrao.edu	Yes	Yes	Yes	☑
	Jay Lockman	jlockman@nrao.edu			Yes	☐

Project Friends

Name	Email(s)	Required
Toney Minter	tminter@nrao.edu	

Observer Blackouts (UTC)

Observer	Begin	End	Repeat	Until	Description
Toney Minter	11 Apr 2018 21:00	12 Apr 2018 03:45		30 May 2018 23:00	Quixote and Boji School
Jay Lockman	12 May 2018 08:00	17 May 2018 16:00			
Jay Lockman	18 May 2018 20:00	20 May 2018 21:00			

Telescope Periods Completed (UTC)

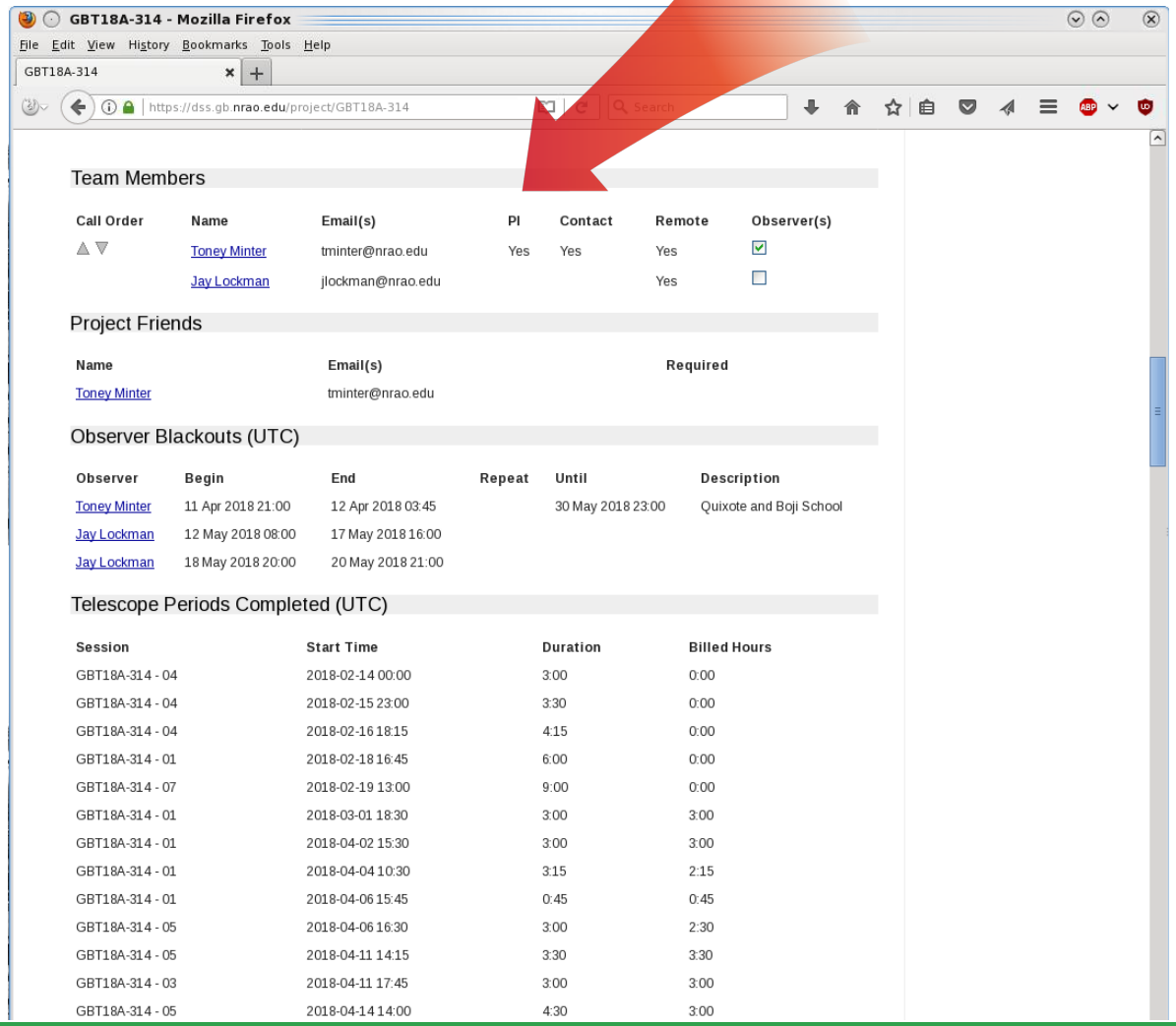
Session	Start Time	Duration	Billed Hours
GBT18A-314 - 04	2018-02-14 00:00	3:00	0:00
GBT18A-314 - 04	2018-02-15 23:00	3:30	0:00
GBT18A-314 - 04	2018-02-16 18:15	4:15	0:00
GBT18A-314 - 01	2018-02-18 16:45	6:00	0:00
GBT18A-314 - 07	2018-02-19 13:00	9:00	0:00
GBT18A-314 - 01	2018-03-01 18:30	3:00	3:00
GBT18A-314 - 01	2018-04-02 15:30	3:00	3:00
GBT18A-314 - 01	2018-04-04 10:30	3:15	2:15
GBT18A-314 - 01	2018-04-06 15:45	0:45	0:45
GBT18A-314 - 05	2018-04-06 16:30	3:00	2:30
GBT18A-314 - 05	2018-04-11 14:15	3:30	3:30
GBT18A-314 - 03	2018-04-11 17:45	3:00	3:00
GBT18A-314 - 05	2018-04-14 14:00	4:30	3:00

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

Which one is the PI

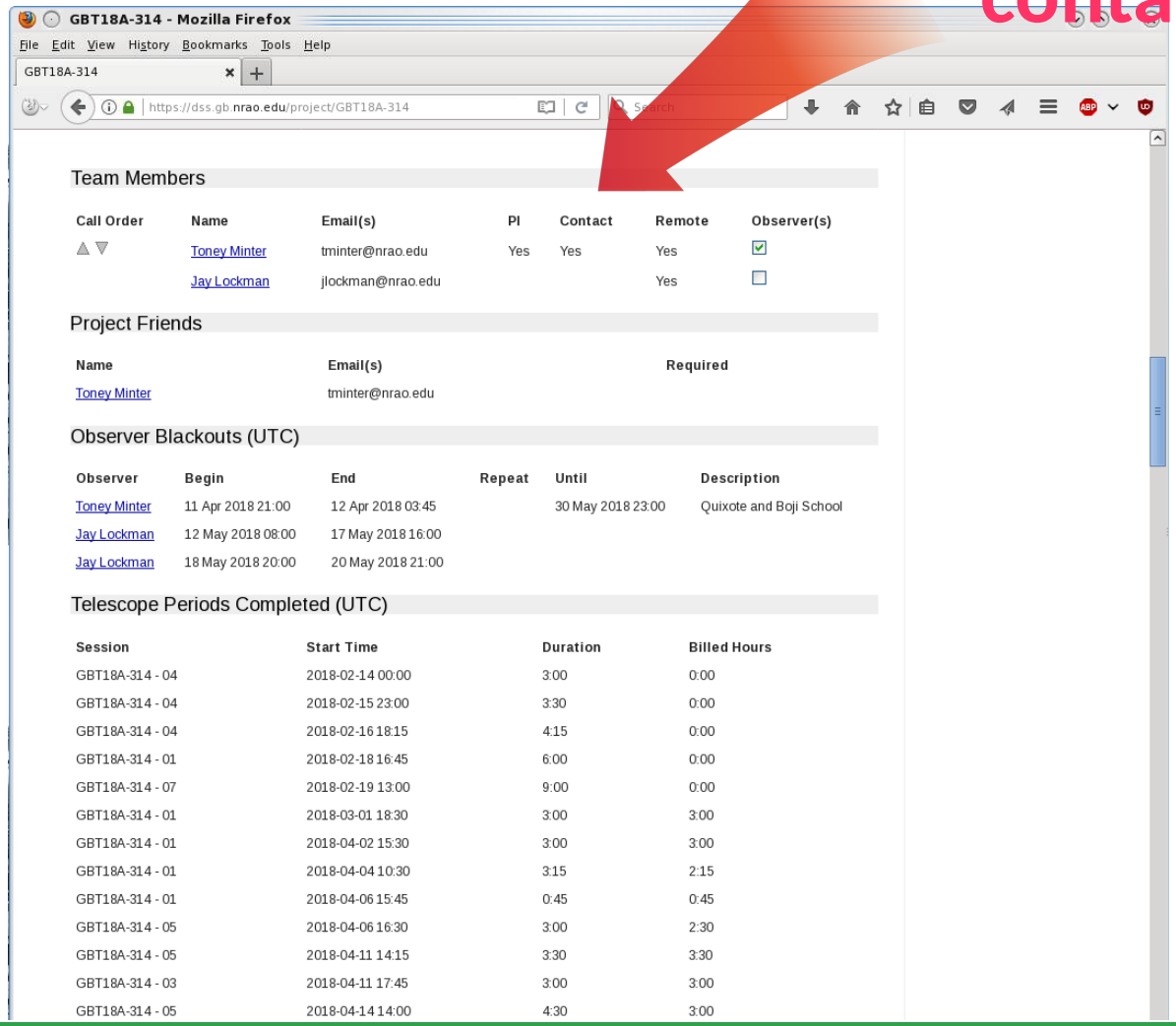


GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

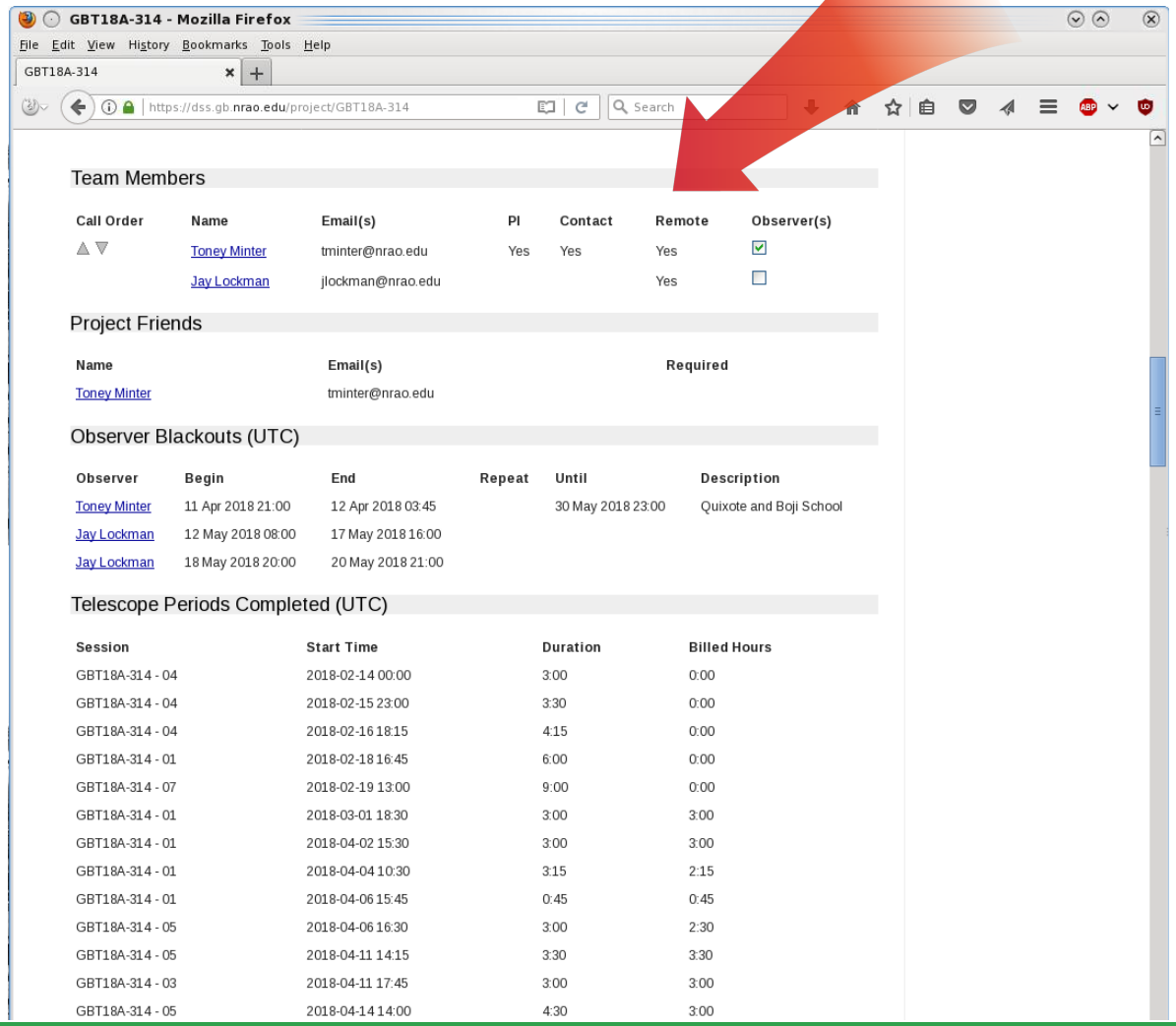
Who should always be contacted



GREEN BANK OBSERVATORY

DSS Project Page

Are they allowed to observe remotely



Team Members

Call Order	Name	Email(s)	PI	Contact	Remote	Observer(s)
▲ ▼	Toney Minter	tminter@nrao.edu	Yes	Yes	Yes	☑
	Jay Lockman	jlockman@nrao.edu			Yes	☐

Project Friends

Name	Email(s)	Required
Toney Minter	tminter@nrao.edu	

Observer Blackouts (UTC)

Observer	Begin	End	Repeat	Until	Description
Toney Minter	11 Apr 2018 21:00	12 Apr 2018 03:45		30 May 2018 23:00	Quixote and Boji School
Jay Lockman	12 May 2018 08:00	17 May 2018 16:00			
Jay Lockman	18 May 2018 20:00	20 May 2018 21:00			

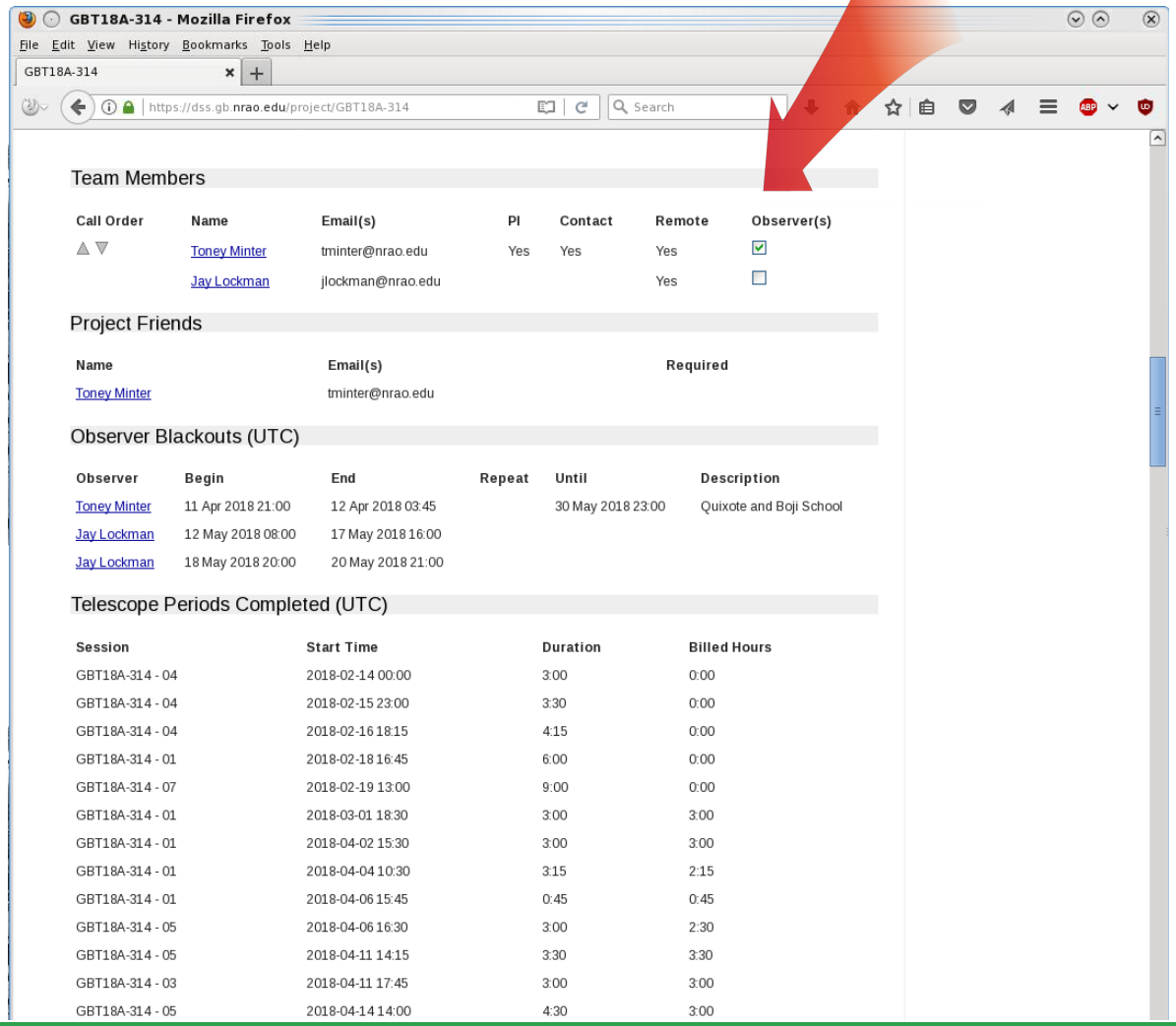
Telescope Periods Completed (UTC)

Session	Start Time	Duration	Billed Hours
GBT18A-314 - 04	2018-02-14 00:00	3:00	0:00
GBT18A-314 - 04	2018-02-15 23:00	3:30	0:00
GBT18A-314 - 04	2018-02-16 18:15	4:15	0:00
GBT18A-314 - 01	2018-02-18 16:45	6:00	0:00
GBT18A-314 - 07	2018-02-19 13:00	9:00	0:00
GBT18A-314 - 01	2018-03-01 18:30	3:00	3:00
GBT18A-314 - 01	2018-04-02 15:30	3:00	3:00
GBT18A-314 - 01	2018-04-04 10:30	3:15	2:15
GBT18A-314 - 01	2018-04-06 15:45	0:45	0:45
GBT18A-314 - 05	2018-04-06 16:30	3:00	2:30
GBT18A-314 - 05	2018-04-11 14:15	3:30	3:30
GBT18A-314 - 03	2018-04-11 17:45	3:00	3:00
GBT18A-314 - 05	2018-04-14 14:00	4:30	3:00

GREEN BANK OBSERVATORY

DSS Project Page

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



Team Members

Call Order	Name	Email(s)	PI	Contact	Remote	Observer(s)
▲ ▼	Toney Minter	tminter@nrao.edu	Yes	Yes	Yes	☑
	Jay Lockman	jlockman@nrao.edu			Yes	☐

Project Friends

Name	Email(s)	Required
Toney Minter	tminter@nrao.edu	

Observer Blackouts (UTC)

Observer	Begin	End	Repeat	Until	Description
Toney Minter	11 Apr 2018 21:00	12 Apr 2018 03:45		30 May 2018 23:00	Quixote and Boji School
Jay Lockman	12 May 2018 08:00	17 May 2018 16:00			
Jay Lockman	18 May 2018 20:00	20 May 2018 21:00			

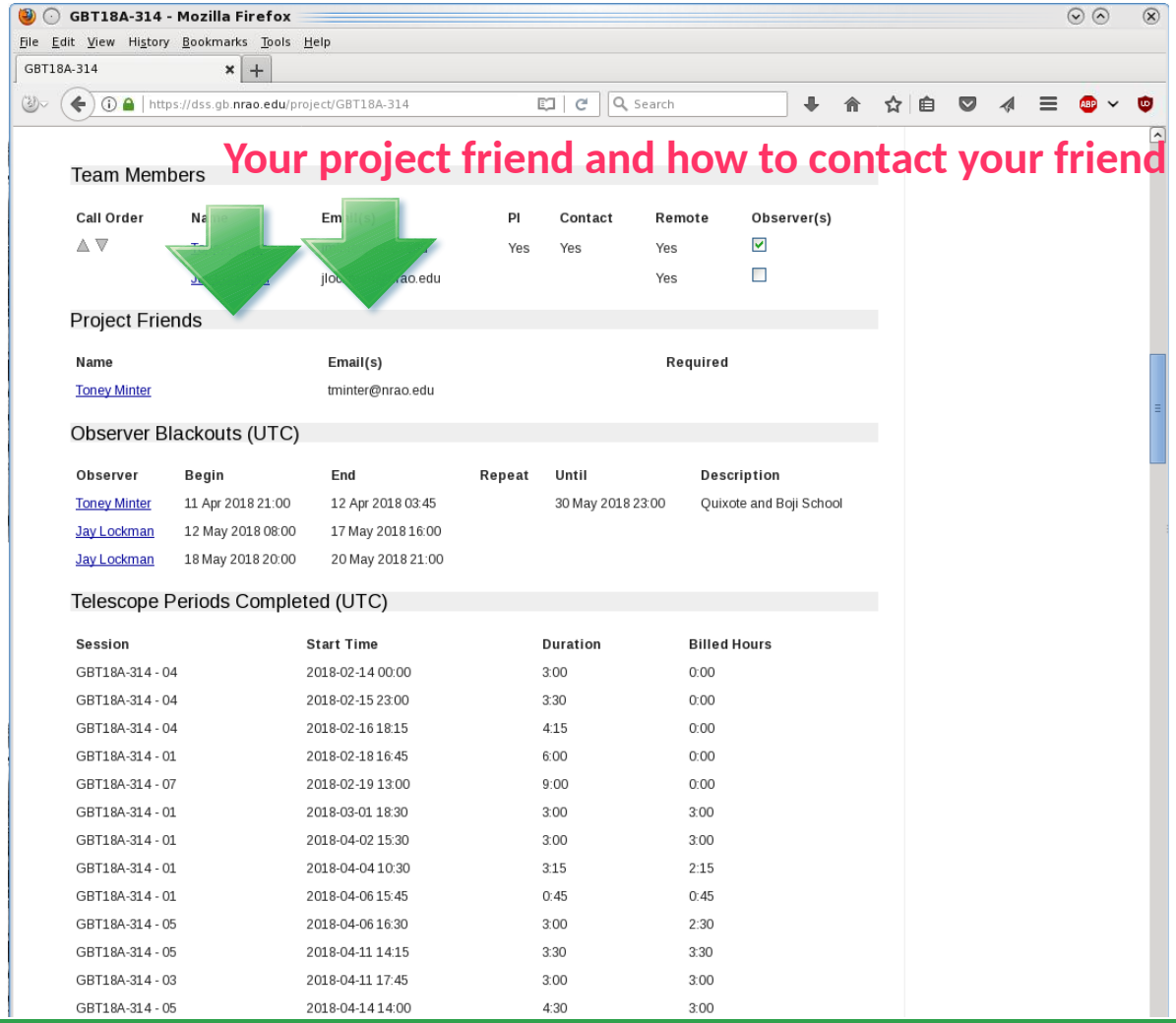
Telescope Periods Completed (UTC)

Session	Start Time	Duration	Billed Hours
GBT18A-314 - 04	2018-02-14 00:00	3:00	0:00
GBT18A-314 - 04	2018-02-15 23:00	3:30	0:00
GBT18A-314 - 04	2018-02-16 18:15	4:15	0:00
GBT18A-314 - 01	2018-02-18 16:45	6:00	0:00
GBT18A-314 - 07	2018-02-19 13:00	9:00	0:00
GBT18A-314 - 01	2018-03-01 18:30	3:00	3:00
GBT18A-314 - 01	2018-04-02 15:30	3:00	3:00
GBT18A-314 - 01	2018-04-04 10:30	3:15	2:15
GBT18A-314 - 01	2018-04-06 15:45	0:45	0:45
GBT18A-314 - 05	2018-04-06 16:30	3:00	2:30
GBT18A-314 - 05	2018-04-11 14:15	3:30	3:30
GBT18A-314 - 03	2018-04-11 17:45	3:00	3:00
GBT18A-314 - 05	2018-04-14 14:00	4:30	3:00

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

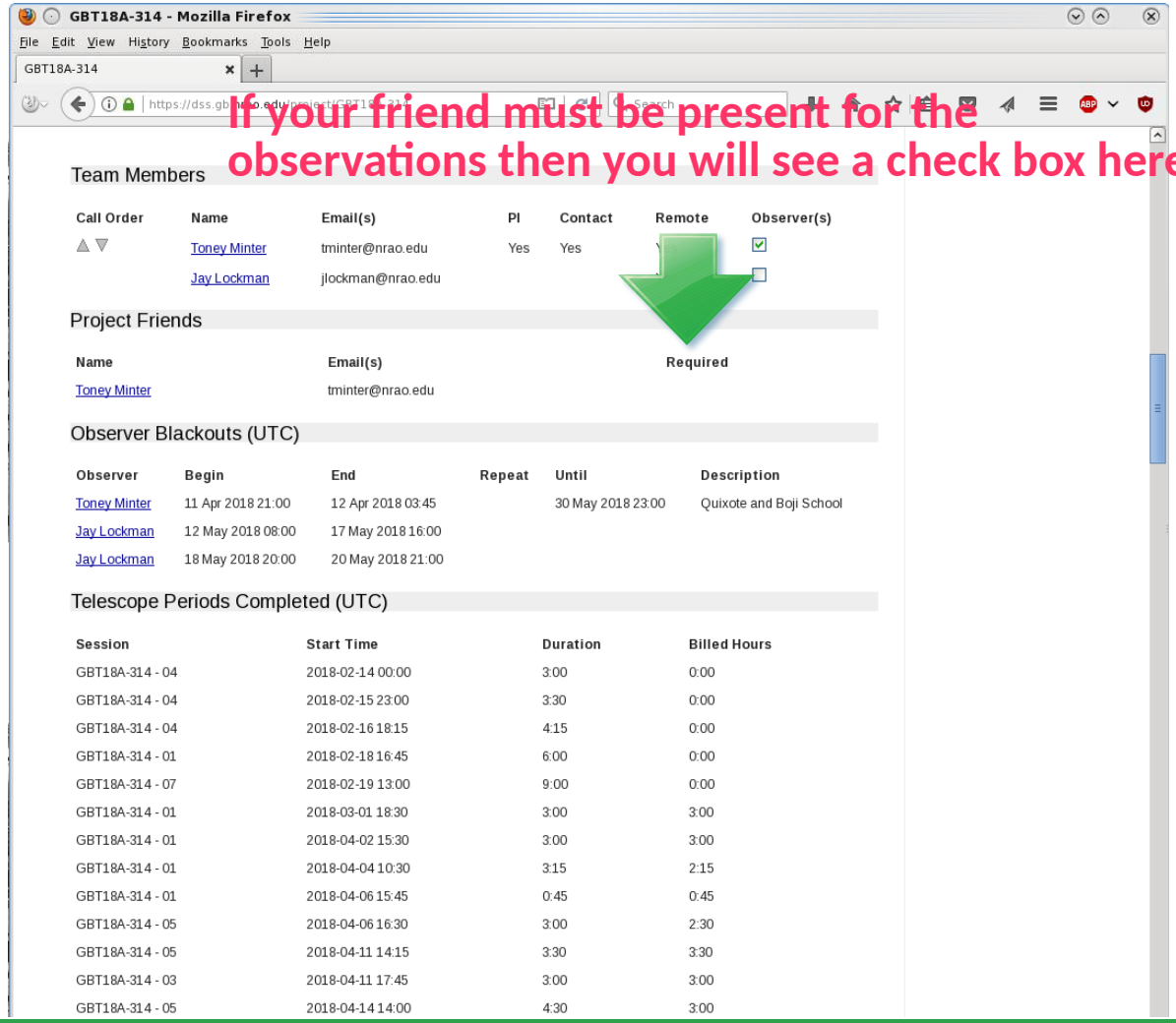
DSS Project Page



GREEN BANK OBSERVATORY

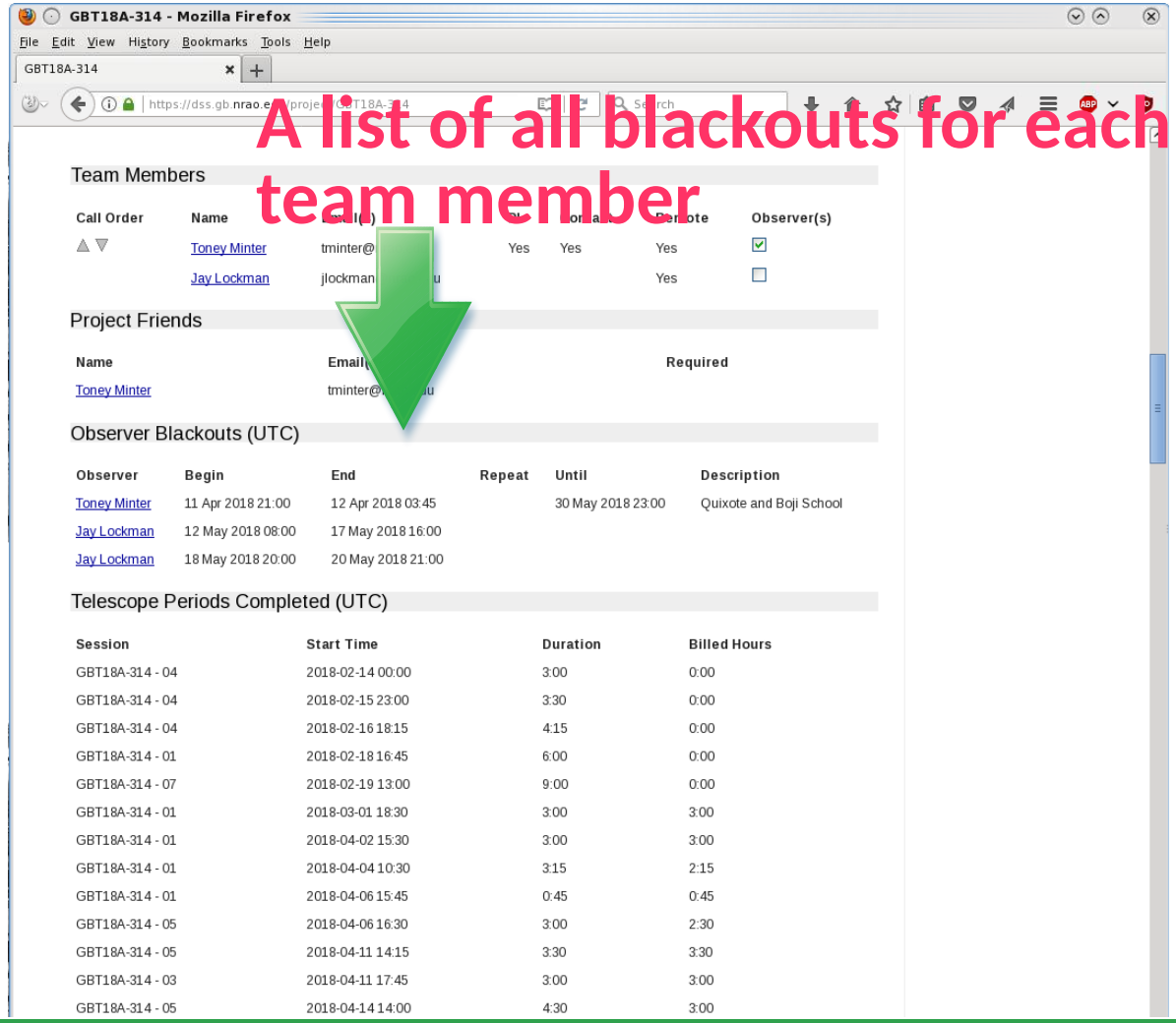
NSF Associated Universities, Inc.

DSS Project Page



GREEN BANK OBSERVATORY

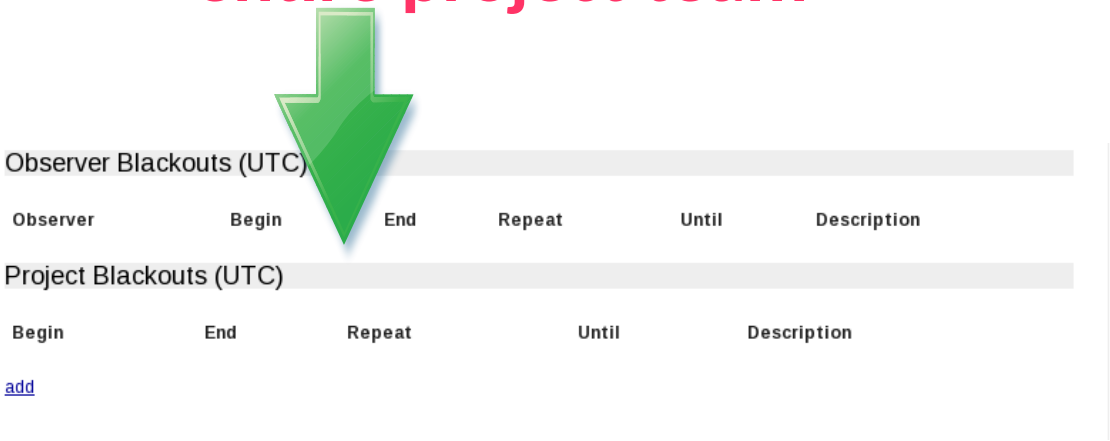
DSS Project Page



GREEN BANK OBSERVATORY

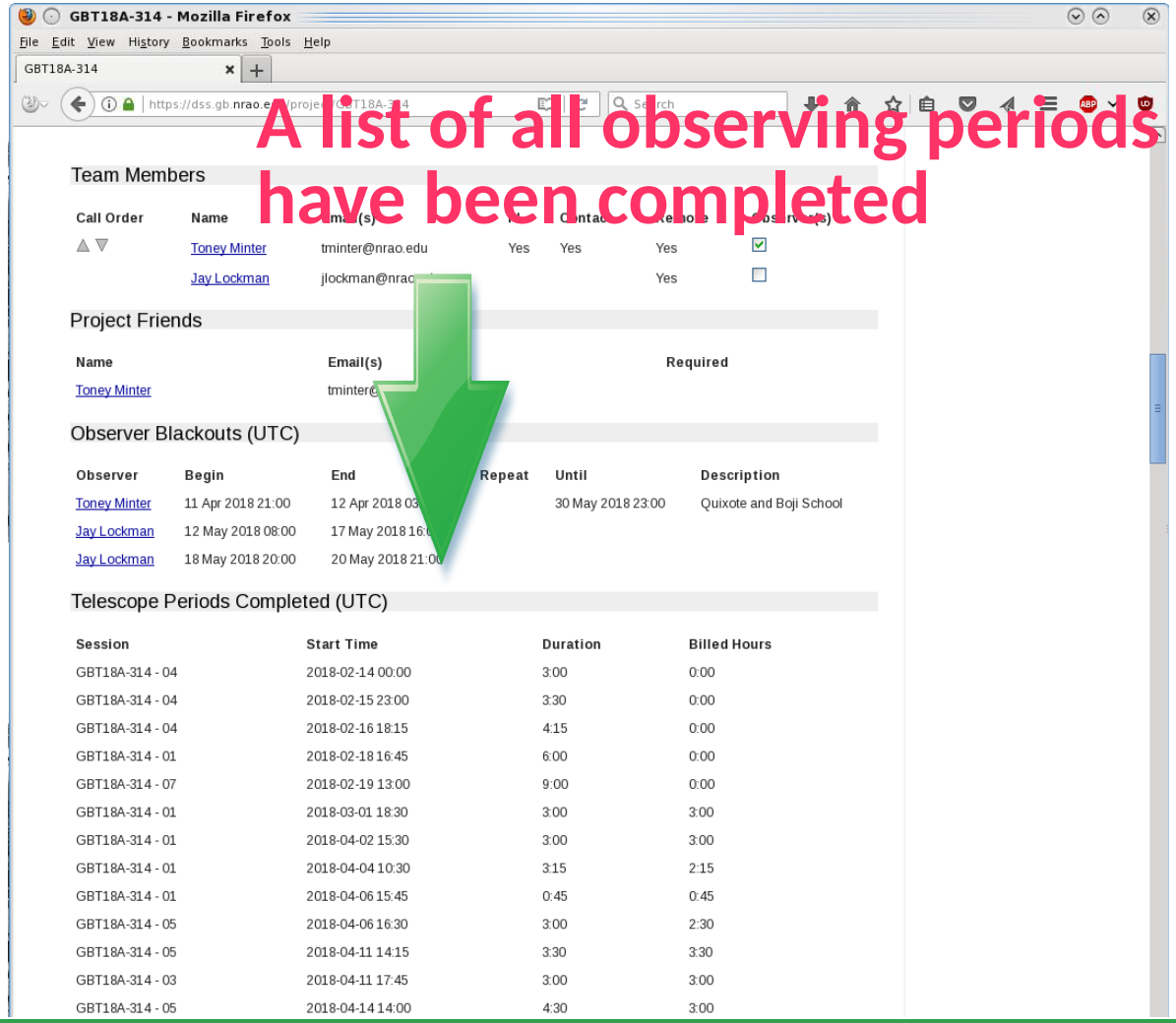
DSS Project Page

We can “turn on” blackouts for the entire project team



GREEN BANK OBSERVATORY

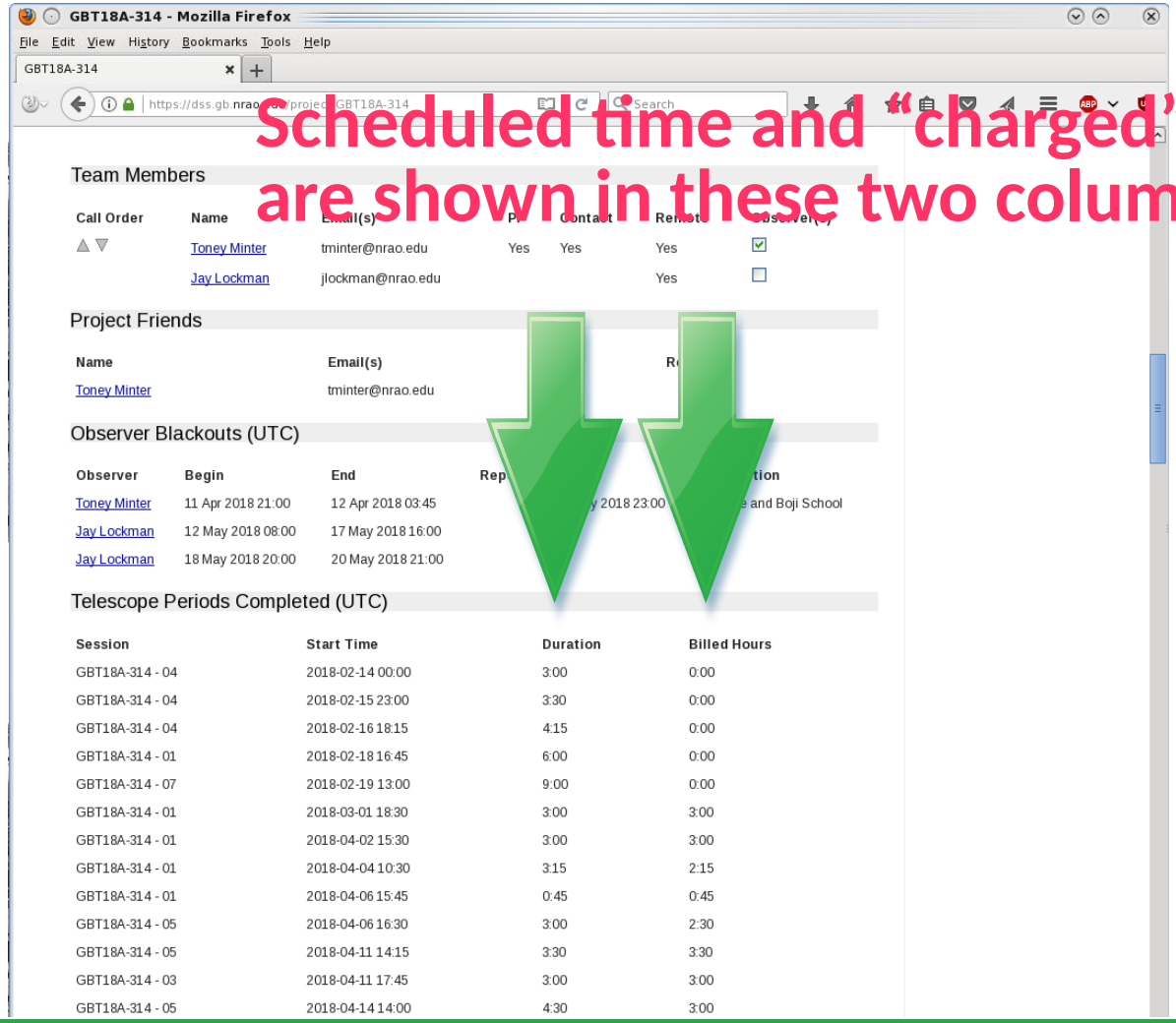
DSS Project Page



A list of all observing periods that have been completed

GREEN BANK OBSERVATORY

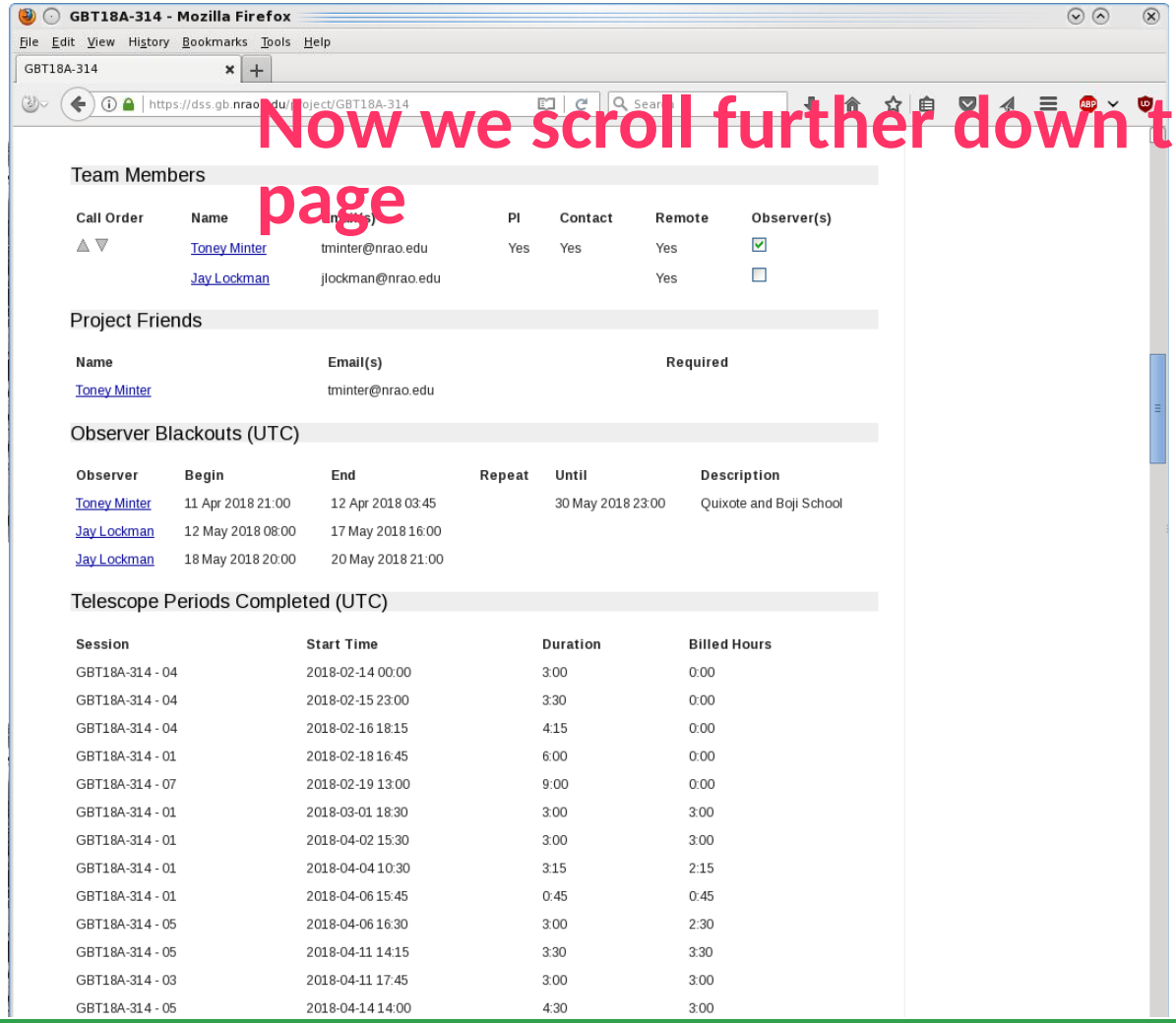
DSS Project Page



GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page



GREEN BANK OBSERVATORY

DSS Project Page

For monitoring projects with observing windows

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	

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

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	

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

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	

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

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	

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page

The length of the observing session

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	

GREEN BANK OBSERVATORY

DSS Project Page

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	

GREEN BANK OBSERVATORY

DSS Project Page

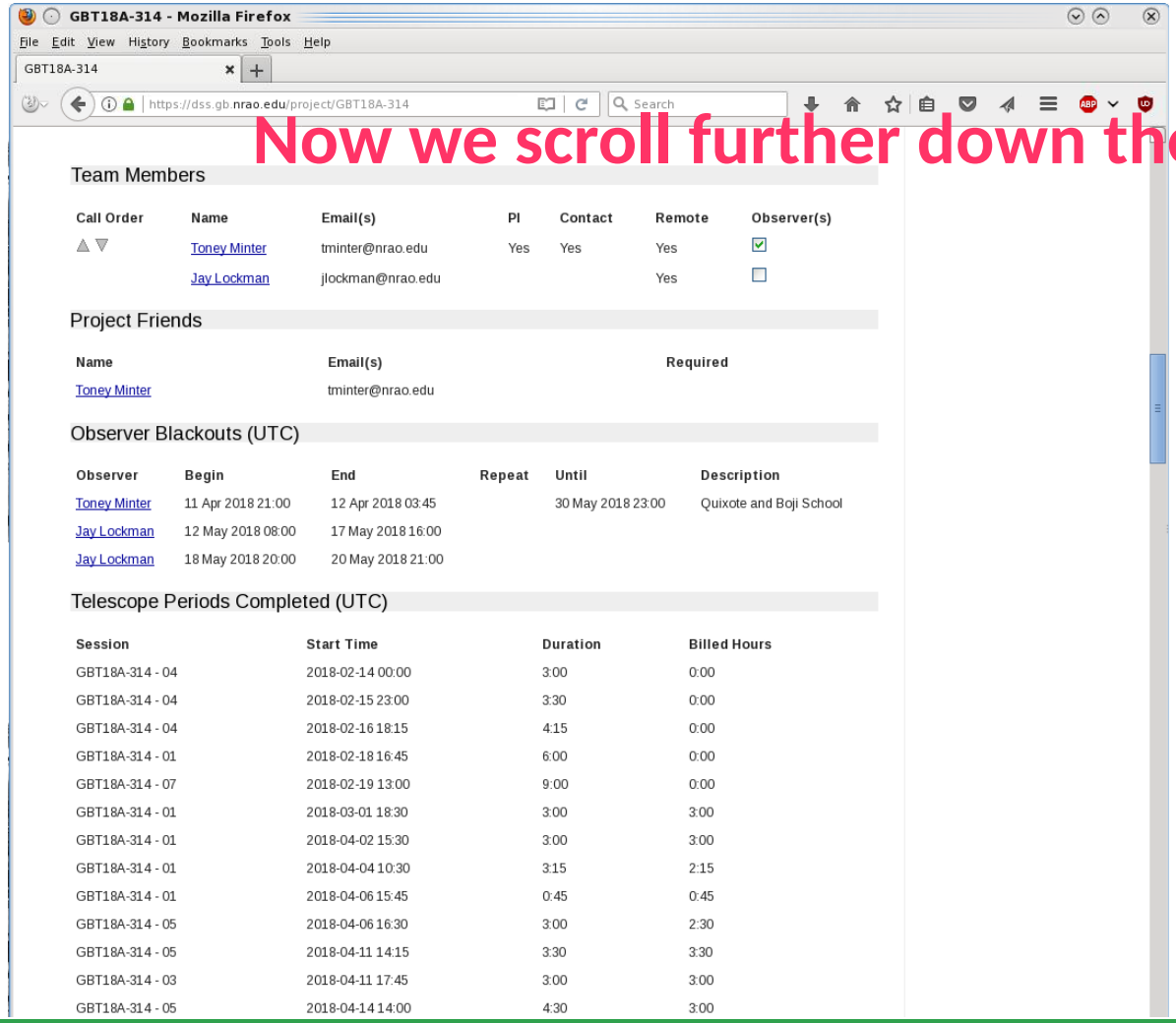
Have the observations been completed

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	

GREEN BANK OBSERVATORY

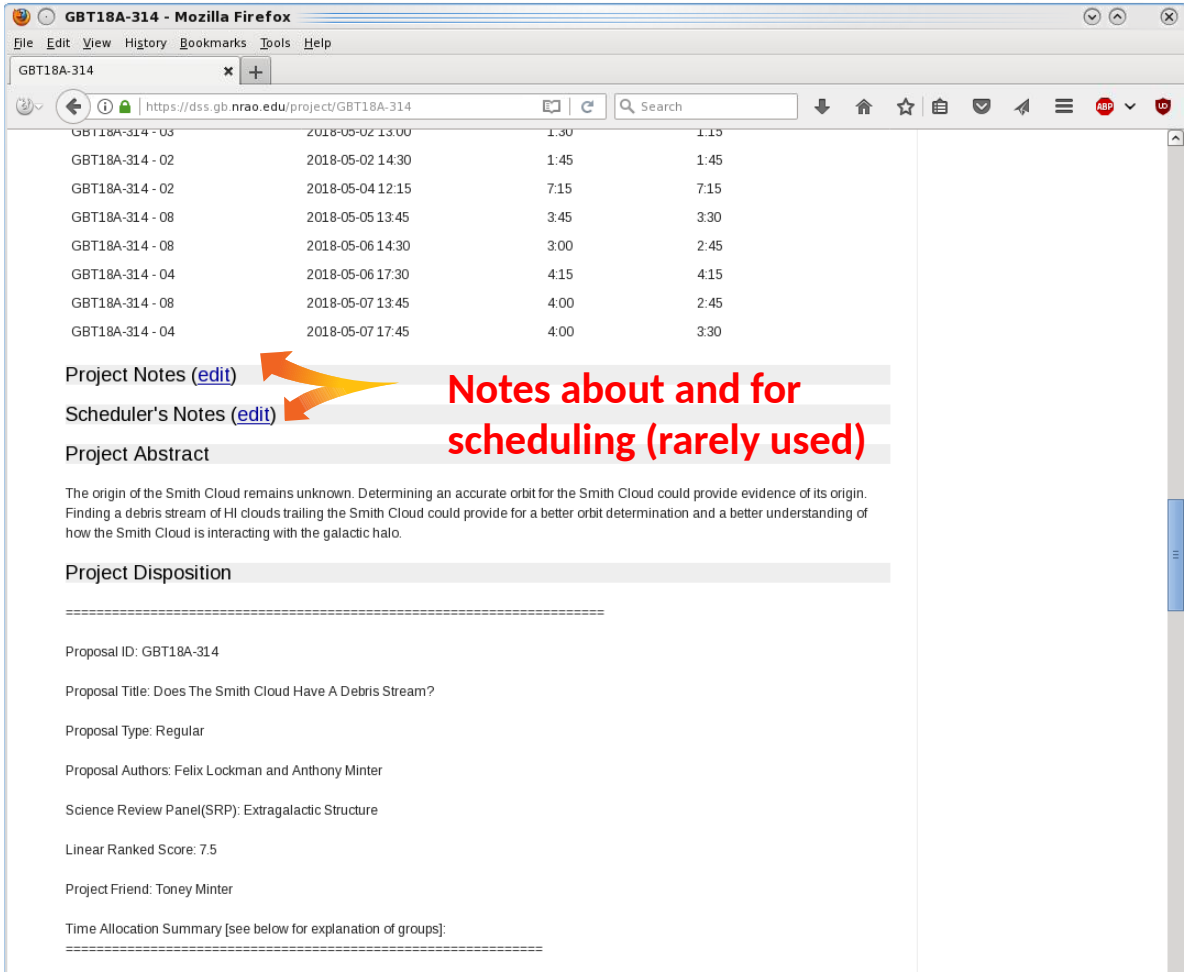
DSS Project Page



GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

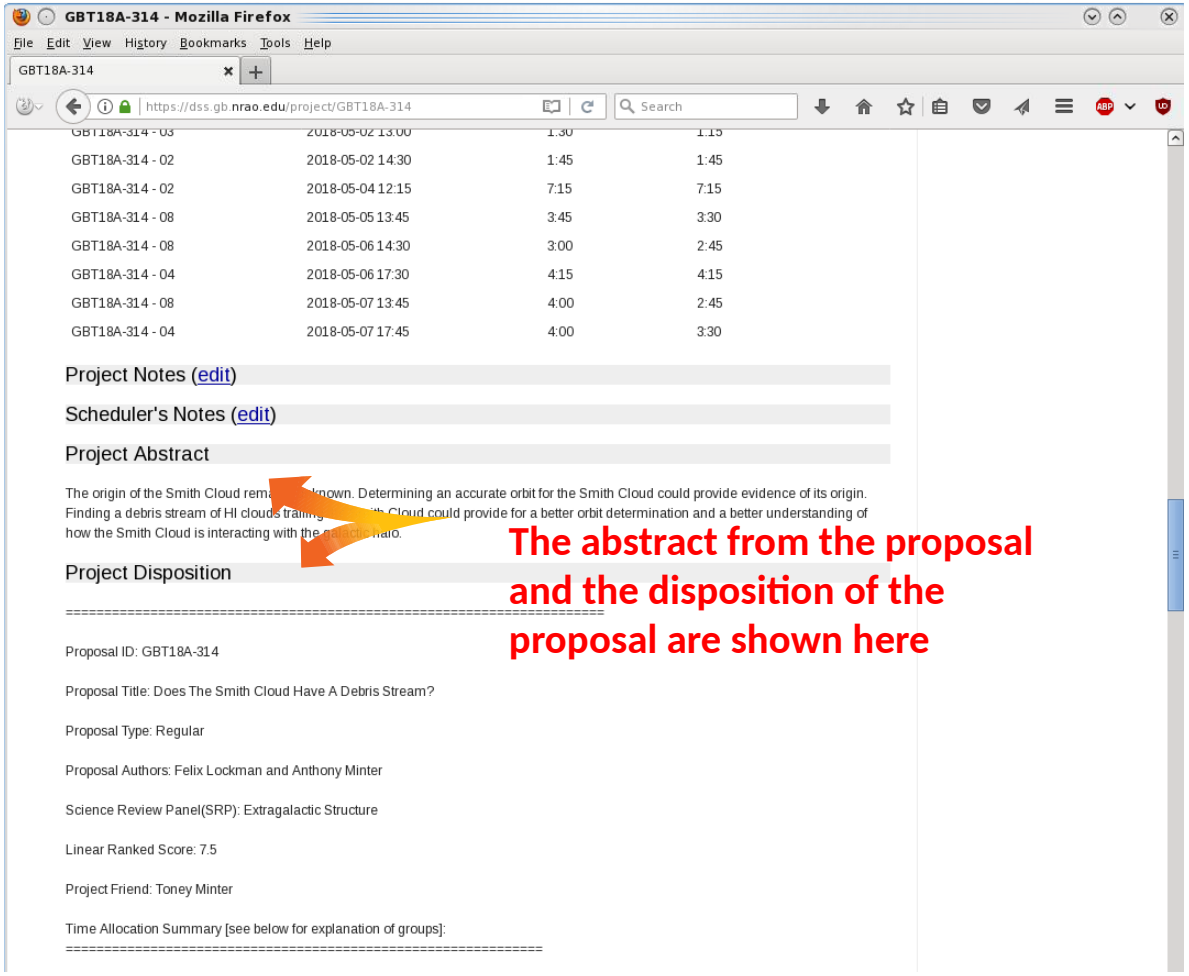
DSS Project Page



GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

DSS Project Page



The abstract from the proposal and the disposition of the proposal are shown here

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

GREEN BANK OBSERVATORY

GREEN BANK OBSERVATORY

NSF Associated Universities, Inc.

GREEN BANK
OBSERVATORY

greenbankobservatory.org

The Green Bank Observatory is a facility of the National Science Foundation
operated under cooperative agreement by Associated Universities, Inc.