

Operations Working Group Meeting #15

(*Westward Look, Tucson, Arizona: 29-30 July 2008*)

Attending: Colin Aspen (Hawaii), Stephanie Cote (Canada), Dennis Crabtree (Gemini), Tim Davidge (Canada), Paul Hirst (Gemini), Vasu Upadhyaya (Gemini), Inger Jorgensen (Gemini), Kathleen Labrie (Gemini), Sebastian Lopez (Chile), Tom Matheson (U.S.A.), Bryan Miller (Gemini), Bernadette Rodgers (Gemini), Stuart Ryder (Australia), Marilia Sartori (Brazil), Ilona Soechting (U.K.), Verne Smith (Chair-U.S.A.)

New Action Items & Resolutions

Action Item 15.1: OT libraries will be checked for completeness, with a complete library being defined as an entire observational sequence for a particular instrument configuration. This would include the Acquisition/Science Observation/Calibration sequences. The list for each instrument will be checked. This is an ongoing task for Inger, Bernadette, and the NGOs.

Action Item 15.2: For the NGOs and NTACs: make sure that PIs check the Band 3 box, indicating whether they would accept their program into Band 3. Also, double check that the conditions are set in the box, not just in the text.

Action Item 15.3: A committee will investigate the statistics of the various, currently defined observational bins and whether their statistical likelihoods are realistic. This committee may also discuss whether the bins should be re-assigned. Dennis will draft the committee charge, with suggested members being Ilona Soechting as chair, Tim Davidge, Bryan Miller, Paul Hirst, Bob Blum, and someone who also works as a Gemini queue coordinator.

Action Item 15.4: For the NGOs and NTACs: ensure that the communications between NTAC and ITAC are such that the Band 3 conditions and times are realistic, with approved Band 3 programs being able to complete their science objectives within the constraints of the semester, for example RA range and time needed.

Action Item 15.5: The PIT will be changed to indicate clearly to the NTACs if the proposal is part of a Ph.D. thesis.

Action Item 15.6: By the end of September Verne will send Dennis future AAS meeting dates.

Action Item 15.7: Dennis will oversee the creation of an e-mail exploder account to improve communication between the NGOs and Gemini.

Resolution 15.1: Target of Opportunity triggers will be sent during classical runs, with the expectation that the observer will observe the ToO. Time lost to the classical program will be added as payback.

Resolution 15.2: Notify the partner NGO about both Poor Weather programs and DD requests that originate from that partner's user community. The Phase II for the Poor Weather proposal will be handled by the respective partner NGO from which the proposal originates.

Resolution 15.3: Time oversubscription factors on the Gemini telescopes will be calculated in a similar manner as ESO computes these quantities. In the case of Gemini, the oversubscription will be defined as the total time requested divided by the sum of classical, Band 1, and Band 2 time.

Review of Minutes and Action Items from Meeting #14

The draft minutes from OpsWG meeting #14, held in January 2008 in Hilo, Hawaii, were approved.

The action items from meeting #14 were reviewed and the review is summarized below for each item.

Action Item.14.1: Verne Smith will ensure that multiple runs, sometimes with different instruments, on the same telescope will be forwarded to Gemini from NOAO as one .xml file. This includes the pre-imaging parts of GMOS MOS programs.

Done.

Action Item.14.2: Inger Jorgensen and Bernadette Rodgers will add so-called complete programs to the OT libraries. These will include typical acquisition and calibration sequences.

Mostly complete. Libraries for all operational instruments have been significantly improved and include Examples as well as Templates. Errors, problems or shortcomings in the libraries should be reported via the Helpdesk system."

Action Item.14.3: Bryan Miller will modify the PIT to incorporate the following:

- 1) An RA/DEC warning if the target list includes positions falling outside of any RA/DEC restrictions for that semester.
- 2) Add a box to indicate if the program is part of a Ph.D. thesis.
- 3) Add a box to indicate if GMOS programs could be executed satisfactorily from either the Gemini-N or Gemini-S telescopes.
- 4) Edit slightly the language in the Band 3 box to make it clearly that a Band 3 program is more likely to be executed if the total time is reduced, relative to time requested if such a program were in Band 1 or Band 2.

1) Incorporated in the 08B PIT

2-3) On the task list for the 09A PIT

4) Done

Action Item.14.4: Inger, with help from Tim Davidge and Stuart Ryder, will post photometric transformation coefficients on the Gemini GMOS web pages.

Will be done by meeting time. In addition, there is a GMOS-N calibration paper now in the process of being published and we will obtain permission from the journal to display these results on the web.

Action Item.14.5: Verne will head a committee (with Bryan Miller and Percy Gomez) to draft Gemini user feedback questionnaires. This material will be sent to Dennis Crabtree and the rest of the OpsWG for comments.

In progress, with survey questions to be circulated before the OpsWG meeting. (Weekend before meeting.)

Action Item.14.6: Dennis will put together, a committee to review the Gemini Observing Conditions to see if their definitions and/or quantization

should be changed. Tim Davidge has agreed to be a member of this committee (but will not chair).

[In progress...Tim still refuses to chair. See Action Item 15.3.](#)

Action Item.14.7: Stuart will lead the Australian NGO to host the January 2009 OpsWG meeting (for semester 2009B) in Sydney, Australia. This meeting will take place the same week and at the same place as the next Gemini NGO meeting (number 4 in this series, with the last having been held in June 2007 at Iguazu, Brazil).

[Done, although there was discussion in OpsWG Meeting #15 about the timing and location of this next NGO meeting, given the next Gemini Science meeting in May 2008 in Kyoto, Japan. See discussion below.](#)

PRESENTATIONS

Board Resolutions (Dennis Crabtree)

The Gemini Board resolutions from the 13-14 May meeting in Hilo, Hawaii that are relevant to OpsWG issues were presented and discussed. These resolutions are included below.

GEMINI BOARD RESOLUTIONS
May 2008 Meeting

2008.A.1. The Board noted the progress made on the GNIRS recovery and was pleased to learn that GNIRS is scheduled to be re-commissioned by the end of 2009A. The Observatory is encouraged to complete its aggressive program of recovery.

2008.A.3. The Board approves the proposed minimum science fraction times of 80% for Gemini North and 70% for Gemini South for 2009A with a goal of 90% for Gemini North and 75% for Gemini South. The decrease of the science fraction of Gemini South enables the commissioning of Flamingos-II and speeds the advancement of MCAO. The Board notes the progress made on the MCAO program and the enthusiasm of the Gemini engineering team in this effort.

2008.A.4. The Board notes the report of the CoDR held of the Gemini DataFlow Project and the Observatory's response to its findings and recommendations. The Board endorses the Observatory's intention to complete the first phase of the data flow software project to cover only a data quality pipeline within the Observatory. The Board will examine the scope and priorities of the complete Data Flow project at the November 2008 Board meeting.

2008.A.5. The Board notes the Gemini Science Conference in Kyoto, Japan 18-21 May 2009 and thanks Dr. Masa Hayashi for his contributions to our discussions of WFMOS and Subaru.

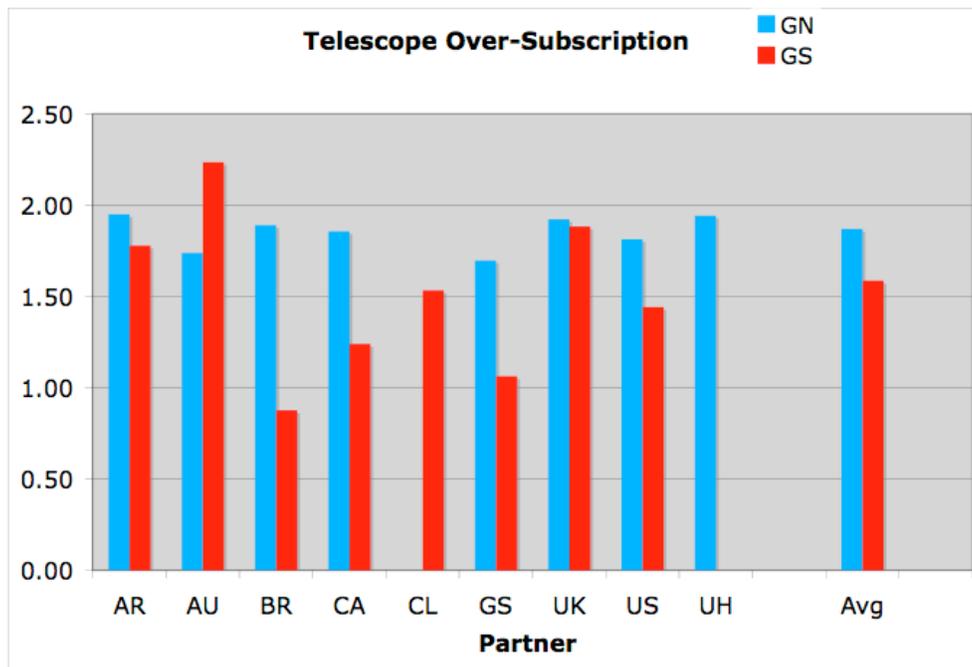
2008.A.6. The Board notes the receipt of the draft proposal for time banking policy and take the context under consideration and come to some resolution in November 2008 or sooner.

2008.A.8. The Board appoints a working group consisting of Isobel Hook, Meg Urry, and Howard Yee to consider a number of issues connected with the GPI campaign including such things as: funding models, proprietary periods, partner representation, and archive access policies, in consultation with members of the GSC. The Board requests a report from the working group by 31 August for consideration by telecon. The campaign science team solicitation would proceed shortly thereafter by mutual agreement between the Observatory and the Board.

ITAC Summary and Actions (Sandy Leggett, as reported by Bernadette)

The 2008B report noted that, overall, the oversubscription factor for Gemini time (measured as time requested / time available) dropped this semester

relative to previous semesters, with the drop being larger on Gemini-S. A few partners had very low oversubscription factors approaching 1.0 on Gemini-S. The figure below illustrates oversubscription factors for each of the partners.

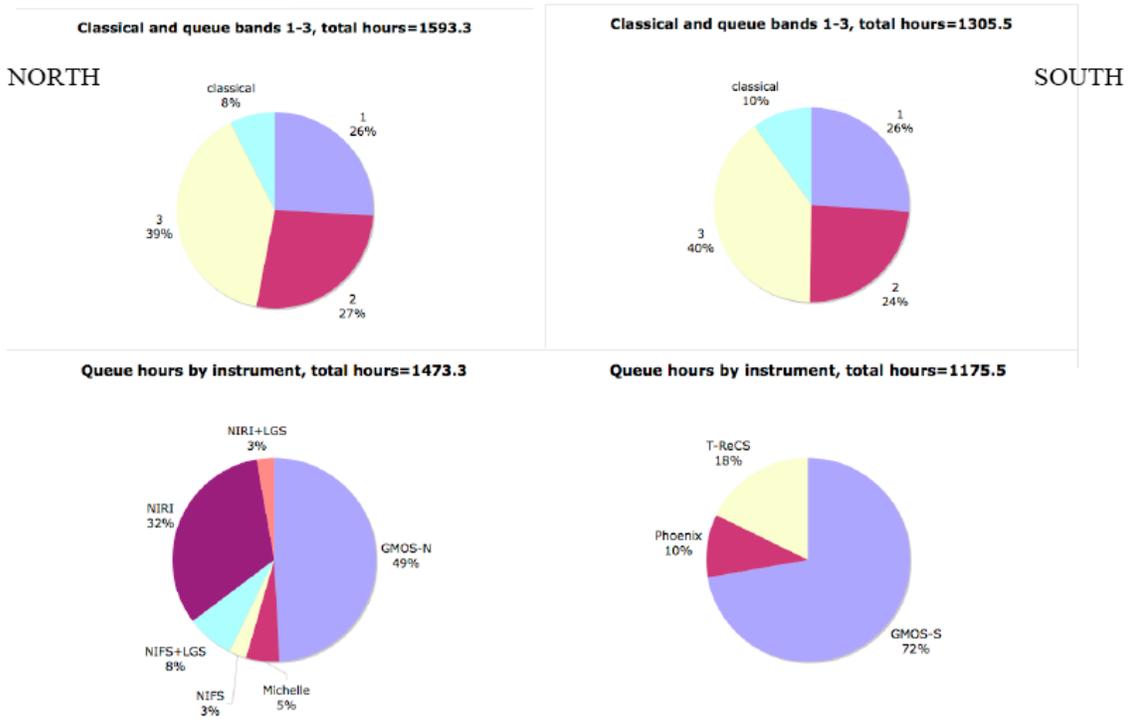


It was pointed out that there were too many requests for photometric time (CC50), particularly from the US. This was a larger problem in the South, caused partially by the low demand, and resulted in somewhat more time being unallocated relative to most semesters. There were also a number of programs in Band 3 that were not very appropriate for this band and this issue needs to be addressed more carefully in each of the NTACs.

The 2008B Time Exchange ended up as 3 nights of Keck HIRES time (with rather low demand for this time) and 5 nights of Subaru time (which had a 3x oversubscription factor). The resulting Gemini exchanged time broke down as 1 nights of GMOS-S, 1 of NIRI, 2 of MICHELLE, and 3 of TReCS.

Gemini would like to see more overlap of ITAC members with membership of the Operations Working Group.

Below are shown the final classical and queue band schedules, as well as the queue hours for each instrument in 2008B for both Gemini-N and Gemini-S.



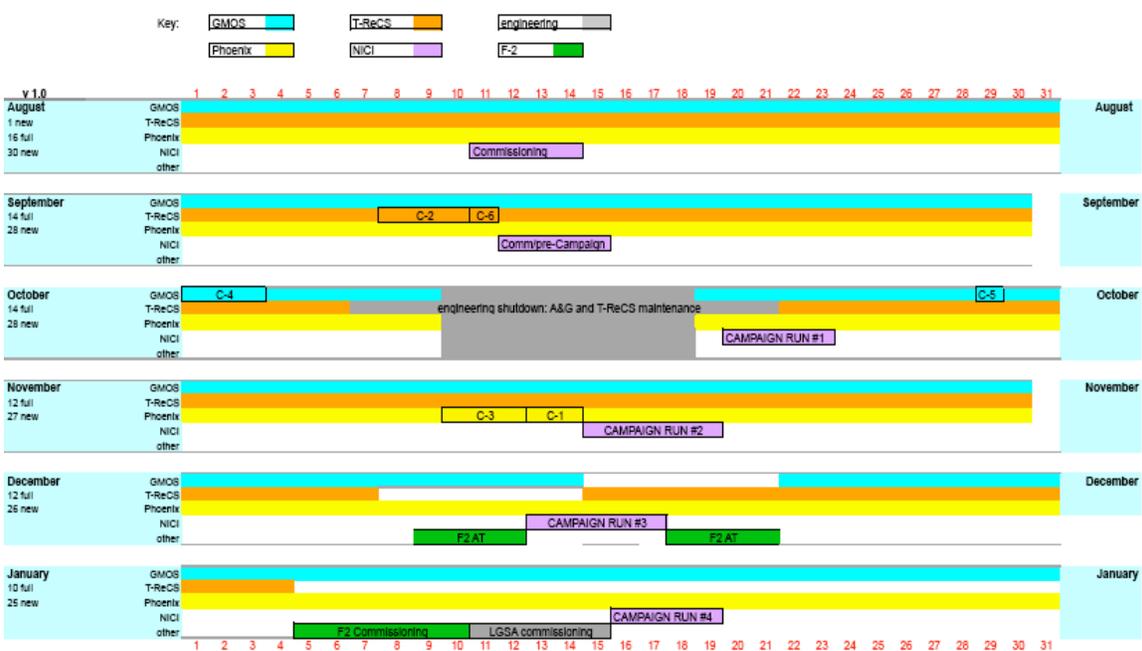
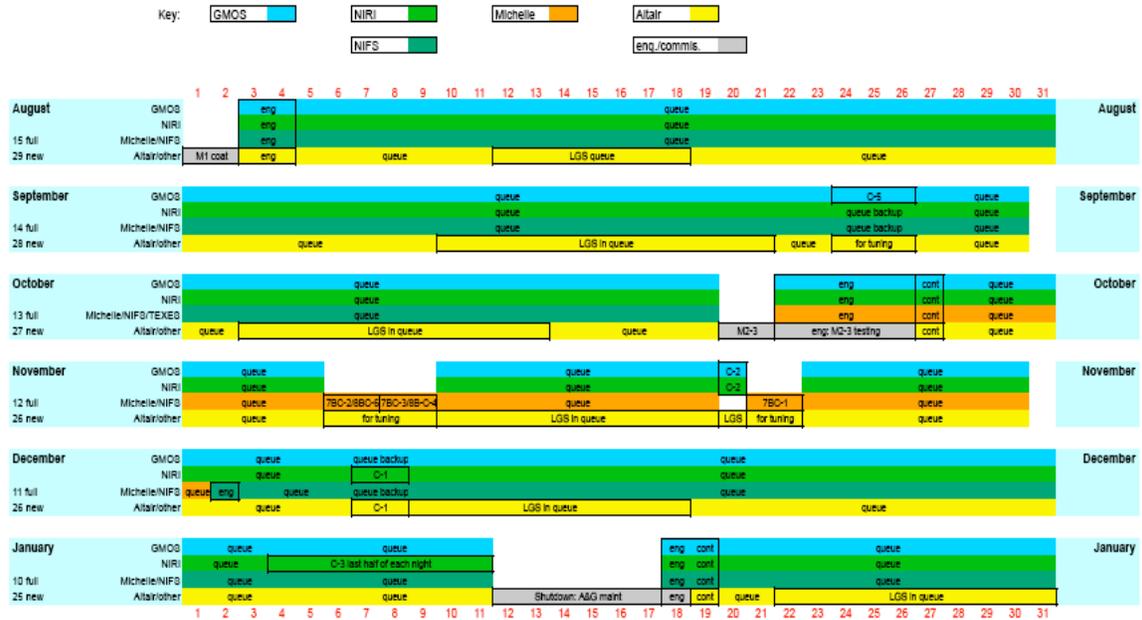
2008A Phase I and Phase II Review plus Telescope Schedules

Gemini-South: GMOS programs dominate the queue and juggling the various grating and mask changes, plus MOS programs will challenge the queue coordinators. One fairly large GMOS program (27.5 hrs) which requires IQ=20% with challenging time constraints is in Band 2, while a TReCS WV=20% program is also in Band 2. Most of the TReCS programs ended up in Band 3 (11 out of 15 for 130 hrs in Band 3). One Band 1 program was demoted to Band 2 because the PI (even after repeated e-mail notices) missed the deadline.

Gemini-North: Three IQ=20% programs ended up in Band 2. Early targets for two Michelle programs were already executed at the time of this meeting (these targets would be unreachable by Oct/Nov). LGS program

PIs should be reminded that, since the LGS is scheduled in blocks, dates for submitting target lists are critical for preparing LGS queue blocks and these dates are listed on the web.

Telescope schedules for 2008B are shown below.



NICI notes: NICI commissioning and campaign science blocks are tentative and may be re-scheduled as needed. Campaign nights will be run with queue backup. Oct and Jan runs will be second half nights (with moon).
 F2 Notes: F2 runs are tentative and contingent upon instrument delivery. The on-sky AT (Dec) requires both the side port (displacing GMOS) and the uplooking port (displacing T-ReCS).
 Jan comm will likely be on the uplooking port.
 Other notes: All classical nights are scheduled with queue backup.

NGO Reports

Each NGO representative presented a brief update on the Phase I/Phase II processes for 2008A and any changes in their respective partner offices. There was no report from Argentina. A few points from each of the various reports are summarized below.

Australia: There have been some staffing changes, with Dr. Terry Bridges arriving at AAO in April to begin a 3-year term as Deputy Gemini Scientist. In addition, Dr. Christopher Onken was appointed as the second Deputy Gemini Scientist and will take up this position at the Australian National University's Research School of Astronomy & Astrophysics in Canberra in September. A new AusGO website has been established (<http://ausgo.aao.gov.au>), with a major revamp of the previous AusGO website. Also, for the first time the AusGO had a booth at an Astronomical Society of Australia Annual meeting, held this year in Perth, with Stuart Ryder and Terry Bridges handling the booth. The AusGO report also discusses briefly some results from a user survey conducted at the ASA meeting.

Brazil: A 2-week visit by Rodrigo Carrasco to both LNA and the University of Sao Paulo in April was very useful for the Brazilian community. Phase II issues were discussed, along with data reduction techniques, and open lectures on MOS reduction. Low oversubscription rates for 2008B were pointed out in this report. 8 out of 14 submitted proposals were for GMOS and no major problems or issues with the Phase II process were noted for 2008B.

Canada: The time allocation process for Canadian Gemini time underwent a major change for 2008B, with a discipline-oriented TAC reviewing proposals for Gemini, CFHT, and JCMT. The first meeting of this TAC went well and there were no issues in merging the priorities of the sub-TAC panels. As with a number of the partners, Canadian demand for Gemini time dropped in 2008B relative to 2008A.

Chile:

- In March 2008 we organized and carried out visits to 5 Astronomy departments (2 in Santiago, 3 outside) aimed at advertising Gemini

instrumentation in 2008B, describing in situ the use of the PIT and OT, and showing an overview of NGO activities.

- We also provided the community with better information on band3 execution rates and poor weather modality.
- We plan to organize a 1day workshop on Gemini Science by early 2009.
- The participation of Jose Gallardo in the NGO has proven essential to improve support efficiency

U. Hawaii: A healthy oversubscription of 1.94 was reported for the Hawaii time, with 22 proposals requesting 305 hours. GMOS-N and NIRI dominated the requests.

U.K.: Following the debacle about UK membership in January and February which affected semester2008A, the community remained uncertain. It reflected in the oversubscription rates which plummeted to their historical low for 2008A. During the semester, Rachel Johnson officially left the UK GSG. The STFC is providing financial support for all its PhD students visiting Gemini Telescopes. The purpose is to ensure that UK retains a strong base of experienced observers despite the fact that increasing fraction of data from UK shared telescopes is being obtained in service mode. In2008A, two students visited Gemini-North and one Gemini-South. Already two students are scheduled for a visit to Gemini-North in 2008B and we expect the numbers to rise fast after the summer break. The aim is to have three student training visits per telescope in every semester.

U.S.: Community response to the Gemini 2008B Call for Proposals was good, but not as high as in previous semesters. Oversubscription measured by time requested divided by time available was 2.0 for Gemini-N and 1.4 for Gemini-S. Partly due to this drop in oversubscription, NOAO is planning to increase the amount of classical observing from US observers on the Gemini telescopes. It is thought that classical observing will help increase the feeling of ownership of Gemini within the US community. It is also felt that increased personal interactions between US and Gemini astronomers will be good, as well as US users traveling to the Gemini sites will improve the US perception of Gemini. It is not envisioned that the number of US classical programs will be large; the number being discussed is around 10 (out of a total of nearly 100 US programs). The implementation of this program for the upcoming 2009A semester is still under active discussion within the NOAO Director's office.

Instrument Review

Joe Jensen provided a report on the status of various instruments and programs as listed below. Highlights of Joe's presentations are noted and more detailed descriptions can be found in the presentation on the website.

GNIRS:

- Repair work is well under way in Hilo.
- Optics shipped to vendors for repair or replacement.
- Replacement detector has been ordered.

The Aladdin array delivery is expected soon, with the engineering device already delivered. The detector testing will be done at NOAO. All damaged optics have been shipped to vendors for repair or replacement. The OIWFS repair contract is in place with U. Hawaii. The IFU was damaged beyond repair.

The critical path to repair consists of the optics rework, OIWFS repairs, and detector testing, all of which are expected by October. GNIRS is scheduled to be recommissioned on Gemini-N in 2009A.

NICI:

- Back on the telescope now for commissioning.
- Mechanical, optical, cryocooler issues addressed.
- High level software testing successful.
- Array controller reliability and noise issues fixed.

After a successful recent commissioning run, the acquisition, dithering, and observational sequences were tested, with the AO performance characterized. Array controller testing has started and the controller repairs carried out by MKIR and U. Hawaii IfA appear to have been successful. The training and documentation have been completed, with those being the final contract milestone.

It is expected that the Science Campaign will begin in October 2008 and this will consist of 50 nights spread over about 2.5 years. Before the campaign

begins the GSC and the Planet Finding Working Group will assess NICI's performance to ensure that the campaign is worth executing. The two primary criteria that will guide this decision are, 1) a comparison of NICI's on-sky performance with the original estimates in the campaign CfP, and 2) a comparison of the delivered contrast to that of NIRC2 + Altair.

NICI will be offered in the 2009A CfP in coronagraphic imaging mode (the same as will be used in the Science Campaign).

FLAMINGOS-2:

- Integration and testing at UF is on-going.
- Pre-ship acceptance testing starts Aug. 4-8.
- Expected delivery to Gemini-South Q4 2008.

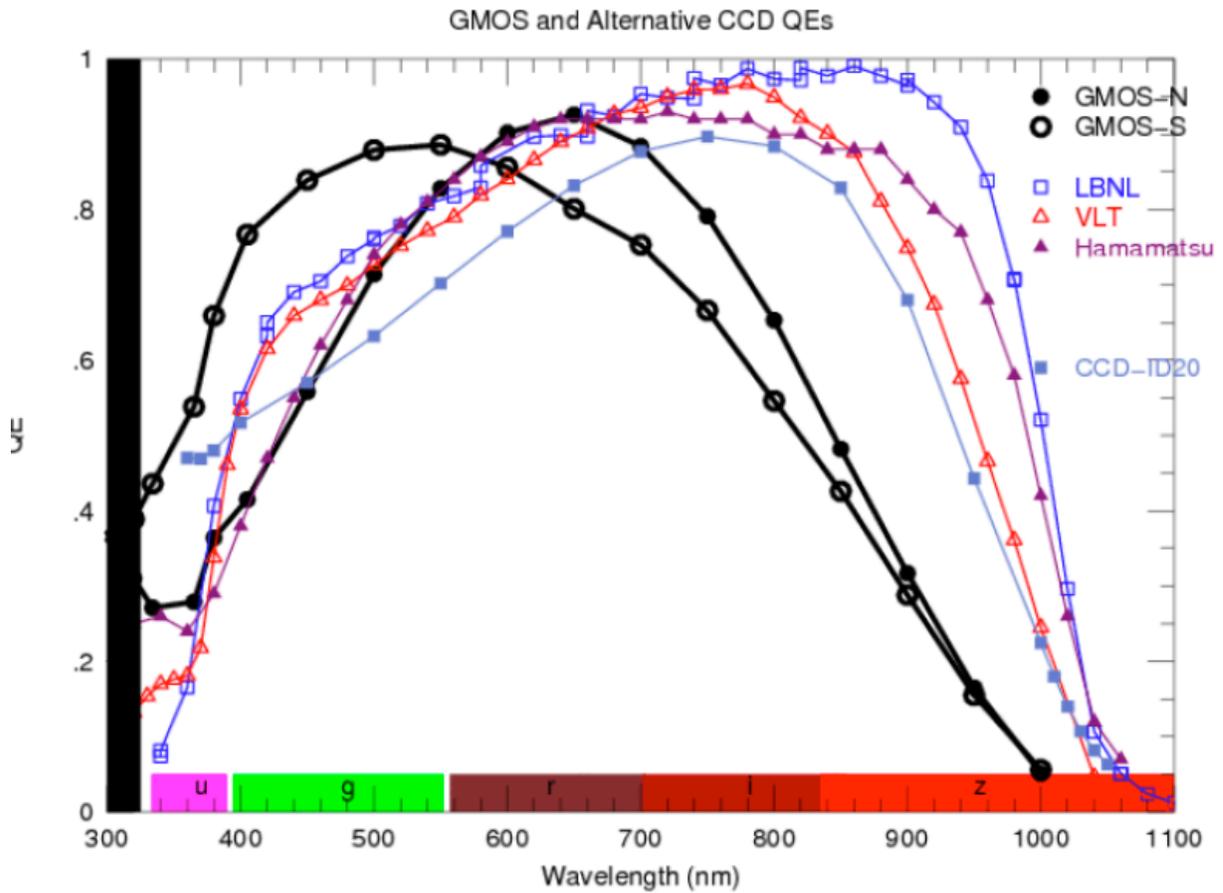
The pre-ship Acceptance Test (AT) is scheduled for 4-8 August 2008 and F2 will not ship until it has passed successfully all acceptance tests and the required software is complete. If AT proceeds successfully, delivery to Cerro Pachon could occur by the end of 2008. On-sky acceptance and commissioning in 2009A depends on F2 arriving in time, with science observations beginning when commissioning is completed. Regular public science time on F2 in 2009B depends on delivery in time for significant on-sky commissioning prior to the CfP at the end of February 2009.

System Verification, Demo Science, or other campaigns could be started in 2009 after commissioning is complete.

GMOS CCD Upgrades:

- Primary goal is to increase red response.
- Both GMOS instruments fall well short of the current state of the art in the red.
- Secondary goal is to retain as much blue sensitivity as possible.
- Since last time:
 - Lincoln Lab CCID-20's finally available.
 - Hamamatsu CCDs installed in SuprimeCam.
- We are developing a plan for replacing the GMOS-N CCDs in 2009.
- GMOS-N will need to be shut down for ~6 weeks sometime mid-2009.

The quantum efficiencies for the various CCD options are shown below.



TEXES:

TEXES returned for its second block of time on Gemini-N in October 2007 with a 16-night run. The weather was good and quite a lot of data were collected. No runs are scheduled for 2009, as there is a need for Gemini to focus on MICHELLE plus other facility instruments, along with the effort and time needed to recommission GNIRS in 2009.

A summary of current and future instrument projects is shown below.

Coming very soon:

- * GNIRS
 - * recommissioning 2009A
- * NICI
 - * Planet survey to start in October 2008
- * FLAMINGOS-2
 - * Acceptance tests to start next week
- * MCAO+GSAOI
 - * Subsystem integration and testing this year, commissioning on the telescope next year

New development:

- * GPI
 - * Just passed CDR
 - * Now entering the construction phase, scheduled completion in 2011
- * WFEMOS
 - * designs studies under way
 - * Gemini collaboration with Subaru
- * GLAO
 - * possible future facility upgrade for Gemini-North

28

Discussion of the 2009A Call for Proposals

The instrument availability, engineering, and commissioning plans are as follows:



Instruments for 2009A - Gemini South

- GMOS
 - Imaging, long slit, MOS, IFU
 - Nod & shuffle
 - Queue and classical all modes
- T-ReCS
 - Imaging, spectroscopy
 - Queue and classical all modes
- *NICI*
 - *Campaign Science*
 - *Limited offer for community use in "shared risk" mode; on-axis coronagraphy only*
 - *Feb-Apr only, ~150 hours (not more than 1 week per month, for 3 months); restricted RA*
- Phoenix
 - High-resolution NIR spectroscopy
 - Queue and classical
- *FLAMINGOS-2*
 - *Commissioning only*
- *MCAO/GSAOI*
 - *Commissioning only*

- Propose 70% science time = 127 nights
 - Board requirement is 70%, goal is 75%
 - 12n NICI campaign (~1/4 of campaign) => 18n off the top
- *Highlighted items are new in 2009A*



2009A Engineering – Gemini South

- Plan 54 nights = 30%
 - A&G, Cass-Rotator and GMOS maintenance [10n, shutdown]
- Nighttime commissioning/engineering (*best estimates*)
 - Complete NICI Commissioning [2 to 6n]
 - Flamingos-2 Commissioning [up to 20n]
 - MCAO+GSAOI commissioning [up to 22n]; *Requires good conditions*
 - “Queued engineering” [2 to 3n], including but not limited to:
 - Instrument on-sky checkouts after maintenance or instrument swaps
 - Image quality tests
 - Routine and emergency hardware/software maintenance and repairs, including instrument maintenance [as needed, instrument maintenance done with other instruments operating in queue]
- Unused commissioning/engineering returned to science



2009A Commissioning Plans – Gemini South

- NICI
 - Primary mode (on-axis coronagraphy) will be complete; additional time for commissioning other modes and lower priority software improvements
- Flamingos II
 - Florida Acceptance Test scheduled 4-8 August
 - *Assuming acceptance*, on-sky AT tentatively scheduled in 2008B (Dec);
 - Start commissioning in January 2009 with goal to include in 09B Call in March
 - Bulk of commissioning in 2009A, continuing into 2009B
 - Could displace T-ReCS, NICI or GMOS-S when mounted for commissioning
- Gemini MCAO System (GeMS) and GSAOI
 - Laser engineering to begin in January 2009 (end of 08B)
 - Mount Canopus (AO system) and GSAOI mid-09A, requires two ports
 - Will displace Phoenix and NICI; NICI potentially swap with T-ReCS on up-looking port but non-trivial (technical concerns need to be investigated)
- Defer decisions until needed, then decide based on science demand



Instruments for 2009A - Gemini North

- NIRI
 - Imaging f/6, f/14, f/32
 - Spectroscopy f/6
 - Queue and classical all modes
 - Altair 1-2.5um and L-band
 - LGS (available 7-14n/month in queue, band 1 and 2, only; $\epsilon > 40\text{deg}$)
- GMOS
 - Imaging, long slit, MOS, IFU
 - Nod & shuffle
 - Queue and classical all modes
- GNIRS
 - *Commissioning only*
- Michelle
 - Imaging and spectroscopy (R=200 – 3000, and echelle)
 - Queue and classical all modes
 - Imaging polarimetry
 - *Spectropolarimetry not available*
- NIFS
 - AO and non-AO
 - Queue and classical all modes
 - LGS (same constraints as NIRI+LGS)

- Propose 80% science time = 145 nights
 - Board requirement is 80%, goal is 90%
- *Highlighted capabilities not being offered*



2009A Engineering – Gemini North

- Plan 36 nights = 20%
- Probable use of nighttime engineering:
 - A&G and Cass-Rotator maintenance [10n]
 - aO Performance verification and improvements [2n]
 - LGS upgrade testing [4n]
 - Instrument on-sky checkouts after maintenance or instrument swaps [2n]
 - GNIRS commissioning [12n, in queue] *Commissioning w/ Altair requires better than average conditions, thus 18n taken off the science time to make room for 12n commissioning in good conditions*
 - Routine and emergency hardware/software maintenance and repairs, including instrument maintenance [as needed, instrument maintenance done with other instruments operating in queue]
 - Unused engineering time will be returned to science



Proposed ISS Port Swaps in 2009A

Gemini North

- NIFS and Michelle on up-looking port for science
- GNIRS on uplooking port for first commissioning, then on side looking port
- Uplooking port:
 - NIFS (Feb to late mid-June), with 3 weeks off for GNIRS commissioning, scheduling TBD
 - Michelle (mid-June to end of July)
- Sideloooking port:
 - NIRI (Feb to early July)
 - GNIRS (July for commissioning)
- Restrict RA for Michelle, no other restrictions

Gemini South

- Commissioning demands for 3 ports
 - Start F-2 commissioning early for 09B Call for Proposals
 - MCAO takes light port permanently once installed
 - Schedules highly uncertain
- Strategy for concurrent operations:
 - Maximize GMOS-S availability, especially in dark time
 - Keep Phoenix available for poorer conditions (move to different port)
 - Displace T-ReCS in wet season (Feb-Mar)
 - Restrict NICI to summer (Feb-Apr)
 - Minimize swaps to extent possible
- Final decisions driven by commissioning schedules AND science demand
- Restrict RA for NICI and T-ReCS



Exchange Time

- HIRES on Keck
 - Classical only; 5n exchange
 - Pre-scheduled, integer nights only
 - 2n in March 10-17, 2n in June 7-15, 1n in July 8-14, 2009
 - Keck community has access to Michelle, NIRI, T-ReCS
- Suprime-Cam and MOIRCS on Subaru
 - Classical only, 5n exchange (can be 4-6n depending on demand)
 - Pre-scheduled, integer nights only
 - Dates TBD
 - MOIRCS imaging and spectroscopy (MOS)
 - Subaru community has access to GMOS-N, NIRI, NIFS, Altair/NGS, Altair/LGS (with suitable backup programs), T-ReCS, GMOS-S
 - Subaru community has access to ToO in queue, 7.5h in queue for 1 classical night on Subaru. No GRB Rapid ToOs from Subaru. Program time gets charged for all calibrations and Rapid ToO interruptions.

2009A Process and Schedule

The following Process Dates were adopted for the 2009A Call for Proposals:

- **1 September 2008:** 09A Call for Proposals issued.
- **30 September 2008:** Proposal Deadline (Wednesday).
- **Set by Partners:** NTAC Meetings.
- **13 November 2008:** E-transmission of NTAC proposals to Gemini due.
- **14-23 November 2008:** E-mail iterations with ITAC members on draft queue and classical schedules.
- **24-25 November 2008:** ITAC meeting in Tucson at NOAO HQ (Monday–Tuesday).
- **2 December 2008:** Final program list approved by Gemini Director’s Office.
- **2-5 December 2008:** Final queue/schedule with feedback from NGOs.
- **10 December 2008:** Wednesday--PI notification; queue and classical schedule on web. New OT released and Phase II skeletons sent.
- **16 January 2009:** Friday--PI Phase II deadline for submission to NGOs (“For Review”).
- **30 January 2009:** Friday--Phase II reviews complete with NGO “For Activation” deadline.
- **1 February 2009:** Sunday--start of semester 2009A.
- **16 February 2009:** Monday--queue fully loaded.

Semester 2008A Science Operations

Summaries of various 2008A statistics follow on the next few pages. The numbers are complete through mid-July 2008.

Completion Statistics as of 15 July 2008:

Gemini North								
		Number of Queue Programs						
Selection	Band	done (100%)	>75%	50%-75%	10%-50%	<10%	Not started	out of
excl ToO	1	13	14	2	2	0	0	18
incl ToO	1	20	21	2	2	0	0	25
excl Mich,LGS	1	17	18	0	0	0	0	18
excl ToO	2	11	15	3	1	3	3	22
incl ToO	2	12	17	4	1	3	3	25
excl Mich,LGS	2	6	9	2	1	0	3	12
excl ToO	3	21	22	2	4	15	12	43
incl ToO	3	22	23	2	4	15	12	44
excl Mich	3	21	22	2	4	11	9	39
Preim. only	3					2		2
		Fraction of Queue Progs					Fraction of started progs	
Selection	Band	done (100%)	>75%	50%-75%	10%-50%	<10%	done (100%)	>75%
excl ToO	1	72%	78%	11%	11%	0%	72%	78%
incl ToO	1	80%	84%	8%	8%	0%	80%	84%
excl Mich,LGS	1	94%	100%	0%	0%	0%	94%	100%
excl ToO	2	50%	68%	14%	5%	14%	58%	79%
incl ToO	2	48%	68%	16%	4%	12%	55%	77%
excl Mich,LGS	2	50%	75%	17%	8%	0%	67%	100%
excl ToO	3	49%	51%	5%	9%	35%	68%	71%
incl ToO, excl preim	3	52%	55%	5%	10%	31%	73%	77%
excl Mich, preim	3	57%	59%	5%	11%	24%	75%	79%
		Fraction of Queue Time Used		unused rollover fraction		unused ToO hrs		
Band								
1		88%	16%	23.94	53.71			
2		77%			32.98			
3		48%			55.27			

Gemini South								
		Number of Queue Programs						
Selection	Band	done (100%)	>75%	50%-75%	10%-50%	<10%	Not started	out of
excl ToO	1	15	17	0	2	3	2	22
incl ToO	1	16	18	0	2	3	2	23
excl ToO	2	14	14	4	2	1	0	21
incl ToO	2	14	14	4	2	1	0	21
excl ToO	3	18	21	0	2	7	6	30
incl ToO	3	18	21	0	2	7	6	30
Preim. only	3					1		1
		Fraction of Queue Progs					Fraction of started progs	
Selection	Band	done (100%)	>75%	50%-75%	10%-50%	<10%	done (100%)	>75%
excl ToO	1	68%	77%	0%	9%	14%	75%	85%
incl ToO	1	70%	78%	0%	9%	13%	76%	86%
excl ToO	2	67%	67%	19%	10%	5%	67%	67%
incl ToO	2	67%	67%	19%	10%	5%	67%	67%
excl ToO	3	60%	70%	0%	7%	23%	75%	88%
incl ToO, excl preim	3	62%	72%	0%	7%	21%	78%	91%
		Fraction of Queue Time Used		unused rollover fraction		unused ToO hrs		
Band								
1		64%	44%	59.10	14.86			
2		73%			0.00			
3		69%			0.00			

Operational Highlights:

North

- Michelle back on the sky for science last 6 weeks of semester
 - Image quality problems related to chopping solved
 - Data taken for 11 programs from 2007B, 2008A, and 2008B
 - NIFS demand and use has doubled since 2007B, almost all NIFS programs use LGS
 - Work on improving LGS reliability is ongoing
 - LGS queue time: ~135 hours charged to programs (four times higher than 2007B)
 - LGS charged is ~35% of the planned telescope time (LGS requires CC=50% IQ=70%, which on average occurs ~25% of the time at MK)
 - M1 coating in July - currently in shutdown for this
 - A&G maintenance during July shutdown
-

South

- Very high demand for MOS dark time programs
 - Over 75 masks requested; juggling of masks and gratings complicated completions; all GMOS B3 programs not started (4 of 7) were MOS
 - Two large band 1 MOS programs rising now (still cutting masks in July!); one granted rollover recently
 - Very little bright time obs. left in queue in June-July (resulted in more Band 4)
 - T-ReCS exchange classical time (Keck & Subaru) nearly 100% successful, partially due to “flexible” classical scheduling
 - NICI commissioning made significant progress
 - NICI campaign member visited for March run; several software and array issues addressed between March and July
 - Campaign start in October now seems likely
 - T-ReCS mechanical problem impacted queue programs
 - Slit wheel failed twice: lost ~2 weeks in May and reverted to imaging only in July; could not complete 1 B1 and 2 B2 programs; T-ReCS preventative maintenance to be included in next shutdown
 - One T-ReCS band 1 program required special testing for unsupported mode; not started in 08A
 - Successful A&G and GMOS maintenance in April
 - Phoenix queue observing reasonably successful; still less efficient than facility instruments, but improved significantly from 2007B
-



2008A Summary – Gemini North

- Science time **actual** usage
 - Science usage scheduled on 161 nights (corrected for eng. use in queue)
 - Time accounting (up to UT 2008jul15) shows instrument usage:
 - GMOS-N used 511 h (plus 16 h exchange time), NIRI/Altair used 295 h (plus 7h exchange time), Michelle used 44 h (plus 37h GT), NIFS/Altair used 141 h
 - Total of 1014 h of chargeable data, plus 73 h of DD/SV/GT data,
 - Program execution status
 - 79 queue programs from 2008A with some data
 - 38 GMOS-N, 24 NIRI & NIRI+Altair, 5 Michelle, 8 NIFS+Altair, 4 mixed
 - Of the NIRI+Altair and NIFS+Altair programs 14 are LGS programs
 - Classical progs: 1 NIRI (Keck exchange), 1 NIRI+GMOS-N, 1 GMOS-N (Subaru exchange), 2 Michelle - to be rescheduled,
 - Unexecuted Band 1 rollover into 08B totals 71 h (2007B) + 24 h (2008A)
 - Exchange programs: 2 HIRES/Keck, 3 SuprimeCam/Subaru, 2 MOIRCS/Subaru
 - Poor weather programs: 20 h executed in queue [no charge to partners]. One Band 3 prg (40h) which used poor weather conditions
-



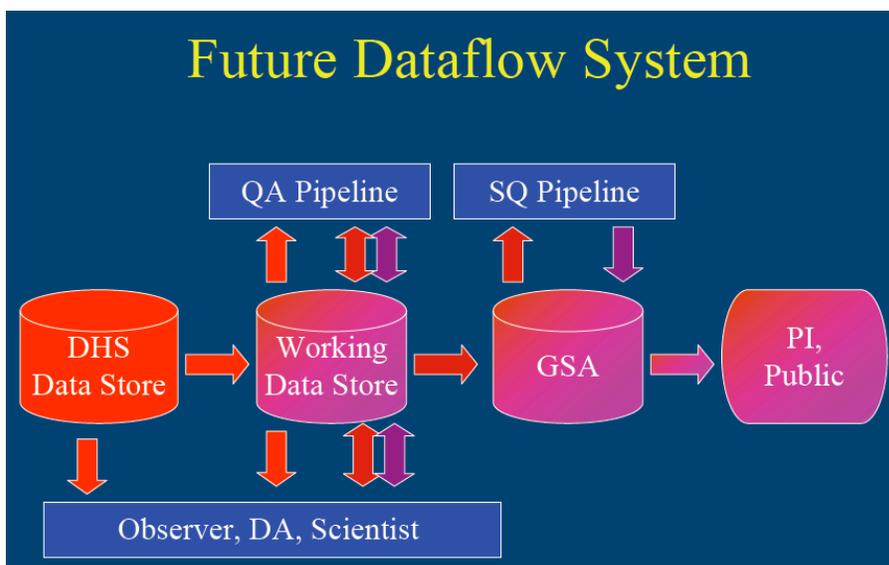
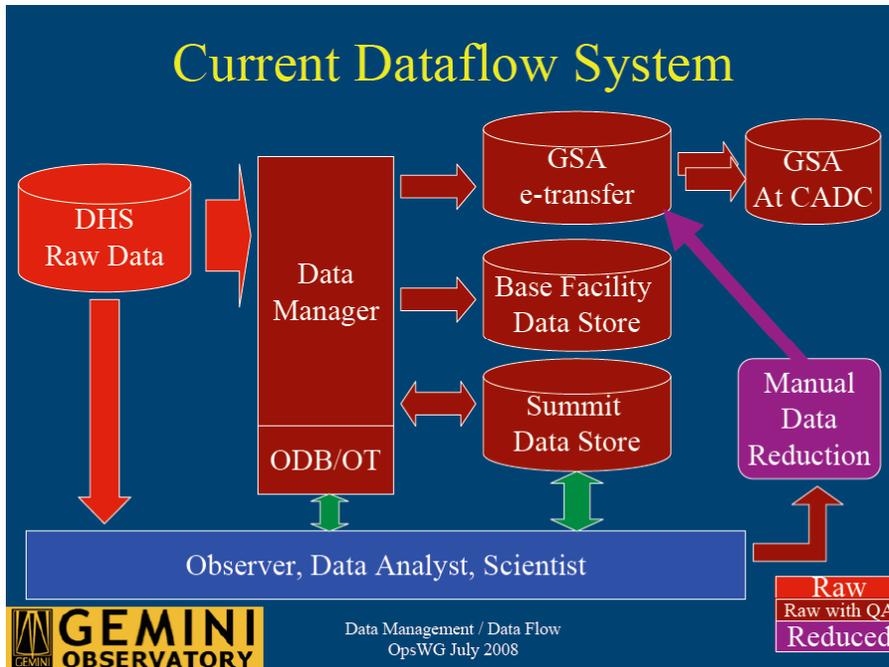
2008A Summary – Gemini South

- Science time **actual** usage
 - Science usage scheduled on 159 nights (corrected for eng. use in queue)
 - Time accounting (up to UT 2008jul15) shows instrument usage:
 - GMOS-S used 551 h (plus 3 h exchange time), Phoenix used 292 h, T-ReCS used 126 h (plus 41 h exchange time)
 - Total of 1023 h of chargeable data [excludes PW prgs], plus 12 h of DD data
 - Program execution status
 - 65 queue programs from 2008A with some data
 - 38 GMOS, 12 Phoenix, 14 T-ReCS, 1 mixed
 - Classical programs: 4 Phoenix, 3 T-ReCS (Keck and Subaru exchange)
 - Unexecuted Band 1 rollover into 08B totals 59 h (2008A) + 42 h (2007B)
 - Poor weather programs: 93 h executed in queue [no charge to partners]; one Band 3 prg (90h) which used poor weather conditions
-

Science Software Status

Data Management and Data Flow (Paul Hirst)

A future dataflow system was presented, which would be simpler than the current dataflow system, but would rely on both a quality assurance pipeline and a science quality pipeline, as shown below.



A more robust Data Management system was also discussed, with an emphasis on it being available even during potential hardware failures, or natural disasters. Planning would also be built in to include data continuing to be available as technology changes. Authorized usage would be primarily via the GSA, but any copies or backups of data would need to be protected from unauthorized access. It was recommended that Gemini maintain off-line copies of all data generated at a site, or sites, away from the CADC (a disaster in Victoria, although statistically unlikely in any given year, could result in a large part of Gemini data being lost).

PIT and OT Changes (*Bryan Miller*)

Phase I Tool:

- Changes implemented in 08B
 - Check target RA/Dec against semester visibility limits (Action item 14.3.1)
 - Updated Band 3 tab instructions to encourage small minimum times (Action item 14.3.4)
 - Use global default constraints for Band 3 conditions if Band 3 not selected
 - NIRI and Phoenix filter list updates
 - Fix broken catalog queries

- 09A minimal release – possible changes
 - Bug fixes
 - Typo and missing information in PDF
 - Non-sidereal target and TAC minimum time entry
 - Default directory for Open/Save
 - Eliminate conflicts between PIWI and PW/DD backend servers
 - New backend for proposals from Keck
 - Enforcement of word limits
 - GMOS-N/S move check box
 - Identify Ph.D. students in co-investigator list
 - Review of guide star catalogs and algorithms

- Phase I Tool – Look Ahead
 - 2009B (March 2009)
 - Implement changes not completed for 09A

- Add Flamingos 2 resources
- Classical backup program tab
- 2010A (September 2009)
- Guide star visualization for GeMS/GSAOI
- Add GeMS and GSAOI resources

OT Changes for 08B:

- Update NICI instrument component
- Add NICI offset iterator (offset along arc)
- Add target duplication (for AO use)
 - Related target/guide star name and coordinate checks
- UI homogenization for target component and offset iterators
- “In Review” observation status
- New program administration window
- Fix guide star queries

OT Look Ahead 2009:

- 2009A OT (December 2008)
 - Add GeMS/GSAOI support
 - Other bug fixes or small improvements to current features as effort available
- Simple improvements to skeletons
- Phase 2 check updates
- OCS2 (for smartGCAL, etc)
 - No significant resources available for 2008
 - Planning/design for a 2009 observatory project
- PIWI2 – new software for ITAC support
 - Implement as resources available

Migrating to Python/PyRAF (*Kathleen Labrie*)

The focus is on data reduction with Python – PyRAF – IRAF. The following bulleted items were discussed.

- PyRAF is not a Python implementation of IRAF.
- PyRAF is a front end for IRAF, with added capabilities:

- interactive interface that can also ‘import’ and run Python scripts, and behaves much like the standard Python IDE.
 - interactive interface that can also run Python scripts as if they were IRAF tasks.
 - module providing the hooks to call IRAF tasks from Python scripts (e.g. from the Unix shell, from a pipeline, without the interactive interface).
- PyRAF is our bridge. Links the old with the new. Links the pipeline and the user package.
 - We can use the old scripts for the pipeline.
 - All new development can be done exclusively in Python.
 - Any improvements to either the old or the new code will immediately be beneficial to both the pipeline and the user package.
 - Why didn’t we use this before?
 - We needed to make the old scripts compatible with PyRAF (Done!)
 - Some features needed to be implemented in PyRAF (Done!)
 - For a reliable pipeline, we needed unit tests and a regression test framework to ensure robustness against modifications. (Done!)

Phasing out IRAF, phasing in PyRAF

- Again, the main drivers are the pipeline and the support for new instruments.
- Our choice of tools (Python + PyRAF) allows us gradually replace the IRAF components based on needs, and on the resources available.
- Identify bottlenecks and replace with Python: focussed improvements.
- There is no side step to anything, we are always moving forward.
- All new development is done in Python.

Status

Pipeline

- AstroData, RecipeManager, and GMOS Imaging Recipes are in prototyping phase.

Operations

- Several Python/PyRAF tools already being used for daytime work.
- GN: Complete migration of the daytime operations to PyRAF is imminent; everything is in place. Nighttime tests to follow shortly after.
- GS: Good progress. Just a little behind GN simply because of limited staff

availability.

Data Reduction

- Gemini IRAF package now compatible with PyRAF (not yet released!)
- NICI DR software will be Python (current development)
- Continued maintenance of the current DR package.

Upcoming Releases

- Patch Release of Gemini IRAF package (v1.9.2)

Updates to gemcube (for NIFS), GMOS no pre-imaging mask making software, among a few other things.

[2008 Q3]

- Full Release of Gemini IRAF package (v1.10)

GMOS var/dq support, split of nstransform into nsfitcoords+nstransform (GNIRS), new MidIR tasks, several bug fixes. Most likely the last CL-compatible release.

[2009 Q1]

- Full Release of Gemini IRAF package (v2.0) and gemini_python (1.0) Officially PyRAF-compatible. AstroData. NICI data reduction software? Other stuff TBD.

[2009 Q1]

Other things worth mentioning:

- User Package (PyRAF-era): Installation of dependencies.
- Operations: Python version of the acquisition tool (gacq).
- Operations: Pipeline development (GMOS Imaging as a testbed).

Telescope Time Charging and Accounting

Inger Jorgensen presented a draft document titled “Gemini Telescope Time: Charging and Accounting”. The document was written with the following purposes:

- Provide one reference document for all methods and policies relevant for telescope time charging and accounting.
- Describe methods and policies in language accessible to committee members.
- Document Board resolutions, OpsWG resolutions, and MOUs relevant for telescope time accounting.
- Appendix: Internal use only to document mechanics, location of files etc. [not included in the draft version for this meeting].

The document's contents have been defined by consideration of the following top level principles:

1. Queue time is charged from start of slew to the target and until the start of the slew to the next target, or alternatively to the end of the observation sequence if this ends because of twilight, weather or other causes.
2. Queue time is not charged for observations that fail to meet the PI requirements. Quality assessment is done on all data taken in queue.
3. Queue time is charged only for executed observations. Planned, but unexecuted, observations have no influence on the total time charged.
4. For band 4 (poor weather programs) queue time is charged to the program, but not counted in the determination of the partner imbalances, i.e. the time is "free" to the partner.
5. Classical time is charged for the full night between nautical twilight and nautical twilight, independent of weather losses or losses due to equipment problems. The time is charged at a 75% rate. [...] Starting with semester 2007B, parts of classical nights may be used for queue observations if the conditions do not allow the classical program or its backup program to be executed. In this case, the charge towards the classical program is determined as the time between nautical twilight and nautical twilight, less any time charged to queue programs. The time is charged at the 75% rate.
6. At the end of each semester the partner imbalances are calculated using the partner shares (with deductions for any time off the top for whatever reason). Gemini keeps track of the accrued partner imbalance and makes that available to the Operations Working Group each semester at the meeting of the Operations Working Group.

The OpsWG is asked to comment on the content of the document.

Specifically,

- are all areas of the telescope time charging and accounting covered?
- are all areas described in sufficient depth?

Next Meeting

The next OpsWG meeting will be held on 29-30 January 2009 in La Serena, Chile and will be followed later that week by NGO meeting #4.