



## Semester 2007A Call For Proposals

*Gemini Observatory invites its community to propose scientific investigations for the 2007A semester, 1 February - 31 July 2007.*

Applications should be submitted via your national Gemini proposal process. **The submission deadlines vary by partner and are shown in the table below.** Please consult your [National Gemini Office pages](#) for submission details specific to each partner. Joint proposals must adhere to the deadline (and other requirements) applicable to the institution to which the Principal Investigator is affiliated.

Partner	Proposal Deadline (times are local, or as indicated)
<a href="#">Argentina</a>	Friday, 29 September, 24:00
<a href="#">Australia</a>	Saturday, 30 September, 24:00
<a href="#">Brazil</a>	Saturday, 30 September
<a href="#">Canada</a>	Saturday, 30 September, 16:00 PDT
<a href="#">Chile</a>	Monday, 2 October, 12:00
<a href="#">Gemini Staff</a>	Monday, 2 October, 24:00 HST
<a href="#">Univ. of Hawaii</a>	Monday, 2 October, 10:00 HST
<a href="#">United Kingdom</a>	Saturday, 30 September, 15:00
<a href="#">United States</a>	Monday, 2 October, 23:59 MST

*This page has changed significantly from previous semesters. The bulk of the information that may already be familiar to many of our users has been moved to supporting pages; we encourage you to follow the links for more detailed information. If hardcopy is preferred, all of the relevant information (excluding instrument pages and PIT help) is available in a single [15 page printable pdf document](#).*

### Highlights for 2007A

General
There is a new Phase I Tool (PIT) for 2007A. <a href="#">[more information and download]</a>
Relevant dates for 2007A can be found in the <a href="#">2007A Phase I/Phase II schedule</a> .

Target of Opportunity (ToO) programs must be identified as such in the PIT. ToO is defined as *any* program with targets that can not be specified in advance. ToO programs fall in two categories, selectable in the PIT: Rapid response (immediate or less than 24 hours) and Standard response (not time-critical and greater than 24 hours) triggers. [\[more information\]](#)

Poor weather proposals are again invited on both Gemini North and Gemini South. To qualify as poor weather, observing condition constraints must be Cloud Cover = 70% or worse with Image Quality = "Any" or Cloud Cover = 90% or "Any". [\[more information\]](#)

### Gemini North

Expect 90% of the semester to be available for science, or 163 nights [distributed across the partnership](#). A list of offered instruments and capabilities is given [below](#).

Laser Guide System (LGS) is expected to be available for Altair observations (NIRI and NIFS) approximately 7-14 nights per month in queue mode. LGS programs must be ranked in bands 1 and 2 and have significant restrictions on target accessibility. [\[see below\]](#)

The visitor instrument TEXES will **not** be available in 2007A.

### Gemini South

Expect 70% of the semester to be available for science, or 127 nights; 109 nights are [distributed across the partnership](#) with the remaining nights reserved for system verification (NICI and Flamingos-2) and [NICI campaign science](#). A list of offered instruments and capabilities is given [below](#).

Phoenix will be available through March 2007 only. This is expected to be the last semester that Phoenix will be offered on Gemini.

The Acquisition Camera is **not** being offered for science use in 2007A.

NICI and Flamingos-2 are **not** being offered for community use at this time. Separate calls for system verification for one or both instruments will be made at a later date.

### Exchange

HIRES: Up to 7 nights of classical time is available with the [HIRES](#) optical spectrograph on Keck. The requested nights must fall in the following windows: two nights each between March 6-12, June 2-7 and July 20-26 and a single night between April 22-27. Requests must be full nights with a minimum of 1 night. Proposals should be submitted via the normal process. [\[more information\]](#)

Subaru: Up to 50 hours of service observing is again being offered on Subaru for [Suprime-Cam](#) (wide field optical imaging) and [MOIRCS](#) (near-infrared imaging and **multi-object spectroscopy-- new in 2007A**). A minimum request of 5 hours is recommended; larger programs are encouraged. Proposals should be submitted using the Phase I Tool. There is no restriction on available dates or conditions; service observations will be scheduled to meet demand as much as possible. [\[more information\]](#)

## Additional Information

Details of the capabilities available at each telescope are given below. Please see the page of [supporting information](#) for additional general Phase I information (not specific to 2007A).

## Gemini North: Facilities and Availability

- All instruments are offered in queue and classical mode, except where noted.
- Facility instruments:
  - [NIRI](#) - **near-IR imager and low-resolution spectrograph**: imaging and spectroscopy fed with the direct or AO-corrected beam.
  - [NIFS](#) - **near-IR integral field unit spectrograph**: IFU spectroscopy fed with the direct or AO-corrected beam.
  - [Altair](#) - **facility AO system**: for use with NIRI (except M band imaging and L & M band spectroscopy) and NIFS.
    - Natural Guide Star AO: Traditional adaptive optics guiding on a nearby star.
    - [Laser Guide Star AO](#): The new sodium Laser Guide Star facility is available for use with Altair in **queue mode only** during blocks of 7-14 days each month. The specific blocks are not yet defined and may include dark, gray and bright time. There are [minimum elevation limits](#), and ToO observations are not allowed at this time. The LGS facility is still in its science commissioning phase; details of its performance will continue to be updated as they are determined.
  - [GMOS North](#) - **optical imager and spectrograph**: imaging and long-slit, multi-object and integral field spectroscopy
  - [Michelle](#) - **mid-IR spectrograph and imager**: imaging and R=100-3000 and echelle spectroscopy at 10 and 20um. Imaging (but not spectro-) polarimetry is available.
- Availability:
  - Although not all instruments will be available the entire semester, **there are no special target restrictions on any Gemini North instruments in 2007A**. See the [target accessibility page](#) for more information and a plot of accessible RA and Dec.
  - **Observations with the Laser Guide Star facility are restricted** to be above 49 degrees elevation only; again, see [target accessibility](#) for corresponding RA, Dec restrictions.

## Gemini South: Facilities and Availability

- All facility instruments are offered in queue and classical mode.
- Facility instruments:
  - [GMOS South](#) - **optical imager and spectrograph**: imaging and long-slit, multi-object and integral field spectroscopy
  - [T-ReCS](#) - **mid-IR imager and spectrograph**: imaging and moderate resolution (R=100 and R=1000) spectroscopy
  - [GNIRS](#) - **near-infrared spectrograph**: long-slit, cross-dispersed and integral field spectroscopy with a range of resolutions.
  - [bHROS](#) - **optical high-resolution spectrograph**: single- and dual-fiber (object/sky) R=150,000 spectroscopy.
- Visiting instruments:
  - [Phoenix](#) - **high-resolution near-IR spectrograph** (loaned by NOAO). Phoenix is offered for a limited period for **classical observing only**, with support from the US National Gemini Office (NGSC). For Phoenix, Gemini's normal 3-night minimum restriction for classical proposals does not apply; applications should be for whole nights.

- Availability:
  - Not all instruments will be available the entire semester. In particular, NICI and Flamingos-2 commissioning is expected to impact both T-ReCS and GMOS-S/bHROS availability. However, given the uncertainty of new instrument commissioning schedules, **there are no special target restrictions on T-ReCS, GMOS-S, bHROS or GNIRS for 2007A**. See the [target accessibility page](#) for more information and a plot of accessible RA and Dec.
  - **Phoenix observations are restricted** as it will be removed to make way for MCAO engineering after March 2007; see the [target accessibility](#) information for corresponding RA, Dec restrictions.

## Questions and Answers

All questions concerning proposals, or any other subject, should be made using the [Gemini HelpDesk](#). This web-based system will send the request to your National Gemini Office staff in the first instance who will then escalate it to Gemini staff if necessary.

*Comments and suggestions on the format and content of this page and supporting pages are welcome, and should be sent to [Bernadette Rodgers](#).*

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*Last update September 1, 2006; B. Rodgers*



## *Semester 2007A Time Distribution*

### **Gemini North: Time Availability and Distribution**

A minimum of 90% of the time will be made available for science use in 2007A. This amounts to 163 nights, and includes "Compensatory Time" to the UK in return for the long-term transfer of Michelle to Gemini, and Gemini staff allocation. No additional system verification or demo science time is currently planned for Gemini North in 2007A. The number of hours allocated to each partner is given in the following table.

Partner	Estimated Hours Available
US	576
UK	403
Canada	214
Australia	83
Argentina	29
Brazil	17
Univ. of Hawaii (host)	173
Gemini Staff	133
Total	1628 (=163n)

### **Gemini South: Time Availability and Distribution**

Due to the major instrument commissioning activities expected in 2007A for NICI and Flamingos-2, as well as other engineering work, in semester 2006B a minimum of 70% of the time will be made available for science use, or 127 nights. This fraction includes 12 nights reserved for the start of the NICI Planet Search Campaign, 6 nights for Flamingos-2 system verification and the Gemini staff time allocation. The number of hours allocated to each partner is given in the following table.

Partner	Estimated Hours Available
US	378
UK	263

Canada	136
Australia	47
Argentina	19
Brazil	17
Chile (host)	139
Gemini Staff	89
NICI Campaign Science	120
Flamingos-2 SV	60
Total	1268 (=127n)

## Time Adjustments

To maintain overall balance amongst the partnership, the values shown above for both Gemini North and South have been adjusted from the nominal partner shares as a result of actual time charged through 2006A. The time allocations shown here were approved at the Operations Working Group meeting in August 2006. In addition, an exchange of 5 hours between Canada (+5hr on GN) and Brazil (+5hr on GS) is included. The number of nights is approximated by  $\text{int}(\text{hours}/10)$ .

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*Last update August 30, 2006; B. Rodgers*



## *Instrument Availability and Target Accessibility: 2007A*

This page provides best estimates, at the time of the Call for Proposals, of instrument availability and corresponding target (RA, dec) restrictions for 2007A.

### General

**Instrument Changes:** As there are more instruments than the number of available ports on each telescope, instrument swaps will be required. Therefore **not all instruments will be available for the entire semester**. However, whenever possible instrument swaps will be scheduled to minimize impact on the queue, that is, instrument swaps will be driven by demand as much as possible and so the final schedule will not be made until after the 2007A programs are known. Never the less, *it may be the case that certain targets or entire programs will not be feasible once the final schedule is determined, at ITAC or thereafter*. This is especially true at Gemini South, where a significant fraction of the schedule is reserved for new instrument commissioning.

No instrument changes are permitted during classical runs.

**Under-utilized instruments:** Community demand is a critical factor in determining instrument availability. Gemini maintains as a "minimum goal" that any instrument must be awarded at least 160 hours (approx 16 nights) in order to be mounted on the telescope. In semesters 2006A and 2006B the following instruments only barely or did not meet the 16-night minimum criterion: MICHELLE, T-ReCS, bHROS. As each instrument introduces significant overhead to the Observatory, and access to instrument ports is at a premium, Gemini reserves the right to withdraw support for any instrument for which this under-utilization condition persists.

### Gemini North

At Gemini North, NIFS and Michelle share the up-looking port. It is expected that Michelle will be mounted at the start of the semester, NIFS will occupy the middle of the semester and Michelle will be re-mounted near the end. The exact dates of these swaps will be driven largely by consideration of the targets in the queue. Therefore, there are no special target restrictions on any Gemini North instruments in 2007A.

However, observations requiring the [Laser Guide Star \(LGS\) system](#) are restricted by the limitation that the LGS must be used at or above 49 degrees elevation. How this translates into RA and dec restrictions is indicated in the figure below.

In addition, because of the requirement to obtain advance approval of all telescope pointings, it is not possible to use LGS with Rapid Response Target of Opportunity observations. Standard ToO LGS observations may be possible in the future if targets can be defined well in advance but are not being considered for 2007A.

The following figure displays the accessibility of targets as a function of RA (horizontal axis) and Declination (vertical axis) at Gemini North for the 2007A semester. The dark gray area indicates the restriction on LGS observations. The larger light gray area indicates sky positions that are above 2.5 airmasses for at least 2 hours on at least 7 days of the semester. Targets outside this area should not be



requested in 2007A. However, these represent the *minimum criteria* for scheduling an observation in the queue (or classically), and proposers with targets very close to the extremes are advised to consider carefully other factors such as the amount of time needed on the source, the observing conditions required and the likely weather at the time (early in the semester is more likely to have poor weather on Mauna Kea), and the maximum airmass acceptable for the observation.

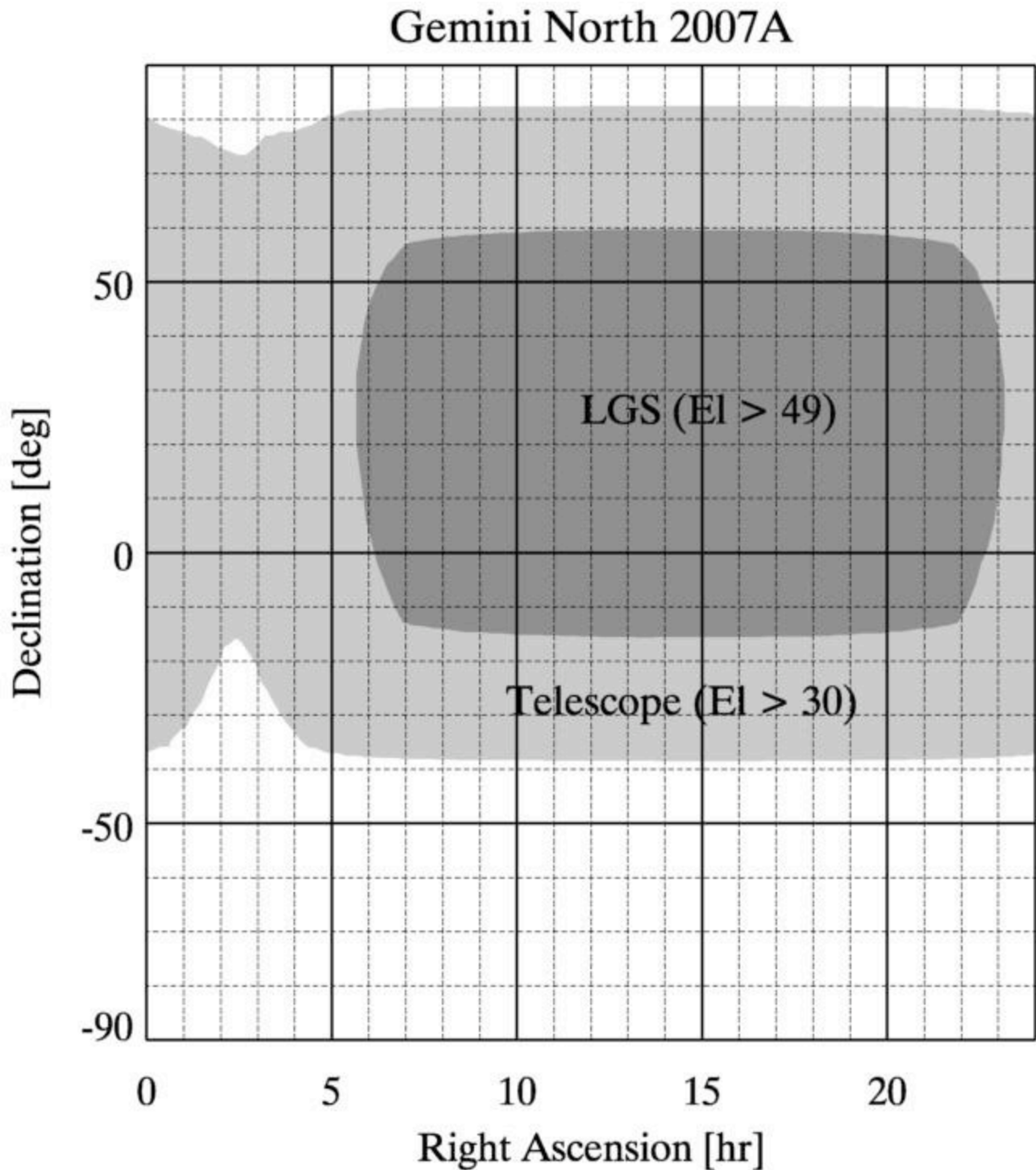


Figure 1: Target accessibility at Gemini North during semester 2007A.

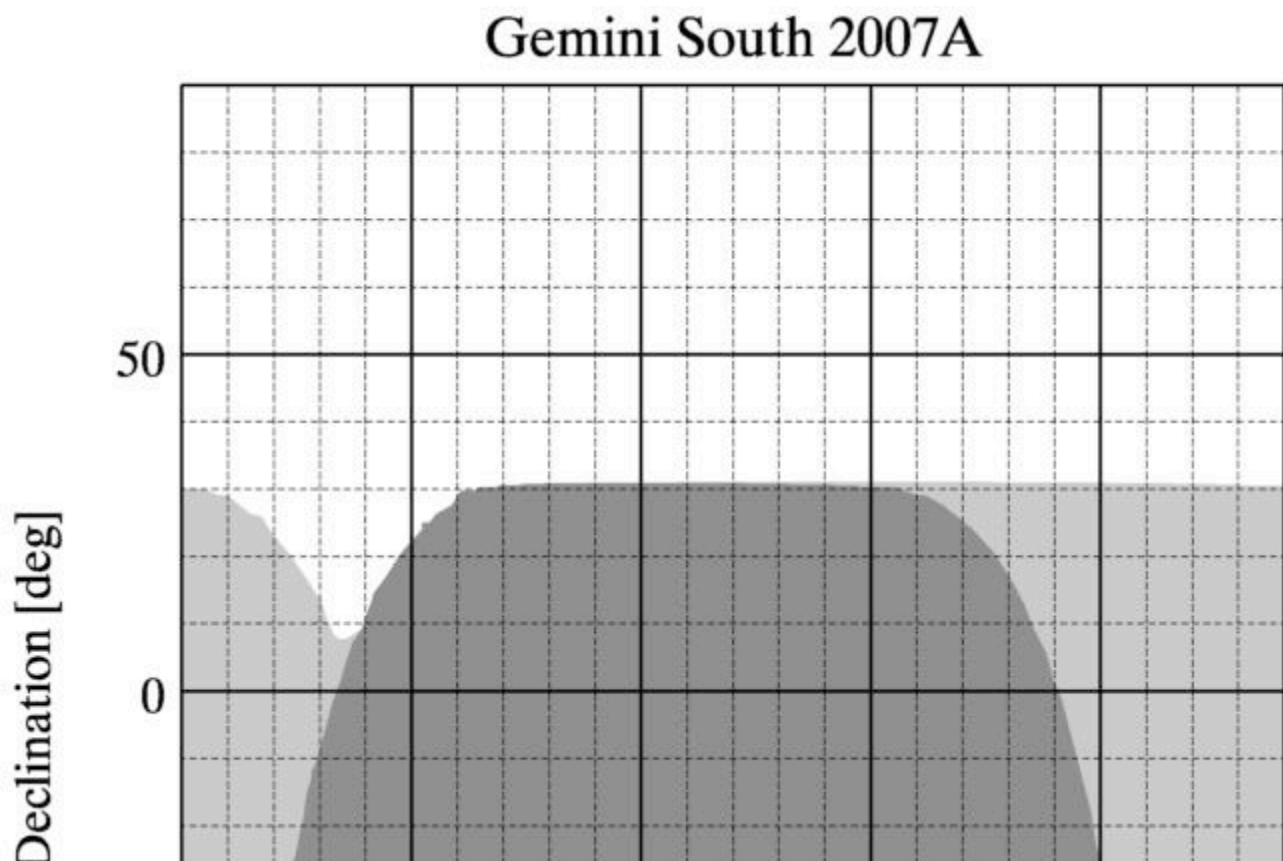


## Gemini South

At Gemini South, 30% of the semester is reserved for engineering, including new instrument commissioning (both NICI and Flamingos-2) and the start of multi-conjugate adaptive optics (MCAO) commissioning. NICI will share the up-looking port with T-ReCS and Flamingos-2 will share a side port with GMOS-S. The start of MCAO engineering will displace Phoenix, which is currently located on the "AO" port. At this writing, it is expected that NICI will occupy the up-looking port at the start of the semester, followed by T-ReCS for the remainder of the semester. GMOS-S is expected to be dis-mounted late in the first half of the semester for Flamingos-2 commissioning and then re-mounted near the end of the semester. bHROS is not available when GMOS-S is off the telescope. However, given the uncertainty of new instrument commissioning schedules, no special target restrictions are being placed on T-ReCS, GMOS-S, bHROS or GNIRS in 2007A.

However, it is reasonably certain that Phoenix will be removed from the telescope after March 2007. Hence, Phoenix targets are restricted to February-March, as indicated in the figure below.

The following figure displays the accessibility of targets as a function of RA (horizontal axis) and Declination (vertical axis) at Gemini South for the 2007A semester. The dark gray area indicates the restriction on Phoenix observations. The larger light gray area indicates sky positions accessible at some time during the semester. Targets outside this area should not be requested in 2007A. In both cases, accessibility is defined as positions above airmass 2.5 for at least 2 hours on at least 7 days during the semester (or during February-March in the case of Phoenix). However, these represent the *minimum criteria* for scheduling an observation in the queue (or classically), and proposers with targets very close to the extremes are advised to consider carefully other factors such as the amount of time needed on the source, the observing conditions required and the likely weather at the time (late in the semester is more likely to have poor weather on Cerro Pachon), and the maximum airmass acceptable for the observation.



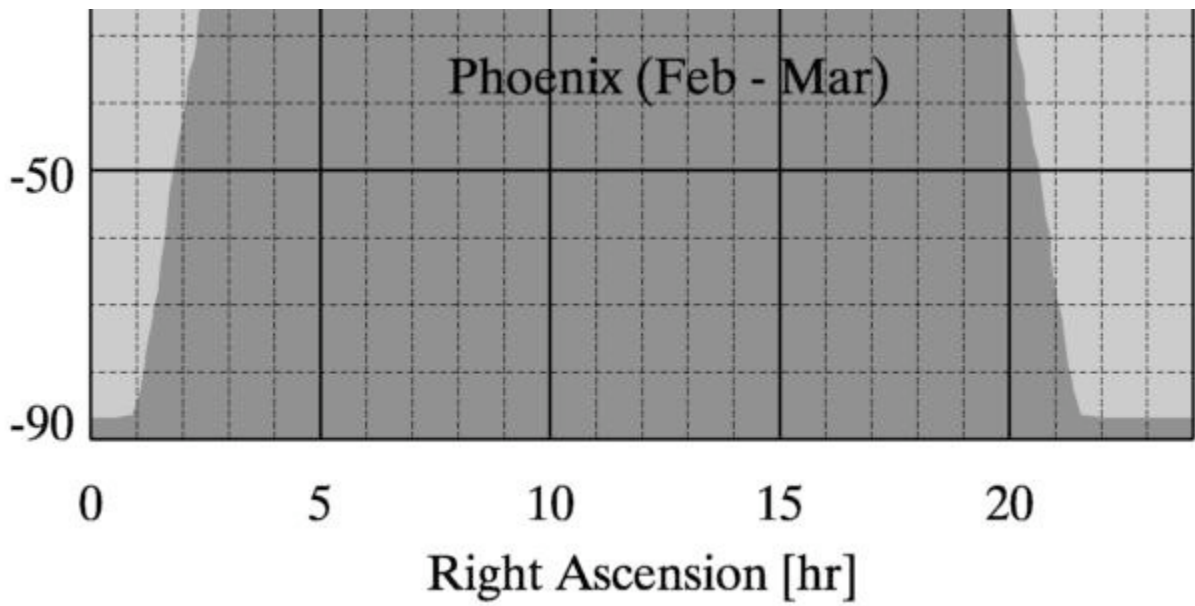


Figure 2: Target accessibility at Gemini South during semester 2007A.

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*Last update Sept 1, 2006; Bernadette Rodgers*



## *Semester 2007A Important Dates*

Key dates and events in the proposal process are shown below. The Phase I and Phase II deadlines are highlighted.

**!** Individual partner countries may have slightly different dates for the nationally-managed elements of the process such as the Phase I proposal deadline and NTAC meeting. Follow the links to the [partner-specific pages](#) for more information.

<i>Date</i>	<i>Event</i>	<i>Comments</i>
<b>29 September - 2 October 2006</b>	<b>Proposal deadlines</b>	<b>For receipt of proposals by National Gemini Offices (NGOs) - see caution above</b>
various	NTAC meetings	Separate scientific and technical assessments by each Gemini partner ("National TACs")
No later than 16 Nov	E-transmission	Electronic transmission of proposals to Gemini from NTACs
27 November	Draft queue and classical schedule	Drafts generated by operations staff and distributed to ITAC members
29-30 November	ITAC	International Time Allocation Committee (ITAC) meets to resolve issues and recommend 2007A programs
8 December	Final schedule/queue plus ITAC & Gemini feedback to NGOs	After approval by Gemini Director
13 December	Issue queue and classical schedule on web	Phase II programs ("skeletons") available in Observing Database; 2007A OT released
<b>10 January and 31 January 2007</b>	<b>Phase II deadlines</b>	<b>PI Deadlines for return of completed Phase II Science Programs to National Offices</b>
22 January and 12 February 2007	E-transmission	Deadline for electronic transfer of checked Phase II programs from National Offices to Gemini
1 February 2007	Start of semester 2007A	

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# *Call For Proposals*

## *Supporting Information*

This page contains information on the following topics relevant to applying for time on Gemini. The information is general in nature, for details specific to the upcoming semester, please see the [current call for proposals](#).

- [Time Allocation Process](#) (National and International Time Allocation Committees)
- [Submitting for time on both telescopes](#)
- [Queue Rollover](#)
- [Electronic PIT Submission](#)
- [Joint Proposals](#)
- [Rapid Response or Target of Opportunity](#)
- [GMOS Mask definitions](#)
- [Poor Weather Programs](#)
- [Exchange Time](#)
- [Target information](#) (guide stars, non-sidereal objects, time-specific observations)
- [Duplicate Observations](#)
  
- [Return to current Call for Proposals](#)

### **Time Allocation Process**

The assessment and ranking of proposals within each partner country will be via National Time Allocation Committees (NTACs) supported by the National Gemini Offices. Assembly of the final semester schedule and queue, definition of scientific ranking bands and resolution of conflicts and joint proposals between partners is done by the International Time Allocation Committee (ITAC), following the procedures described in the [Phase I overview](#).

### **Submissions to use both telescopes**

Some countries permit submitting a program that uses both telescopes, please check the [National Gemini Office pages](#). In such cases the capabilities and time requested on *each* telescope must be stated clearly in the proposal. This is required because the National Gemini Offices will transmit separate XML files for Gemini North and Gemini South to Gemini Observatory for scheduling. Proposals may include the use of multiple instruments. If observations can be carried out with either GMOS (note that they have different capabilities) you must nevertheless specify one of them; the NTACs or ITAC may make changes.

### **Queue Rollover**

Programs assigned by the ITAC into Band 1 are eligible for rollover into the next semester, for no more than two consecutive semesters, in order to increase the likelihood of program completion. Eligibility for rollover will be decided by the ITAC. Programs with rollover status will automatically be carried forward for up to 2 semesters until their time allocation is exhausted, i.e. PIs need not re-apply if the currently approved allocation is sufficient to reach the science goals of the program. National policies that affect eligibility are defined by the relevant NTAC.

## Electronic submission

All partners support electronic submission of proposals from within the Gemini Phase I Tool (PIT). In the US, submission of non-joint proposals using the NOAO web form continues to be supported. A [new version of PIT](#) is available, including new features described in [PIT Hot News](#). If re-using a previous proposal, please read the joint proposal instructions on how to reset the submission flag.

## Joint Proposals

If you submit the same proposal to several partner countries (a "joint proposal") you must do so using PIT. The PIT software, and backend servers installed at each National Office, allow automatic ("one-click") submission of the same proposal to multiple partners. Joint proposals must be submitted by the deadline applicable to the institution of the Principal Investigator (PI); if the PI is not based in a partner country, the deadline will be 23:59 Hawaii standard time on 30th September or 31st March (for A or B semesters respectively). Likewise, joint proposals must adhere to the proposal guidelines (regarding format and page length for example) of the same partner (that of the PI).

See the [joint proposal instructions](#) for more details including how to reset the submission status if re-using a (single or joint) proposal from previous semesters.

## Rapid Response or Target of Opportunity programs

We continue to encourage [Target of Opportunity](#) (ToO) programs (formerly called "Quick Response"), intended to allow observation of targets that cannot be specified in advance but which have a well defined **external trigger** (e.g. Supernovae or Gamma Ray Bursts which will be identified throughout the observing semester by non-Gemini programs). "[ToO](#)" mode may be requested with any facility instrument. Proposals for ToO mode should be made via the normal proposal process and must select the type of trigger in the PIT and summarise the *trigger event* (e.g. identification of a target brighter than a pre-determined threshold) in the proposal abstract. *ToO covers trigger types from several months to minutes in response time*. Two types of ToO triggers are defined: "Rapid Response" and "Standard" which differ by [response time](#) and [activation mechanism](#). Rapid response programs must be allocated time in Band 1.

**Gamma Ray Burst (GRB) programs:** in previous semesters many separate proposals for Gamma Ray Burst follow-up studies were submitted to the NTACs and a subset were forwarded to ITAC. As in those semesters, the ITAC and Observatory will seek to combine or otherwise substitute such proposals, e.g. by forming partnerships or time-division strategies, so that only one proposal is active on each telescope at any time. Applicants for GRB studies are strongly encouraged to coordinate their proposals before submission. The Observatory and ITAC reserve the right to form umbrella programs based on the proposals forwarded by the NTACs.

## GMOS Mask Definition

For the time being, MOS masks must be defined from GMOS images and sufficient pre-imaging time should be included in the proposal if the images do not exist already. For classical programs, pre-imaging will be scheduled in the queue. In such cases, classical time for MOS will not be scheduled in the first month of the semester, to allow enough time between pre-imaging and the classical run.

## Poor weather proposals

Often the queue contains insufficient proposals for the poorest conditions, despite the best efforts of the National TACs to pass on a balanced package of proposals to Gemini. To encourage submission of more proposals in this category, those with the following observing condition constraints will receive special consideration at the TACs and neither the PI nor partner country will be charged for any time used. Poor weather programs are lower in priority than scientific ranking band 3. To qualify as a poor weather proposal, the observing constraints must match one of the following:

- Image Quality of "any" and Cloud Cover of 70%-ile or worse (non-photometric)
- Cloud Cover of 90%-ile (typically 2 magnitudes of cloud cover and unusable in the mid-IR) and any other combination of conditions

Water Vapour constraints for all poor condition proposals need to be set to "any". The Sky Background constraint can be specified and it is acceptable for these programs to request dark time.

Poor weather programs may be submitted for any facility instrument. The ITAC reserves the right to limit the number or type of poor weather proposals depending on the specific make-up of the queue.

## Exchange Time

Gemini Observatory encourages fruitful exchanges with other major observatories in order to expand the instrument capabilities available to the Gemini community. In 2001-2002, the Gemini community had access to 12 nights of NIRSPEC time on Keck II in exchange for the long-term loan of an InSb Gemini detector to be used on NIRSPEC. At present, the Observatory has two exchange programs in place. The first agreement, initiated several semesters ago, is an exchange of classical nights for HIRES time on the Keck I telescope in exchange for Michelle time on Gemini North or T-ReCS time on Gemini South. See the [Keck time application](#) page for information on applying for the Gemini time through Keck. The second agreement, established in 2006B, is for service observing time on Subaru in exchange for queue observing at Gemini. The Subaru instruments currently available to the Gemini community are Suprime-Cam and MOIRCS (imaging and multi-object spectroscopy). In exchange, the Subaru community has access to both GMOS instruments (North and South) and NIFS, in queue mode only. See the [Subaru call for proposals](#) for more information on applying for the Gemini time through Subaru. [Joint proposals](#) for Gemini time between the Japanese community and Gemini partners are permitted and encouraged.

We are still "experimenting" with the exchange of time. Following the community demand, we hope to expand the number of nights exchanged and the number of instruments available.

The details of the amount of time currently available and other restrictions are provided in the [current call for proposals](#).

## Target information

Time-specific (including periodic monitoring and follow-up) programs may be accepted on a best-efforts basis. Note that the instrument scheduling may impose additional restrictions on this class of programs.

All observations require the use of one wavefront sensor (WFS) star for fast guiding, primary



mirror active optics control and/or as an adaptive optics wavefront reference source. The specific requirements for each instrument are given in the relevant science instrument web pages ("performance and use" section). As the technical feasibility of proposals relies in part on the availability of WFS stars, **all proposals with well-defined targets must include suitable WFS stars**. Proposals to observe non-sidereal objects should indicate the likely availability of WFS stars in the technical justification but are not required to supply specific stars. Target of Opportunity programs do not need to define WFS stars.

[Non-sidereal tracking](#) is available for all instruments. Non-sidereal tracking with GMOS is fully supported with the peripheral wavefront sensors and partially supported with the OIWFS (see [GMOS non-sidereal information](#)).

## Duplicate Observations

Proposers should check their observations against the Gemini Science Archive to ensure that similar or identical observations have not already been executed. The Phase I Tool includes a function to facilitate this. Any duplicate or seemingly duplicate observations should be well-justified in the proposal. The NTACs will consider duplication of existing observations as part of the proposal evaluation.

The ITAC evaluates and resolves any duplication of targets (or potential duplication in the case of ToO observations) between proposals from different partner countries.

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*Last update September 1, 2006; B. Rodgers*