

# Overview of NOAA Program/Renewal Proposal

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October 9, 2007

# Background

- NOAO's implementation plan/response to the Senior Review is embodied in our renewal proposal
- The NSF has worked closely with us on this - the proposal will not be competed
  - Level of funding allows us to develop an ambitious program
- This presentation focuses primarily on *changes* - not meant to indicate that ongoing activities (operating observatories) will stop

# Conclusions from Senior Review

- Find and maintain balance among facilities of different sizes
  - Priorities (and resource allocation) should be science-driven
- Engage community
  - Insufficient communication in both directions
  - Community advocacy is essential to NOAO's success
- NOAO “mission”: provide access to optimized system of high-performance telescopes of all apertures, and to data from them

# Long-term goals (from renewal proposal)

- Renew infrastructure at our operating observatories (& improve level of support)
- Build a complete and robust system that evolves with community aspirations
- Engage community and develop advocacy for next generation of facilities
- Provide support for effective and efficient use of all telescopes to which community has access
- Operate NOAO as efficiently as possible - resources are limited

# Renewal of Infrastructure

- Renew facility infrastructure to ensure continued operation into future
  - Desirable location for new collaborative facilities
- Renew telescope infrastructure
  - To improve performance
  - To enable efficient operation and support of state-of-the-art instruments
- More than \$2.5M increase in KPNO, CTIO budgets in FY08 to begin this work
- Ramp up personnel - including scientists - to provide higher level of user support

# FY08 Infrastructure renewal projects

- Purchase of critical spare parts
  - Shutter drive
- Repair and modernization of mountaintop infrastructure
  - Guard rails, dormitories, elevator
- Modernization of telescope systems
  - TCS, floor cooling, primary mirror elevator
- Development of improved observatory science support capabilities
  - Site monitoring suite, instrument prep/clean room

# Building a system - the steps

1. Use various community-based discussions to get sense of science and needed capabilities
2. Identify potential partners, their strengths and weaknesses
3. Develop a plan that takes advantage of internal and external assets
4. Implement plan: negotiate access, build instruments
5. Present to community as integrated system
6. Start again...

# 1. Desired Capabilities

- ReSTAR - focus on small and mid-sized telescopes
  - Input through web-form from 160 researchers
  - Mostly addressing near-term needs
- GSMT SWG
  - Develop understanding of GSMT-driven needs for rest of system
  - Develop advocacy within community for GSMT as essential element of system
- Input from community through AAS meetings, System workshops, Users Committee, NGSC community meetings...
- NOAO staff working group to help synthesize all of this

## 2. Potential Partners

- Through ACCORD - organized telecon of all operators of 2-5m telescopes
  - Have expressions of interest in participating from 7 non-federal observatories (Palomar, MDM, Steward, ARC, McDonald, Wyoming, CFHT)
  - Each has different capabilities and needs
- Have had more detailed discussions with
  - Lowell Obs./DCT
  - Las Cumbres Observatory Global Telescope Network
  - NASA/Keck

# 3. Develop a plan

- Following ReSTAR, plan a set of activities to address the highest priority needs
  - New instruments for NOAO facilities
  - Partnerships in new facilities
  - Agreements with non-federal to provide resources in exchange for access to specific capabilities
- Consider needs in different aperture-classes
  - Gemini capabilities should be rationalized in context of other large U.S. telescopes
  - Small, mid-sized, large, extremely large all may be optimized through different models

# 4. Implement Plan

- Heterogeneous mix of approaches and timescales
- Requires discussion and planning in internal and external contexts
- Creation and evolution of this system are strategic and science-driven
  - NOAO's role is not to be a clearing-house but to proactively plan, negotiate, and implement these agreements

# 5. Present to Community

- Integrate access and information on capabilities
  - Telescope allocation process
  - Community Access Telescope Clearing House
- How can we do this better?

## 6. Start Again....

- System *must* evolve - not only to become more complete but because needs will change
- E.g., in LSST era
  - wide-field optical imaging becomes less important
  - Need longitudinally-distributed network of telescopes to do queue-scheduled follow up time-domain discoveries
  - Need wide-field multi-object spectrographs to study new, large samples

# Engage Community

- NOAO must engage community effectively
  - Many misconceptions about our program
  - Need community endorsement and advocacy to move forward
  - Need community input and dialog to prevent divergence
- Looking at many different mechanisms to
  - Distribute information
    - Electronic newsletter, improved web site, video and live presentations
  - Gather information
    - Regional town meetings, NOAO-wide helpdesk, AIR program, Users Committee

# Strengthening the System

- Instrumentation
  - Finish current projects
  - Make ourselves desirable collaborators
    - Opportunities to build instruments for our telescopes and others within the System
    - Develop and advertise expertise in targeted areas
- Data Products
  - Get E2E system on-line
  - Look to incorporate data from other facilities
    - Think strategically about VO-driven opportunities
  - focus on supporting community science with archives, including DES, ODI, and LSST

# How Can Users Committee Help?

- Help us engage the community
- Participate in strategic planning activities that we organize
- Give us honest feedback
- Help us advocate the interests of the community
- Identify problems that we don't see