



# **External Review of the Cooperative Institute for Marine and Atmospheric Studies (CIMAS)**

A Presentation to the  
NOAA Science Advisory Board

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# Science Review Panel

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# CIMAS



- Began in 1977; Review period since 2010
- Hosted by the University of Miami, but includes:
  - Florida Atlantic University
  - Florida International University
  - Florida State University
  - Nova Southeastern University
  - University of Florida
  - University of South Florida
  - University of the Virgin Islands
  - University of Puerto Rico



# CIMAS NOAA Collaborators



- Atlantic Oceanographic and Meteorological Laboratory (AOML)
- Southeast Fisheries Science Center (SFSC)
- National Hurricane Center (NHC)



# CIMAS Research Themes



- Climate Research and Impact
- Tropical Weather
- Sustained Ocean and Coastal Observations
- Ocean Modeling
- Ecosystem Modeling and Forecasting
- Ecosystem Management
- Protection and Restoration of Resources



# Overall Assessment



- CIMAS research programs benefit NOAA substantially from the outstanding collaborative efforts directed by the leadership team of Drs. Peter Ortner, Director and David Die, Associate Director.
- CIMAS benefits from the relationship/opportunity the leadership and research investigators have to closely collaborate with a number of local NOAA facilities.
- CIMAS serves as a catalyst for outstanding scientific exchange between university and NOAA scientists.



# Strategic Plan: Findings and Recommendations



Physical oceanography and climate science efforts are cutting edge science and applied research.

CIMAS is actively working to advance modeling of tropical cyclones, prediction of cyclone genesis, and improving hurricane intensity prediction, as well research related to ocean acidification, among others.

The relationship between NHC and CIMAS very impressive.

Information about conservation and management of ecosystems is much less cohesive.

CIMAS has been an important vehicle for increasing diversity and training young scientists.

CIMAS is successful at leveraging funding for institutions and other collaborators. The panel cautions with regard to the future of this synergism.

The panel recommends that planning should begin to prioritize the programs in CIMAS to prepare for inevitable decreases in federal funding.

The panel suggests more attention should be given to outreach activities.





# Science Review: Findings



**Numerical model development and evaluation (e.g. Observing System Simulation Experiments), and new observational technologies are impressive.**

**CIMAS research products can have direct relevance to operational pursuits of societal importance, consistent with the NOAA mission.**

**CIMAS plays a practical role by providing the infrastructure for diverse and flexible teams of researchers, technical staff, post-doctoral and graduate students, as required by NOAA to meet its research goals.**

**CIMAS enables both nimble response to natural hazard events, as well as the ability to pursue developing research avenues relevant to NOAA's mission (e.g. CIMAS and AOML). Together, the 'whole is greater than the sum of the parts'.**

**CIMAS is increasing its activity in reaching out to the public, which is an essential activity of climate and ecosystem researchers.**

**CIMAS research has regional or phenomenological focuses, forming relatively coherent activities.**



# Science Review: Recommendations



As current CIMAS research efforts mature and some move to an operational phase, follow-up research needs to be identified and phased into the project plans.

The physical oceanography and climate programs, while consisting of meaningful components, seem to lack overarching coherence. An effort to prioritize global climate versus more locally-applicable research topics appropriate for CIMAS and consistent with AOML programs should be undertaken.

Consideration should be given to bringing in more collaborators from other institutions (e.g., members of other CIs) that have direct relevance to specific CIMAS research group activities. A broader range of collaboration will benefit the CIMAS PI status in the community and strengthen their science program pursuits.

Revisit the assessment regarding the optimum balance of CIMAS and AOML research activities. While CIMAS offers a nimble response (e.g., natural hazards), AOML provides long-term stability that encourages operational phases.



# Education/Outreach: Findings



**CIMAS leadership encourages investigators on Task III competitive and non-competitive proposals to involve education and outreach (including K-12). However, lacking discretionary funds for Education under Task I means students are only supported if connected with specific CIMAS research projects and thus, selected by the PIs using their own project funds.**

**Most K-12 outreach was PI driven. Because the research of PIs inclined to do outreach was not based in the U.S., Florida students are not served in these ports-of call efforts thus unable to experience valuable opportunities.**



# Education/Outreach: Recommendations



The panel suggests that more CIMAS-directed support for graduate students like the Task III stock assessment education project at the University of South Florida should be proactively pursued.

As suggested in the 2003 CIMAS review, formal tracking of CIMAS-funded students would add documented credibility for enhancing Task I education support. CIMAS is urged to initiate a retrospective examination of the subsequent career paths of their funded graduate and undergraduate students.

CIMAS should explore novel/new funding mechanisms and partnerships for recruitment and support of students in subjects key to NOAA research and human resource needs.



# Science Management: Findings



The scientific leadership of CIMAS is in great hands with Director Peter Ortner. CIMAS is in excellent financial health; funding has more than tripled over the past decade.

CIMAS has demonstrated rapid and effective responses to environmental catastrophes in support of NOAA.

CIMAS is one of the few CI's that accords NOAA reduced indirect costs (IDC) on some Tasks, which represents a major contribution on the part of the UM to allow flexibility in letting CIMAS implement certain policies (awards, pay scales, benefits etc.).

It will be a challenge to handle the financial transition to implement an entirely new Cooperative Agreement.

None of the CIMAS resources are reserved for new opportunities/starts or 'bright ideas', as there is no discretionary research funding.

Changes in UM policy have complicated the ability to assist CIMAS employees in pursuing their doctoral studies at Rosenstiel School for Marine and Atmospheric Sciences.



# Science Management: Recommendations



More frequent use of the CIMAS Council of Fellows, whom have only met once over the past 3 years, would help better strategize the longer term research goals of CIMAS.

A science advisory working group of younger PIs would help encourage external funding opportunities and better enable CIMAS scientist growth, recognition, independent research, and external collaborations.

Draft a “leadership transition” plan to help educate and guide future CIMAS management in the eventual “post-Ortner” era and/or transition period.



# Overall Rating



**OUTSTANDING**



**Questions?**