



Highlighting GFDL's Growing Stakeholder Community

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With Keith Dixon and Whit Anderson

Q3: How can GFDL research and modeling be further utilized to meet NOAA stakeholder needs and enhance research partnerships to ensure GFDL's success?

Rising Demand for Climate Information – Across Sectors



Sustainability of
Marine Ecosystems



Coasts and Climate
Resilience



Climate Impacts on
Water Resources



Changes in Extremes of
Weather and Climate



Agriculture



Energy



Health



Transportation

Credit:
Ellen Mecray



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5-YEAR REVIEW
JANUARY 28-30, 2025

Across Temporal and Spatial Scales



Credit:
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Urgent calls to expand the scope and reach of our research

From within NOAA:

- **OAR's Societal Challenges**



From the International Community:

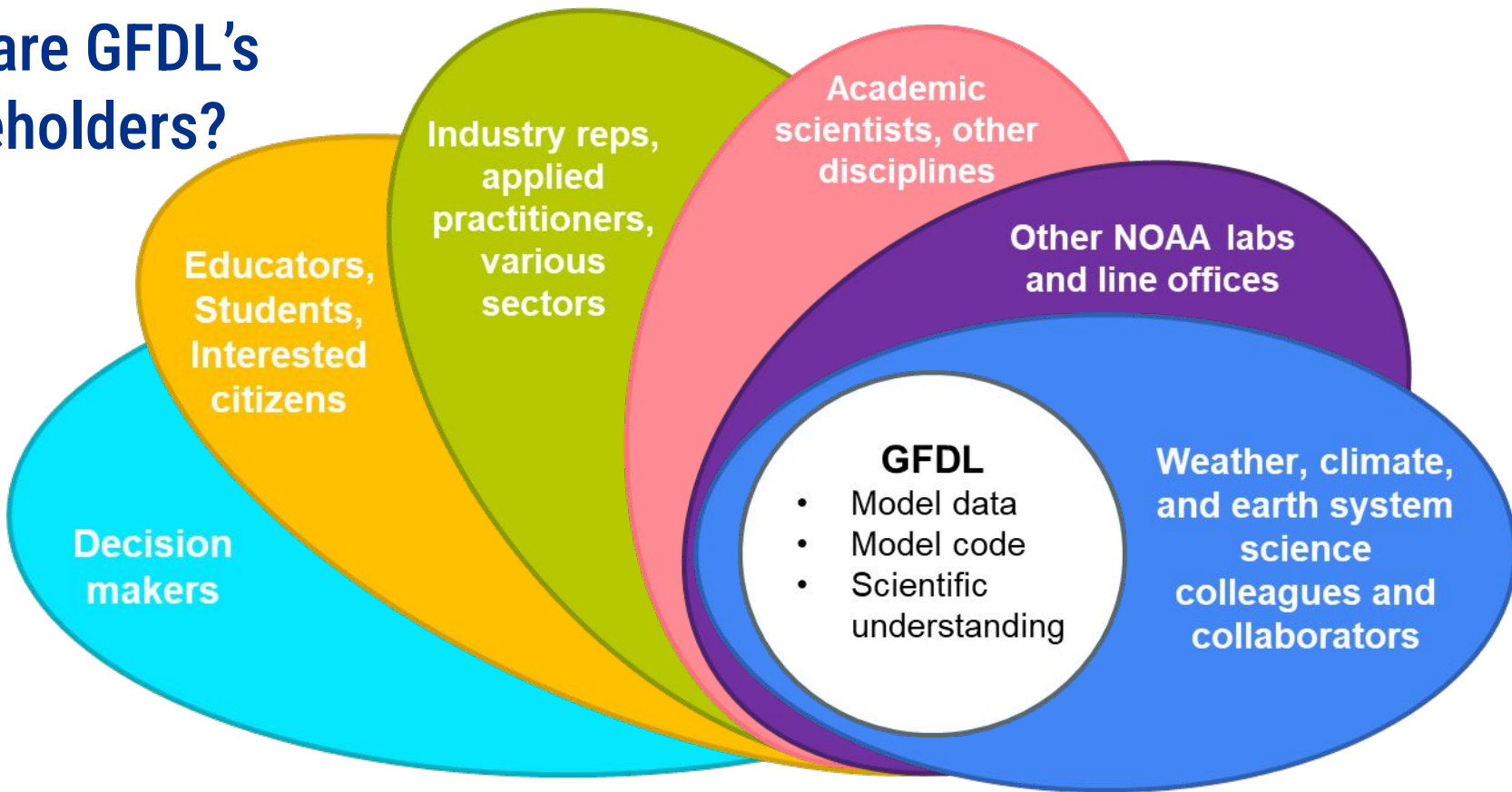
- WCRP's Kigali Declaration calls upon the climate science community ***“to accelerate and amplify the relevance, impact and benefit of its research for science and society, enabling transformative actions.”***

Noted in our
2019 Lab Review:

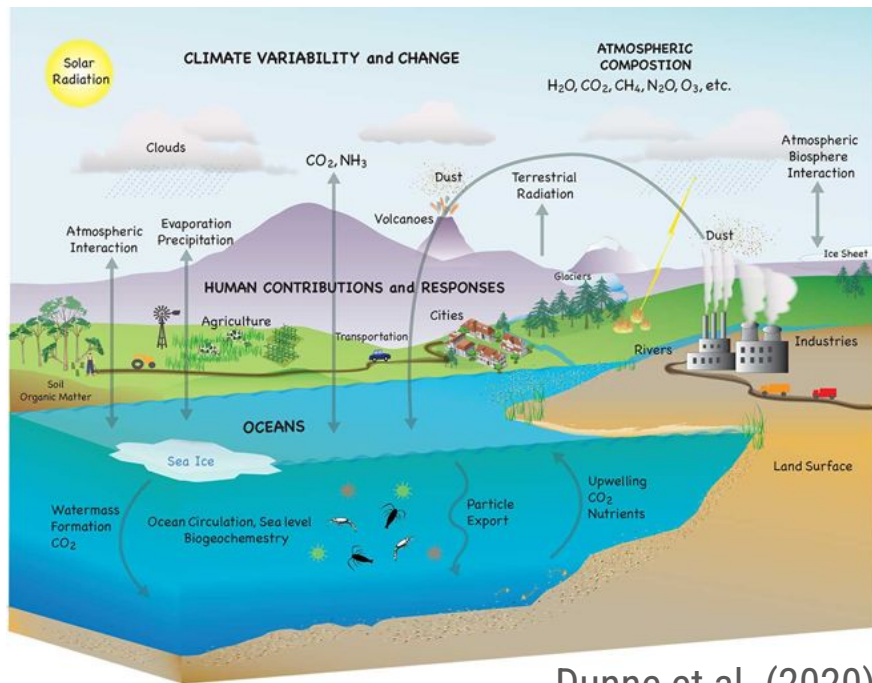
- **R3: Be ready to reach out to outside entities**
- **R4: Increase engagement with other NOAA efforts**



Who are GFDL's Stakeholders?



Stakeholder Perspectives



Dunne et al. (2020)

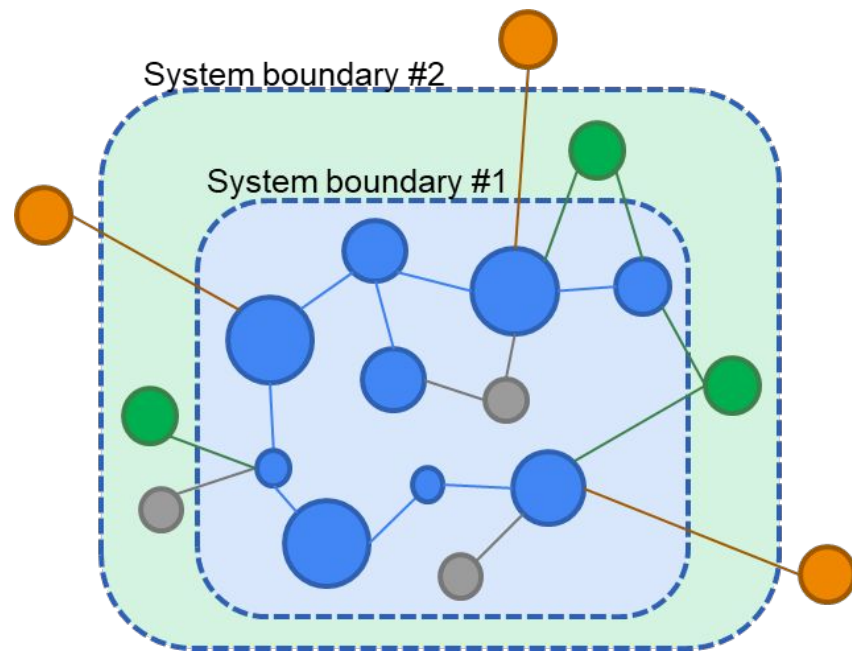


Figure modified from
Jana Sillman

Example Modes of Engagement

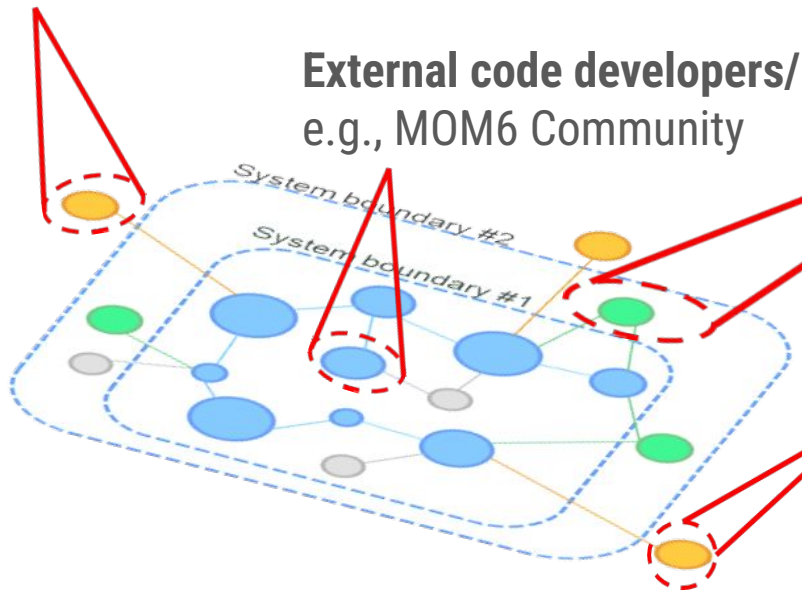
External teams providing model input: e.g., CMIP Forcings Team, Historical Land Use/Land Cover Change Developers

External code developers/users:
e.g., MOM6 Community

Developers/users of models driven by climate data: e.g., Models of agricultural yield, fish catch, human health response, economics, etc.

Climate model data users: e.g., CMIP coordinators, IPCC WG1, climate science academics

Educators, students, decision makers looking to GFDL for understanding and expertise



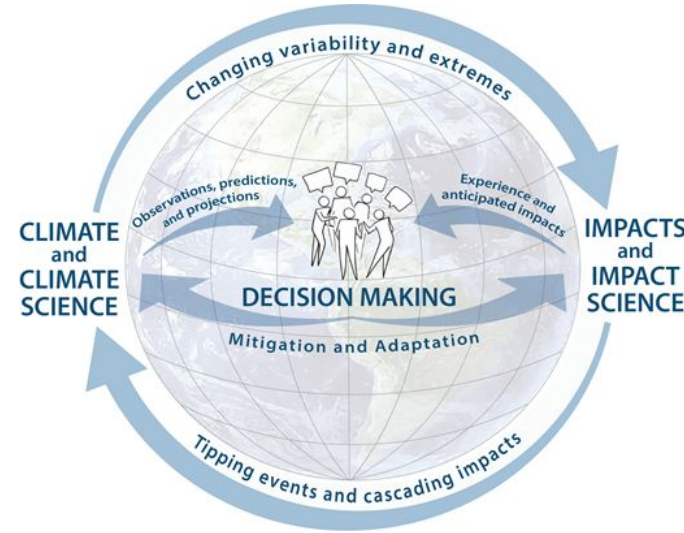
Stakeholder Perspectives

Goal: **Translation and transfer** of data and knowledge

Mode of **coordination and collaboration** often determined by the stakeholder perspectives

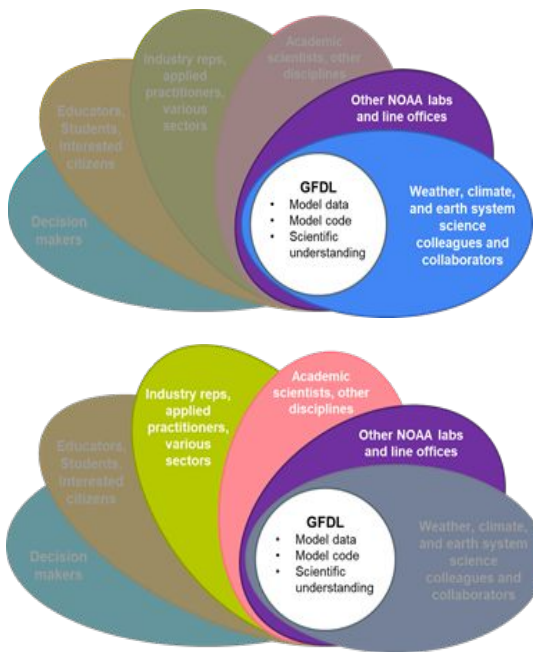
Fitness for purpose must be determined through discussion and understanding of stakeholder perspectives

We may need to meet stakeholders in that interface between the system boundaries



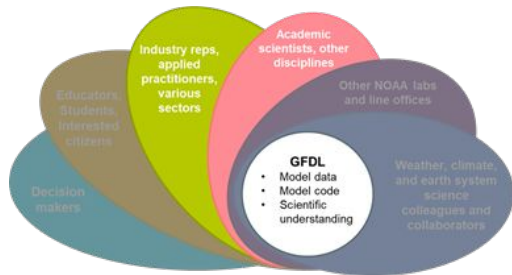
Sillman, Findell, et al., 2024.
WCRP Concept Paper on
*Climate extremes and risks:
links between climate science
and decision-making*

Q3 Topics Span These Stakeholder Categories

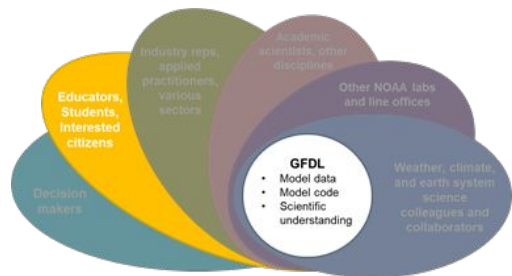


- **Vaishali Naik's** slides on GFDL's contributions to National and International Assessments and Model Intercomparison Projects
- **Raymond Menzel's** slides on a novel radiation benchmarking tool
- Forecast products across scales:
 - **Nat Johnson's** talk on Seasonal-to-Decadal forecasts with SPEAR
 - **Jan-Huey Chen's** talk and **Mingjing Tong's** slides on Weather-to-Seasonal forecasts with SHIELD, including the FV3 Team and the Global-Nest Initiative collaborations
- Ocean-related collaborations with other parts of NOAA
 - **Charlie Stock's** talk on the Climate, Ecosystems, and Fisheries Initiative (CEFI)
 - **John Krasting's** talk and **Jake Steinberg + Brandon Reichl's** slides on BIL-funded sea level rise and coastal inundation efforts

Q3 Topics Span These Stakeholder Categories



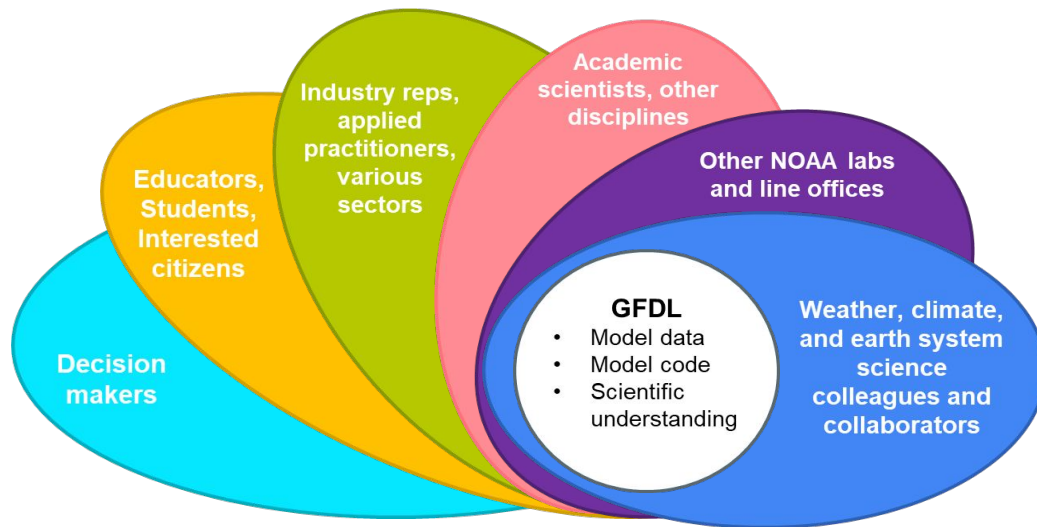
- External stakeholder partnerships:
 - **Aparna Radhakrishnan's** talk on Data Stewardship from Science to Society
 - **Zack Labe's** talk on his collaboration with civil engineers and on NOAA's Rapid Event Attribution effort
 - **Keith Dixon's** talk on downscaling efforts with, e.g., the Philadelphia Department of Health on heat and health concerns in the city



- GFDL's outreach, blogs, and more:
 - A sampling is sprinkled throughout the talks and materials provided

Looking forward: Maximizing GFDL's contributions

- What are our priority stakeholder audiences for future engagement?
- Which sectors might yield the most fruitful progress?
- What research topics are ready for engagement?



Thank you



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