# BIOGEOCHEMISTRY BREAKOUT SESSION

REPORT OUT

2024-08-06

BIOGEOCHEMISTRY BREAKOUT

# MAKE BETTER USE OF DISTURBANCE EXPERIMENTS AND OBSERVATIONS

## NEAR TERM CHALLENGE

- NEED A COHERENT SET OF BENCHMARKS BASED ON PERTURBATION EXPERIMENTS
- THESE DATA EXIST!
- EVERY YEAR RELEASES FRESH NEW HORRORS IN THE BIOSPHERE AND WE COULD USE THAT
- BUILD PERTURBATION EXPERIMENTS INTO ILAMB?
- (BUT MANY MODELING CENTERS DON'T WANT TO RUN SUCH EXPERIMENTS)

BIOGEOCHEMISTRY BREAKOUT

# STRONGER LINKS BETWEEN AND ACROSS DISCIPLINES

## LONG TERM CHALLENGE

- WE HAD ATMOSPHERIC, BGC, OCEAN, HUMAN SYSTEMS SCIENTISTS
- THIS IS A POTENTIAL DOE STRONG POINT: PLANNING, LONG TERM INVESTMENT, COORDINATION BETWEEN PROGRAMS
- E.G. STRENGTHEN LINKS BETWEEN LAND BGC COMMUNITY AND ATMOSPHERIC CHEMISTRY

BIOGEOCHEMISTRY BREAKOUT

# AWARENESS OF OPPORTUNITY COSTS OF MODEL DEVELOPMENT

## LONG TERM CHALLENGE

- HUGE VALUE TO AN OFF-THE-SHELF, EASY TO USE FULLY COUPLED MODEL, EVEN IF NOT 'LATEST AND GREATEST'
- LOW-RES CONFIGURATIONS, SIMPLE MODELS, ETC. VERY IMPORTANT AND CAN ITERATE/EVOLVE RAPIDLY
- MODELS AND ROCKETS BOTH BENEFIT FROM RAPID ITERATION