BACKGROUND

- **SCCWRP conducts a laboratory intercalibration study once every five years**
  - Done as part of our collaborative regional monitoring program to ensure that data from multiple laboratories are comparable
- **We have done exercises for a wide array of analytes**
  - Organic chemistry
  - Inorganic chemistry
  - Nutrient and acidification chemistry
  - Microbiology
  - Toxicology
  - Benthic invertebrate identifications
- **The SCCWRP Commission tells me that this is the most valuable part of our regional monitoring**

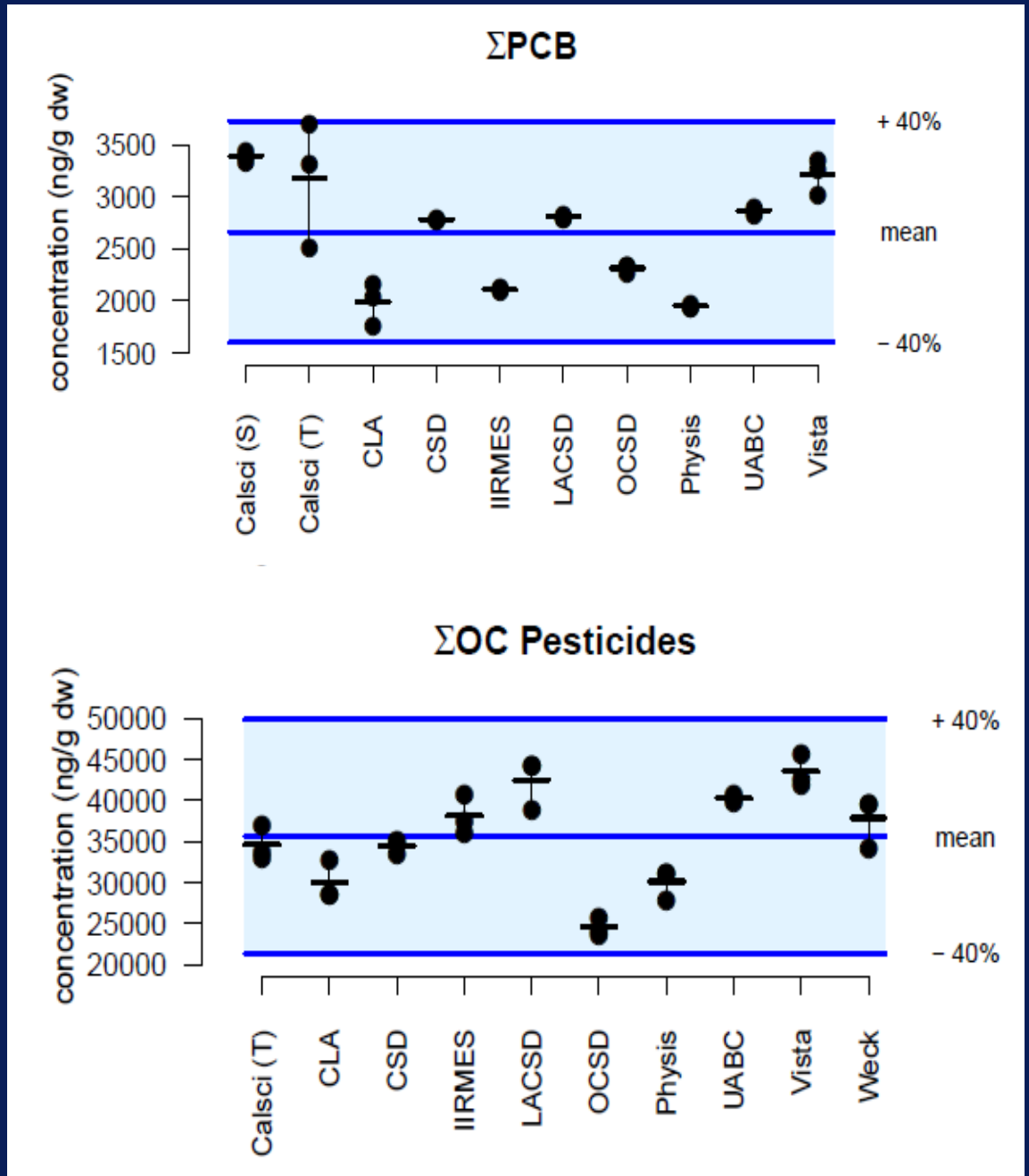
WHY AM I HERE TODAY?

- **ELAP asked SCCWRP to include other laboratories in the chemistry portion of the 2018 exercise**
  - Historically, it has been limited to laboratories participating in the regional monitoring
  - We are also in discussion with SFEI about including some of the labs that participate in the San Francisco Bay RMP
- **I would like to discuss with you how ELAP labs might participate**
  - Provide some details about what is involved for participants
- **Get your feedback on how we can make this most valuable to ELAP and ELAP labs**

APPROACH

- **Gather large volume ambient sediment samples**
  - Carefully and completely homogenize the sample
  - Send samples (and replicates) blind to each participating laboratory
- **Examine reproducibility within and across laboratories**
- **Several potential analytes**
  - We have historically done PAHs, PCBs, pesticides, and metals
  - We are considering adding harmful algal bloom chemistry this year
  - We are open to adding/modifying to accommodate ELTAC interests

Bight ‘13 Sediment Intercalibration



BENEFITS

- **ELAP clients benefit from better understanding of within/across laboratory consistency**
  - How much uncertainty do we have with results for real world samples
- **Individual laboratories benefit from a better understanding of their relative performance**
  - Many labs improve comparability following the study
  - It is also a potential marketing tool – some Southern California entities even require it now as part of they RFP process
- **ELAP benefits from the context for results from traditional performance evaluation samples**
  - How do results compare between the PE and real world samples?

1998 SEDIMENT PAHs – FIRST ROUND

COMPOUND	LAB-1	LAB-2	LAB-3	LAB-4	LAB-5	LAB-6
2-Methylnaphthalene	ND	57	78	5	54	119
Biphenyl	ND	44	54	17	25	57
2,6-Dimethylnaphthalene	28	30	62	ND	39	64
Phenanthrene	ND	36	60	9	64	52
Fluoranthene	ND	ND	53	12	57	64
Pyrene	43	255	374	20	109	108
Benz[a]anthracene	ND	ND	79	9	47	49
Chrysene	ND	ND	67	9	53	25
Benzo[e]pyrene	ND	233	241	19	191	77
Benzo[a]pyrene	ND	ND	236	16	186	64
Perylene	41	359	312	20	165	138
Benzo[g,h,i]pyrene	ND	ND	91	ND	112	37
TOTAL	**137**	**1130**	**2300**	**177**	**1430**	**1280**

1998 SEDIMENT PAHS – FINAL ROUND

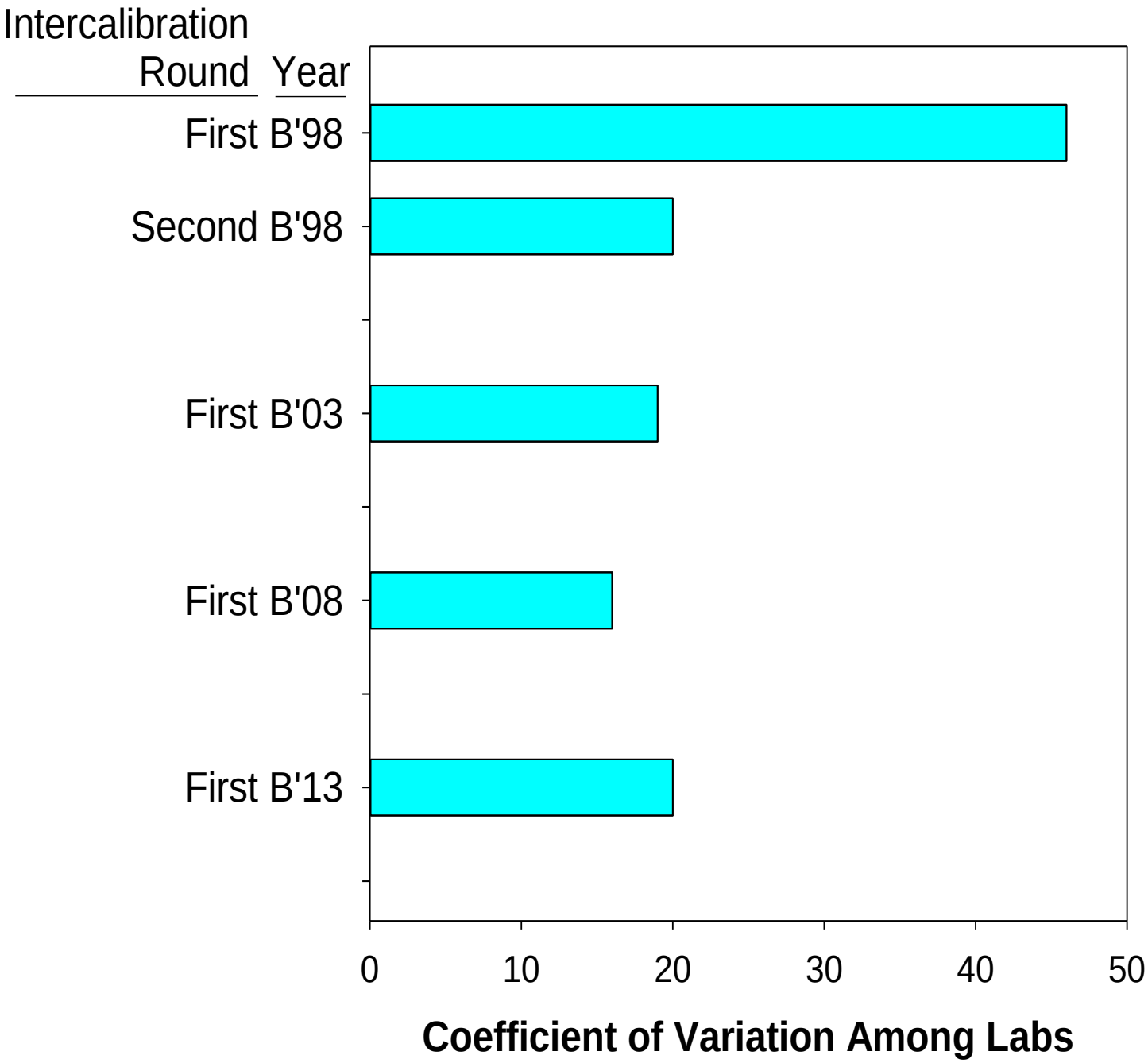
COMPOUND	LAB-1	LAB-2	LAB-3	LAB-4	LAB-5	LAB-6
2-Methylnapthalene	59	54	63	56	62	54
Biphenyl	53	26	39	47	41	33
2,6-Dimethylnaphtalene	*103*	31	75	79	46	28
Phenanthrene	76	71	53	58	64	66
Fluoranthene	45	68	55	39	75	75
Pyrene	139	*215*	137	138	163	168
Benz[a]anthracene	51	46	61	56	52	60
Chrysene	49	58	63	78	71	63
Benzo[e]pyrene	139	124	*193*	131	103	113
Benzo[a]pyrene	95	141	*203*	109	79	*52*
Perylene	168	*259*	227	237	119	142
Benzo[g,h,I,]perylene	*25*	99	75	*ND*	110	91
TOTAL	1,391	1,572	1,748	1,418	1,344	1,296

THERE IS MEMORY IN THE SYSTEM

Range Between Laboratories - PAHs

Study	Concentration Range (ng/dry g)	Coefficient of Variation
Bight 98- Before	137 - 2,300	67%
Bight 98- After	1,180 - 1,750	15%
Bight 03- Before	1,035 - 1,936	27%
Bight 08- Before	1,251 - 1,982	21%

Split Sediment Sample for Total PCBs



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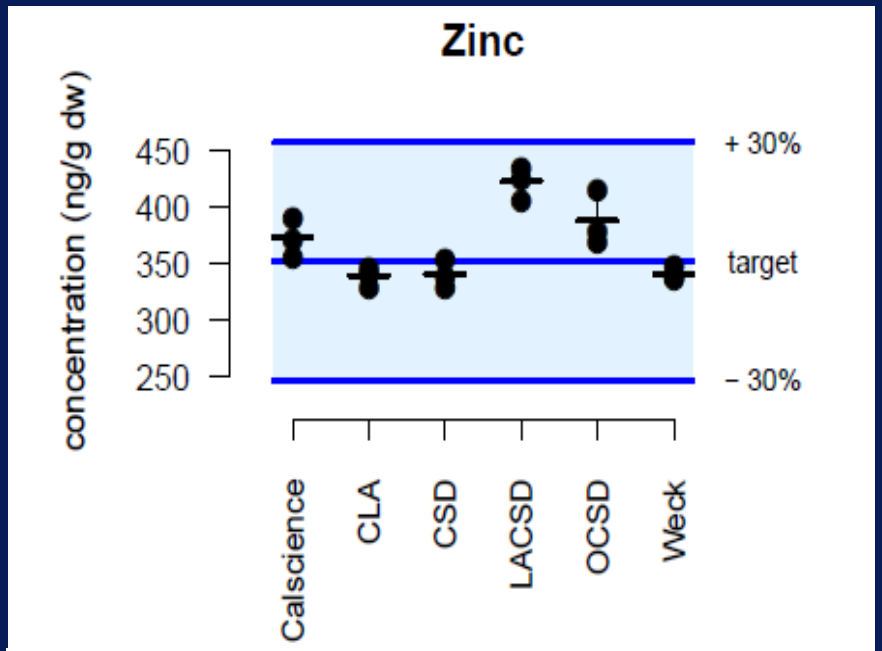
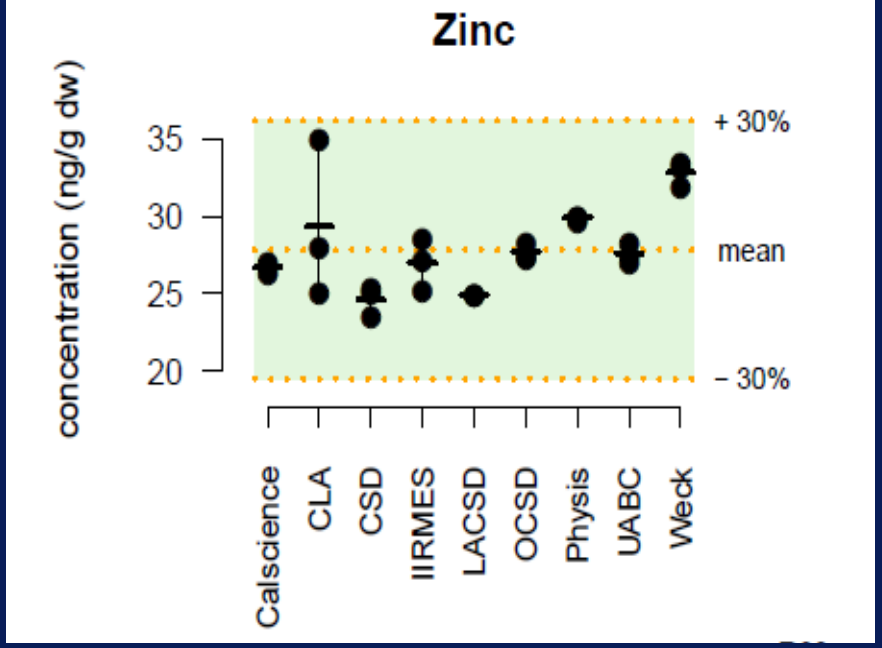


ERA Certified Reference Material



Field Collected Material

VISION

- **Voluntary**
  - ELAP is not using this as part of their accreditation process
  - They hope this process will help labs improve
- **Anonymous**
  - Lab results will be presented by lab “letter”
  - Labs will know which letter they are, but not that of other labs
  - Labs are free to disclose their results and to use them in marketing if they so choose
- **No cost**
  - There will be no charge by SCCWRP to participate
  - Labs will not be paid to participate
  - ELAP will cover the cost of sample shipment
  - Labs cover their own travel cost to the post-exercise debrief meeting

TIMING

- **Planning to conduct the intercalibration study in March**
  - Results from the laboratories would be due by April
- **Need to decide on matrices and analytes by February**
- **Would like an idea of how many additional laboratories will be participating by end of January**