

0313

1 DR. WEISS: GOOD MORNING. MY NAME IS RAY
2 WEISS. I'M FROM THE SCRIPPS INSTITUTION OF
3 OCEANOGRAPHY, AND I HAVE BEEN TAPPED TO BE THE EMCEE
4 FOR YOU TODAY IN THE SECOND DAY OF THIS FASCINATING
5 CONFERENCE.
6 I SHOULD SAY THAT IT'S AN HONOR TO BE HERE
7 BECAUSE MY FIRST PAYING JOB IN EARTH SCIENCES WAS IN
8 1964, WHEN I WAS A BEGINNING GRADUATE STUDENT AT
9 SCRIPPS, AND DAVE KEELING PAID ME TO COLLECT AIR
10 SAMPLES ON AN OCEANOGRAPHIC EXPEDITION FOR A
11 THREE-MONTH SUMMER CRUISE. THAT WAS MY INTRODUCTION
12 TO EARTH SCIENCES, AND THAT'S SOME YEARS AGO, AS YOU
13 CAN UNDERSTAND.
14 I'VE BEEN ASKED TO MAKE A COUPLE OF
15 ANNOUNCEMENTS. ONE OF THEM IS THAT THE TRIP TO MAUNA
16 LOA ON SATURDAY STILL HAS OPENINGS. IF YOU WANT TO
17 GO, YOU MUST SIGN UP, HOWEVER, AT THE MORNING COFFEE
18 BREAK AT THE MAIN DESK OUT IN FRONT OF THE
19 AUDITORIUM. AND THE OTHER ANNOUNCEMENT IS THAT TO
20 REMIND YOU, THE NATIONAL MARINE FISHERIES, THE
21 NATIONAL MARINE SANCTUARY FOUNDATION ASKED ME TO
22 REMIND YOU THAT NEARLY ALL OF THE POWERPOINTS THAT
23 YOU'RE SEEING AT THIS CONFERENCE WILL BE ON THE
24 WEBSITE, ON THE WEBSITE FOR THE CONFERENCE.
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0314

1 SESSION 5
2 TERRESTRIAL IMPACTS, FEEDBACKS AND HUMAN ADAPTATION
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4 DR. WEISS: THIS MORNING THE FIRST SESSION
5 DEALS WITH TERRESTRIAL IMPACTS, FEEDBACKS, AND HUMAN
6 ADAPTATION; AND IT'S MY HONOR TO INTRODUCE TO YOU
7 CHRIS FIELD FROM THE CARNEGIE INSTITUTION. IT'S A
8 LITTLE BIT CONFUSING; THE CARNEGIE INSTITUTION IS
9 SPREAD ALL OVER THE COUNTRY, AND ONE OF ITS BRANCHES
10 IS NEXT TO STANFORD IN PALO ALTO, SO CHRIS IS
11 ASSOCIATED BOTH WITH STANFORD AND THE CARNEGIE
12 INSTITUTION. CHRIS IS AN ECOLOGIST WHO HAS WORKED, I
13 GUESS, MOST OF HIS CAREER ON THE MANY PROBLEMS, FROM
14 THE MICROSCALE TO THE GLOBAL SCALE, OF THE
15 RELATIONSHIP BETWEEN THE BIOSPHERE AND THE CARBON
16 CYCLE, THE GLOBAL CARBON CYCLE.
17 CHRIS, I WILL LET YOU COME UP.
18 THE OTHER PANELISTS UP IN FRONT OF YOU WILL BE
19 INTRODUCED IN SOMEWHAT GREATER DETAIL BY CHRIS, WHO
20 HAS PUT TOGETHER THIS SESSION. THEY ARE PAUL KIRSHEN
21 FROM TUFTS UNIVERSITY, DAVID LOBELL FROM LAWRENCE
22 LIVERMORE NATIONAL LAB; AND TED SCHUUR FROM THE
23 UNIVERSITY OF FLORIDA.
24 THANK YOU VERY MUCH.

[Field's presentation removed from this file.]

24 THANKS VERY MUCH.
25 (APPLAUSE)

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1 DR. WEISS: THANK YOU, CHRIS.
2 THE NEXT SPEAKER IS PAUL KIRSHEN FROM TUFTS
3 UNIVERSITY.

[Kirshen's presentation removed from this file.]

8 (APPLAUSE)
9 DR. WEISS: THANK YOU, PAUL.
10 THE NEXT SPEAKER IS DAVID LOBELL, WHO WILL
11 TALK ABOUT THE EFFECTS OF CLIMATE CHANGE IN
12 AGRICULTURE.
13

[Lobell's presentation removed from this file.]

(APPLAUSE)
16 DR. WEISS: THANK YOU.
17 I WOULD LIKE TO REMIND YOU THAT WE WILL
18 HAVE A QUESTION SESSION AT THE END OF THE FINAL
19 PRESENTATION, WHICH IS FROM TED SCHUUR, FROM THE
20 UNIVERSITY OF FLORIDA, ABOUT THE IMPACTS IN
21 HIGH-LATITUDE REGIONS.
22 (APPLAUSE)

[Schuur's presentation removed from this file.]

25 DR. WEISS: THANK YOU, TED, AND THANK YOU
0372
1 TO ALL THE SPEAKERS FOR KEEPING TO THE TIME SCHEDULE,
2 WHICH AS A RESULT MEANS THAT WE HAVE ABOUT 10 MINUTES
3 OR SO FOR QUESTIONS.
4 NOW, SORRY, IT'S A VERY SOMBERING TOPIC
5 WE'RE TALKING ABOUT, BUT IT'S REALITY.

[v Q&A for the land impacts presentations removed from this file.]

6 DR. WEISS: SO I'D LIKE TO REMIND YOU, ONCE
0382
1 AGAIN, THAT IF YOU WOULD LIKE TO SIGN UP FOR THE
2 SATURDAY TRIP TO MAUNA LOA THAT YOU HAVE TO DO SO
3 DURING THIS BREAK.
4 THE COFFEE BREAK WILL EXTEND UNTIL 10:45,
5 AND I WOULD ENCOURAGE YOU TO SPEND SOME TIME LOOKING
6 AT THE POSTERS. THERE ARE A LOT OF POSTERS THERE
7 WITH A LOT OF INFORMATION ON THEM, AND THESE ARE THE
8 TIMES WHEN THEY'RE AVAILABLE.
9 FINALLY, I WOULD LIKE YOU TO THANK THIS
10 MORNING'S SPEAKERS FOR A VERY STIMULATING SERIES OF
11 PRESENTATIONS.

12 (APPLAUSE)
13 (BREAK)

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0383

1 SESSION 6
2 OCEAN IMPACTS, FEEDBACKS & HUMAN ADAPTATION
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4 DR. WEISS: OKAY. THE MUSIC HAS STOPPED,
5 SO IT MEANS YOU'RE SUPPOSED TO GRAB THE NEAREST CHAIR
6 AND SIT IN IT, PLEASE.

7 THE FIRST SESSION THIS MORNING DEALT WITH A
8 SMALL FRACTION OF THE EARTH'S SURFACE. NOW WE'RE
9 GOING TO DEAL WITH THE LARGER FRACTION OF THE EARTH'S
10 SURFACE, THE WORLD'S OCEANS.

11 THIS SECTION THIS MORNING WILL BE
12 STRUCTURED MORE OR LESS LIKE THE PREVIOUS SESSION.
13 THERE WILL BE PRESENTATIONS AND THEN QUESTIONS
14 AFTERWARDS, THE SAME ROUTINE AS WE HAVE BEEN USING
15 THROUGHOUT THE CONFERENCE.

16 I WOULD LIKE, THEREFORE, TO INTRODUCE MY
17 COLLEAGUE, DICK FEELY, WHO IS SITTING TO MY RIGHT. I
18 HAVE KNOWN DICK FOR MOST OF HIS CAREER, AND THAT
19 CAREER HAS BEEN DEDICATED TO UNDERSTANDING THE CARBON
20 SYSTEM IN THE WORLD OCEANS, AND MOST RECENTLY HAS HAD
21 AN ENORMOUS IMPACT THROUGH THE OBSERVATION, THE
22 PREDICTABLE OBSERVATION, I MIGHT SAY, THAT THE UPTAKE
23 OF ATMOSPHERIC CO2 HAS CAUSED THE OCEAN TO BE
24 ACIDIFIED, AND THAT HAS LONG AND DIRE CONSEQUENCES
25 FOR THE OCEANS.

0384

1 DICK IS AT THE PACIFIC MARINE ENVIRONMENTAL
2 LABORATORY, NOAA, AND AN AFFILIATE OF THE UNIVERSITY
3 OF WASHINGTON.

4 DICK FEELY.

5 [Feely's presentation removed from this file.]

(APPLAUSE)

6 [Doney's presentation removed from this file.]

(APPLAUSE)

11 DR. WEISS: THE FINAL SPEAKER IN THIS
12 MORNING'S SESSION IS VICKI FABRY, FROM CAL STATE,
13 SAN MARCOS, WHO WILL TALK ABOUT BIOLOGICAL
14 IMPLICATIONS IN THE OCEANS.

15 (APPLAUSE)

[Fabry's presentation removed from this file.]

11 DR. WEISS: THANK YOU, VICKI, AND THANKS TO
12 THE OTHER PANELISTS, AS WELL, FOR KEEPING WITHIN THE
13 TIME SCHEDULE, WHICH MEANS THAT WE HAVE 10 OR 15
14 MINUTES FOR QUESTIONS.

15 WELL, I HADN'T PREPARED ONE OF MY OWN. SO
16 SURELY THERE ARE PEOPLE WHO ARE NOT SO HUNGRY --

17 THERE COMES JIM BUTLER.

[Q&A from ocean impacts presentations removed from this file.]

18 (APPLAUSE)

16 AS THE WEATHER SEEMS TO HAVE IMPROVED, WE
17 ARE HAVING LUNCH IN THE BLUE CRYSTAL AREA, I BELIEVE
18 IT'S CALLED, WHERE WE HAD LUNCH YESTERDAY; AND WE
19 WILL RECONVENE HERE AT 1:30.

20 THANK YOU.

21 (BREAK)

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0445

1 SESSION 7

2 THE PALEOCENE-EOCENE THERMAL MAXIMUM:

3 AN ANALOG FOR THE FUTURE?

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5 DR. WEISS: I THINK IT IS TIME FOR US TO
6 GET STARTED. I WOULD LIKE TO WELCOME YOU TO THE
7 BEGINNING OF THE AFTERNOON SESSION.

8 IN A NUMBER OF THE PREVIOUS PRESENTATIONS,
9 BOTH TODAY AND YESTERDAY, YOU'VE SEEN EMPHASIS PLACED
10 ON THE PALEO RECORD AND THE CORRELATIONS THAT ARE
11 SEEN IN THE PALEO RECORD BETWEEN TEMPERATURE AND
12 CARBON DIOXIDE AND A NUMBER OF OTHER CLIMATE
13 SURROGATES.

14 THE SESSION CONTINUES THIS AFTERNOON, THEN,
15 MOVING A LITTLE FURTHER INTO THE PAST WITH A
16 PRESENTATION BY JIM ZACHOS FROM THE UNIVERSITY OF
17 CALIFORNIA, SANTA CRUZ, WHO IS GOING TO TALK ABOUT
18 THE PALEOCENE-EOCENE THERMAL MAXIMUM AS AN ANALOG FOR
19 THE FUTURE.

20 JIM TELLS ME HE'S CHANGED HIS TITLE, BUT
21 THAT'S FOR YOU TO SEE WHEN YOU SEE HIS FIRST SLIDE.

22 SO PLEASE WELCOME JIM ZACHOS.

23 (APPLAUSE)

24 [Zachos' presentation removed from this file.]

(APPLAUSE)

5 DR. WEISS: THANK YOU, JIM. THE SCHEDULE
6 SHOWS YOU SPEAKING FOR 45 MINUTES AND ONLY 45 MINUTES
7 FOR THIS SESSION, BUT I THINK THAT'S A LITTLE UNFAIR,
8 SO IF ANYBODY HAS A SHORT QUESTION RATHER THAN A
9 SPEECH OR A COUPLE OF SHORT QUESTIONS, I THINK THAT
10 WOULD BE IN ORDER.

11 NO QUESTIONS.

12 THANK YOU VERY MUCH.

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0476

1 SESSION 8
2 PANEL DISCUSSION:
3 ECOSYSTEM IMPACTS, FEEDBACKS AND HUMAN ADAPTATION
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5 DR. WEISS: OKAY. YOU'RE ABOUT TO SEE A
6 MASSIVE CHANGE IN THE POPULATION OF THE DAIS UP HERE
7 BECAUSE THERE IS A PANEL TO BE SET UP. SO IF YOU
8 WILL GIVE US JUST A COUPLE OF MINUTES FOR THE
9 APPROPRIATE FURNITURE MOVING AND PEOPLE MOVING, WE
10 WILL BE WITH YOU, BUT PLEASE STAY THERE.

11 THE PANELISTS ARE FROM THE TWO SESSIONS
12 THIS MORNING, PLUS ED MILES, WHO HAS ORGANIZED THE
13 PANEL. HE WILL SPEAK A LITTLE BIT ABOUT HOW HE WANTS
14 TO ORGANIZE THIS PANEL.

15 I SHOULD INTRODUCE ED BEFORE HE DOES THAT.
16 I HADN'T MET HIM BEFORE THIS MEETING. THIS GENTLEMAN
17 IS A RENAISSANCE MAN BECAUSE HE LIVES BETWEEN THE
18 WORLD OF MARINE SCIENCE AND THE WORLD OF POLICY AT
19 THE UNIVERSITY OF WASHINGTON. YOU CAN READ ABOUT HIM
20 IN THE BROCHURE THAT WE HAVE ALL GOTTEN. AND SO HE
21 HAS COORDINATED THE SPEAKERS WHO HAVE SPOKEN THIS
22 MORNING INTO AN EFFORT TO TRY TO SEE WHERE WE GO FROM
23 HERE ON THESE ISSUES.

24 THANK YOU VERY MUCH.

[Panel discussion chaired by Miles removed from this file.]

25 DR. WEISS: THIS IS VERY CONVENIENT BECAUSE
2 WE'RE SUPPOSED TO BE DONE ABOUT NOW, AND I THANK YOU
3 FOR ALL PARTICIPATING IN THIS PROCESS. I WOULD
4 PARTICULARLY LIKE YOU TO THANK THE MEMBERS OF THE
5 PANEL.

6 (APPLAUSE)

7 I'D LIKE TO MAKE ONE OBSERVATION IN RESPONSE TO
8 BERNARD'S QUESTION, AND THAT IS THAT EDUCATION PLAYS
9 A KEY ROLE. SCIENTISTS ARE IN A DIFFICULT
10 POSITION BECAUSE THEY NEED TO MAINTAIN THEIR
11 CREDIBILITY WITH THE PUBLIC AND WITH THEIR
12 COLLEAGUES. AND ONE OF THE THINGS THAT HAPPENS IS
13 THAT PEOPLE WHO TRY TO BRIDGE THAT GAP GET CRITICIZED
14 ON BOTH SIDES, IF THEY OVERSIMPLIFY AND DO THINGS OF
15 THAT SORT. THIS IS WHY AL GORE WAS ABLE TO BE SO
16 POWERFUL.

17 SO I THANK YOU ALL FOR BEING HERE; AND
18 PLEASE COME BACK IN 1 HOUR, A LITTLE BIT LESS THAN AN
19 HOUR, AT 4:30, TO LISTEN TO SUSAN SOLOMON.

20 THANK YOU.

21 AND PLEASE SPEND SOME TIME LOOKING AT THE
22 POSTERS.

23 (BREAK)

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0526

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SESSION 9

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A CLIMATE SUCCESS STORY - REVERSING OZONE DEPLETION

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DR. WEISS: I'M NOT QUITE SURE WHAT TO SAY ABOUT SUSAN BECAUSE I'VE KNOWN SUSAN FOR MANY YEARS, AND I THINK SHE COMES AS CLOSE AS ANYONE IN THIS ROOM TO BEING SOMEONE WHO NEEDS NO INTRODUCTION IN FRONT OF THIS AUDIENCE.

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SUSAN SOLOMON HAS PLAYED A MAJOR ROLE IN A LOT OF IMPORTANT THINGS THAT HAVE BEEN HAPPENING IN ATMOSPHERIC CHEMISTRY. ON TOP OF ALL THAT, SHE TOOK ON THE CO-CHAIRMANSHIP OF WORKING GROUP I OF THE IPCC, AND HAS BECOME A FRACTIONAL NOBEL LAUREATE AS A RESULT OF THAT, AND HAS PROBABLY AGED MORE THAN THE CHRONOLOGICAL-AGE CHANGE REQUIRED TO DO THE WORK.

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SO I WOULD LIKE YOU ALL TO WELCOME SUSAN SOLOMON, WHO WILL TALK ABOUT THE RECENT SUCCESS IN DEALING WITH ATMOSPHERIC OZONE.

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(APPLAUSE)

[Solomon's presentation removed from this file.]

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(APPLAUSE)

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DR. WEISS: THANK YOU, SUSAN, FOR A VERY COMPREHENSIVE LECTURE. WE APPRECIATE IT.

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I THINK WE HAVE SOME TIME FOR QUESTIONS EVEN THOUGH -- LET'S SAY WE HAVE ABOUT 10 MINUTES BECAUSE I WOULDN'T WANT TO CUT THIS SHORTER THAN NECESSARY.

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I WOULD LIKE TO TELL YOU IMMEDIATELY I HAVE AN ANNOUNCEMENT TO MAKE BEFORE WE GO TO THE

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QUESTIONS; AND THAT IS, THAT BECAUSE OF THE RISK OF INCLEMENT WEATHER LATER IN THE EVENING, THE LUAU HAS BEEN MOVED UP BY HALF AN HOUR. SO IT BEGINS AT 6:30.

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IT'S, I BELIEVE, TO THE NORTH OF THE RAMP THAT LEADS UP TO THE HOTEL, IS THAT CORRECT, IN THE LAWN AREA

3

OVER THERE. SO PLEASE KEEP THAT IN MIND.

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NOW, I WOULD LIKE TO GO TO QUESTIONS FOR

6

ABOUT 10 MINUTES.

[Q&A for Solomon's presentation removed from this file.]

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DR. WEISS: THANK YOU, SUSAN.

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LET'S GIVE HER ANOTHER HAND.

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(APPLAUSE)

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