

Interview with Dr. Richard E. Hallgren¹ at the AMS Washington Office, Washington D.C.

Interviewer: Doria B. Grimes, Senior Analyst, Riverside Technology, Inc.

R. Hallgren: The first story that I want to tell you is that Dave would have died in 1967 had it not been for me. We were in Stockholm, Sweden, for the GARP² conference at Skepparholmen. It was on the weekend, and it was that night that they were going to change the direction of traffic in Sweden. We were out on an afternoon visit in the city and Dave just naturally looked the wrong direction at the intersection, and was literally going forward. I don't know whether it was the adrenalin or what, but I grabbed his arm and yanked him back just as a car went past. There was no way he would have stopped if I had not done that. So I saved his life, and we laughed about that a lot over time.

The first time I met Dave, I was at IBM and we were proposing a research study on the feasibility of a satellite sferics sensor. Stan Soules³ was the principal contact at that time, and Dave was Chief of the Meteorological Satellite Laboratory. It was either late 61 or early 62. That was when I got the first impression of Dave, because this research project was not a high probability of success as to whether there was enough signal strength at satellite levels to be able to detect lightning through the ionosphere, and so forth. But Dave found it fascinating, and was willing to support it. If I remember right, we got about ¼ million dollars to do it, and that was not peanuts in the early 60's. That started the relationship with him.

What I always found about Dave, speaking very generally, was that his main goal was to go forward including the innovation, but still being pragmatic enough to make sure we were doing it right, and that it was practical, especially if it was going to be a continuing operation. He was willing to engage in any discussion and argue. In fact, I think what brought us together more than anything else is that we liked to argue. And we would argue with each other, even sometimes when we were in agreement. We were always looking one grain finer, one level deeper. He was just remarkable that way. He was very knowledgeable, both scientifically and technically. He was extraordinarily organized in my opinion. He was very people oriented, and believed that people make the world go round. Organizations don't do anything. And I still believe that.

I came into the government on a leave of absence from IBM in late 1964, and started working on World Weather Watch and a predecessor to GARP. I came in as Science Advisor to Assistant

¹ Dr. Richard E. Hallgren held a number of positions in the Dept. of Commerce, ESSA, and NOAA in the early 60's and 70's. He was Director and Assistant Administrator for Weather Services from 1979-1988.

² Global Atmospheric Research Programme

³ Stanley D. Soules, National Weather Satellite Center, U.S. Weather Bureau. Conference on Sferics Measurements From Satellites, Washington, D.C.: U.S. Dept. of Commerce, Weather Bureau, 1962. Series: *Meteorological Satellite Laboratory report*; no. 13. <http://docs.lib.noaa.gov/rescue/TIROS/QC8795U45no13.pdf>

Secretary J. Herbert Holloman⁴, they had formed a committee across government (Commerce, NASA, DoD, FAA, State Dept.etc.), and I was this young person from industry with no government experience. World Weather Watch was already in WMO. The global program for research was taking shape, but the name GARP did not exist that this moment. And in both of these discussions, satellites were an absolutely key element. And Dave and I started communicating extensively on their roles in the programs.

At that time, Dave didn't go frequently to WMO. He went to more of the space committees internationally. I went to WMO with White⁵. We were drawing up the World Weather Watch plan at WMO. I was writing the plan at night, and then negotiating during the day. Most countries didn't want satellites to be so predominant in the World Weather Watch plan. So we had a lot of trouble with that. And over in the space committees, Dave was having trouble because they only wanted to talk about satellites. Dave and I were trying to figure out how to bring these together with some compromise, so that the World Weather Watch plan had satellites in it and the other recognized it. And I think that's when we bonded more than any other period. We were in Stockholm, Skepparholmen, in 67. That was when GARP really came together during that two week meeting.

Then, of course, we were selling it here. Dave now was Director of the National Environmental Satellite Center, a part of ESSA.

D. Grimes: According to Dr. Joe Friday, in about 1995-96, Dave felt that he was not as sharp as he used to be, and knew enough to notice it. When Dr. Friday was unable to go with him to China at that time, Dave went alone, and this was one of his last foreign trips in which he enjoyed himself.

R. Hallgren: None of us are as sharp as we were earlier. That would be typical of Dave. Dave would put a very high standard. He probably was actually slipping earlier than 1995-1996 by his standards. By our standards, he was in great shape. He was extraordinarily organized.

We had really good conversations, and we talked a lot about all the things that happened along the way in the late 1990's and early in the 21st century. I would try to call him either once a week or once every two weeks until, finally, in the last year or so we could not have a conversation. He was gone.

Jumping back into the late 60's and early 70's, both on World Weather Watch and GARP, it was how to get satellites in a proper perspective with all the other observational systems. Dave and I were always scheming, trying to get around the problems, both nationally and internationally. Satellites were still in a very early phase. I remember discussing extensively the satellite for the GATE⁶ program which took place in 1974, because we had to have the satellite observations, and Dave played a very key role in making sure that happened.

⁴ John Herbert Hollomon, Jr. served as the first Assistant Secretary for Science and Technology, U.S. Department of Commerce from 1962 until 1967. http://orsted.nap.edu/openbook.php?record_id=1966&page=122

⁵ Dr. Robert M. White was the only Director of the Environmental Science Services Administration (ESSA) from 1965 until 1970, and the first NOAA Administrator from December 1971 to July 1977.

⁶ GATE – GARP Atlantic Tropical Experiment

In the early 70's when I went to the Weather Service for the first time, Dave and I would talk and talk. We would have all kinds of conversations about GARP and World Weather Watch. But we were looking at the geostationary satellites and the new possibilities. Both of us started talking about mesoscale meteorology, and talking about improved warning systems. I was pushing things like AFOS⁷, more radars, automated surface observation, NOAA Weather Radio, and new computers for the NMC⁸. And the satellites were coming along. Some of the best conversations I had at that time were with Dave as we envisioned how this could all emerge. Those were the foundation conversations for the modernization of the Weather Service.

I should mention the "troika". I was at the Weather Service. Dave was at Satellites, and Bill Hess⁹ was at Research. We were always getting together -- one place or another -- the three of us. That was the beginning of PROFS¹⁰. We were bringing the three organizations together at our level. He was always enthusiastic about trying to find a way. That was in 73, 74, 75 running out until the time he left in 1982.

R. Hallgren: The satellites were much earlier. The first satellite was flown in 1960. Dave was in charge of the Meteorological Satellite Laboratory when it was in the Weather Bureau.

Then ESSA was formed. Everyone is forgetting ESSA. Bob White was organizing ESSA in the mid 60's out of the Weather Bureau, Coast and Geodetic Survey and Central Radio Propagation Lab. The National Weather Service, The Environmental Data and Information Service, the Environmental Research Laboratories., and the National Ocean Survey came about in 1966.

That's what I have been joking with people about. If Tony¹¹ hadn't abolished EDIS, and then created NESDIS -- if he had kept them separate -- they wouldn't have to do a Climate Service. It would have been there.

That was in 85 and Dave was already gone. We started the modernization in about 75 or 76. I say it was *modernization ten* because there was a modernization that was sweeping from 1973 to 1979. That's when we expanded the NOAA Weather Radio, when we put in all of the extra inter-radars. We put in a new computer in headquarters. We had the first automatic stations. What we did not do at that time was re-structure the field. The process to come up with a new field structure was led by Bill Bonner¹² in the 1979-1980 timeframe.

The issues in the Weather Service were, one time overselling the numerical weather predictions too early. The other time was selling the satellites too early until they matured enough, and the people in the field were as right as the people at headquarters. The headquarters people, including myself, were too out far in front, and the field people were trying to do the job.

D. Grimes: You took a number of trips with Dave?

⁷ AFOS – Automation of Field Operations and Services

⁸ National Meteorological Center

⁹ Dr. Wilmot "Bill" Hess served as director of NOAA's Environmental Research Laboratories in Boulder.

¹⁰ Program for Regional Observing and Forecasting Services

¹¹ Anthony (Tony) J. Calio, Administrator of NOAA, October 1985 – September 1987.

¹² William D. Bonner

R. Hallgren: Yes, and to Boulder a lot too because Bill Hess was there. More than the trips, we talked all the time, frequently by phone, or if we were at the meeting we would drift off for a half an hour.

What I wanted to emphasize is the three of us working together - Bill Hess, Dave and myself. We would make a lot of things happen because we were in full communication, determined to coordinate and make progress. Dave, it could be argued, was extraordinarily difficult or extraordinarily easy, because Dave wanted to do things right. We were on the right track. Then we had to argue how to best do them and what was the most important thing. He was absolutely always looking ahead. He was always looking to march forward, and that was his enormous strength.

D. Grimes: There is an interview from October 1978 in the NOAA ¹³ newsletter in which Dave Johnson predicted receiving weather information in real time. He said, "I can visualize [that] each of us will be able to carry on our wrist a radio receiver to get weather warnings all of the time. When we go home, or to our office, we will be able to punch a button on the TV set and see the latest satellite pictures with the clouds and the storms in motion." That was in 1978 -- way before the internet! He was thinking ahead.

R. Hallgren: He balanced beautifully between being head of satellites and selling satellites. And he was interested in all aspects. He still saw the value of the radars. He still saw the value of the surface stations. He didn't have the formal titles in the international world, but he had the reputation in the international world. When we were working on GATE, he was absolutely essential because we were getting the satellite and the information into that program which was very tricky at that time. And then on to the first GARP global experiment, he played a big role in that because satellites became even more important in a variety of ways at that stage – both the polar and geostationary satellites.

Then he was the Space Applications staff person when he was at the National Academy of Sciences along with the Modernization Committee. I remember when I retired, he asked me to join that committee, so we continued our conversations. That was in 88, 89, 90 timeframe, and I was at AMS. Dave and I were in communication on a wide range of things. Everyone thinks of him as a satellite person. He was much broader. He actually understood weather services – especially the warning system. He understood it. He also understood "service". So many people think the weather forecast is what we're doing. No. What we are doing is weather service. Only one component is the weather forecast. It's how you deliver it. How timely it is. How well the people are ready to receive it and make use of it. It's that collection that constitutes service, and Dave was one who understood that fully.

Whenever he put a satellite group together to analyze and so forth, he always chose people that understood it in a broader sense.

D. Grimes: So when you worked with Dave at the Academy after his retirement, can you expand on that?

¹³ [Johnson, David S. NOAA Satellites: Working For You, A broadcast interview with David S. Johnson, Director of the National Environmental Satellite Service.](#) Rockville, MD: NOAA, vol. 8, no. 4, October 1978, pp. 50-51.

R. Hallgren: I was a member of the committee, and he was a paid staff member. The members of the committees are volunteers. Of course, you are selected. You just don't volunteer.

D. Grimes: His resumé also lists working for Damar Associates after his retirement.

R. Hallgren: I think it was just a fill in, and he probably did some of the consulting work at that time under that title. I don't know if it was his company.

Did you see his more extensive resumé? That's where he was so organized.

D. Grimes: He had a brief resumé and an extensive resumé which are online. His first resumé which is not online lists the date he was married in to Betty. I am going to add that and his marriage to Peg to his timeline.

R. Hallgren: There is another grouping with a lot of ties --Gordon Cartwright¹⁴, myself, and Dave. We were always talking about international stuff together. Gordon and Dave were sailors. They were always together every chance they had.

D. Grimes: In Dave's papers, he wrote up an extensive biography of Gordon Cartwright in 1982 to nominate him as a potential fellow of the AMS.

D. Grimes: Were you one of the wine connoisseurs?

R. Hallgren: No. I was not part of the wine tasting group. Dave was really an expert on wine. He was very, very big on it. He always ordered the wine when we were someplace.

D. Grimes: Did you sail with him?

R. Hallgren: No. It was strictly professional.

His trip to China in 1983 was arranged between Zou Jingmeng¹⁵ and myself. He liked Dave a lot. He hinted to me to get Dave to come over and give some advice, if I remember right.

D. Grimes: I was told that Dave was always a gentleman, and that he never spoke ill of anyone.

R. Hallgren: Not in a negative way, but he would evaluate people. It was not related to position but related to whatever expertise was needed.

I think Dave got along fairly well with Dick Frank¹⁶.

¹⁴ Gordon David Cartwright served as a meteorologist for the U.S. Weather Bureau and later the U.S. Weather Service for 46 years. He spent 1965 to 1975 in Geneva as liaison to the World Meteorological Organization. He passed away on January 1, 2007 at 97 years of age.
<http://www.washingtonpost.com/wp-dyn/content/article/2007/01/18/AR2007011801907.html>

¹⁵ Zou Jingmeng was Administrator, State Meteorological Administration, Beijing, People's Republic of China.

¹⁶ Dr. Richard A. Frank was the NOAA Administrator from July 1977 to January 1981.

We bonded so much---just an extraordinary person. He was a bridge in so many ways between the more traditional meteorology internationally and the era of satellites and technology. He was a bridge because he had creditability in both. Gordon Cartwright was in that area too. And they were such good friends and that helped a lot.

He was enormous value on World Weather Watch and GARP when I started working in the government. In the first position at NOAA, I was Director of Office of World Weather Systems and then Assistant Administrator for Environmental Systems. In all international programs, except BOMEX, Dave was running the satellites at the time.

In 1982 when he retired, it was in the Reagan Administration and all of us were struggling at that time.