

Summer of the 'Spouts: Analysis of Waterspout Development along the Southern New England Coast during the Summer of 2008

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The summer of 2008 proved to be a very busy one for the National Weather Service (NWS) office in Taunton, Massachusetts. From the months of June through September of 2008, a total of 451 severe weather events were reported across the NWS Taunton County Warning Area. Included in these statistics was one tornado, which started as a waterspout off Rumstick Point on Barrington Bay, Rhode Island, then moved ashore into Warren, Rhode Island and nearby Swansea, Massachusetts.

Waterspouts are an interesting weather phenomena, and not uncommon along coastal locations around the world. On the United States coastlines, they have been reported from the state of Washington to San Diego, California, from Maine to Florida, and along the Gulf of Mexico. Waterspouts have also been spotted on all five of the Great Lakes and on the Great Salt Lake in Utah. The "waterspout alley" of the United States is considered to be off the Florida coast. Near the Florida Keys, atmospheric conditions are nearly ideal for waterspout development. Dr. Joseph Golden spearheaded research during the 1960s and '70s and has written extensively about the mesoscale and synoptic processes necessary for waterspout formation.

This presentation will briefly discuss the types and life cycle of waterspouts. The surface and upper level diagnostic processes used during the summer of 2008 at the NWS Taunton office, which was an extraordinary severe weather season for the region, will then be shown. To assist NWS Taunton forecasters with the diagnosis of possible tornadic development, a "tornado playbook" was developed, based on research by NWS Taunton forecasters and student interns. The use of this playbook greatly assisted forecasters during the 2008 severe weather season, most notably on July 23 when the tornadic waterspout developed. Synoptic and upper air analyses of the four near-shore waterspouts that occurred will also be presented.

PRESENTER'S BIO

Eleanor Vallier-Talbot has been a meteorologist with the National Weather Service since 1985. She previously worked at NWS Taunton from 1993-98, then returned in August 2001 after a stint as a Senior Forecaster in Charleston, South Carolina. She has also worked at NWS offices in Portland, Maine and Providence, Rhode Island. Prior to her NWS career, she worked as weekend observer at the Blue Hill Observatory.

Eleanor has served as Outreach Program Leader at NWS Taunton since her first work assignment in 1993. She has visited numerous schools, scout troops, civic and philanthropic organizations, as well as presenting at educational and meteorological conferences. For her work with the AMS' DataStreme Atmosphere Project, she became a Weather Education Resource "Teacher." Eleanor is also a published author with her chapter in *"Weather: The Nature Company Guides,"* republished by Fog City Press under the title *"A Guide to Weather."*

Eleanor has taken the lead as Satellite Program Leader for the office, serves as EEO Program Leader, and assists with SKYWARN spotter training and marine weather programs. She also serves as Co-Chair of the National Weather Association Education Committee.

Eleanor attended the University of Lowell (now the University of Massachusetts at Lowell) for two years before transferring to Lyndon State College, where she received her Bachelor of Science degree in meteorology in 1982. She resides in Taunton with her husband Dean.