UAA College of Engineering
UNIVERSITY of ALASKA ANCHORAGE

UAA Professional Development Seminar Series

Tides, Vertical Datums and Transformations for Coastal Engineering Applications

Presented by: Nathan Wardwell,
Managing Partner, JOA Surveys, LLC

ABSTRACT: For approximately the past decade the National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service (NOS) has been collecting tidal and Global Navigation Satellite System (GNSS) data throughout the continental United States specifically for their Vertical Datum Transformation Program. This program is also known as VDatum. The objective of this program is to develop a nationwide model capable of transforming between tidal, orthometric and ellipsoidal datums. The coastal applications of this tool range from enabling a surveyor to access a tidal elevation using GNSS observations to transforming bathymetric and topographic data to a seamless vertical datum for storm surge modeling and inundation analysis. In 2019 coverage of the VDatum model was expanded to Southeast Alaska. This seminar will provide an overview of the existing network of stations providing the geodetic infrastructure for our state's coast, how that goes into the development of VDatum and the exciting benefits of the draft Alaska Coastal Mapping Strategy Implementation Plan 2020-2030 that was released for public comment in November of 2021.

BIO: Mr. Nathan Wardwell is Managing Partner of JOA Surveys LLC, a small business located in Anchorage, AK that specializes in measuring water levels for tidal datum determinations. He began his career as an intern for the U.S. Geological Survey measuring stream discharge and sediment transport around Alaska's Cook Inlet. In 2004 he received a Bachelors of Science in Environmental Science from Alaska Pacific University. He then received a Master's of Science from the University of New

Hampshire's Center for Coastal and Ocean Mapping in 2008. He served as chair of the University of Alaska Anchorage Geomatics Advisory Board from 2016 to 2018 and is currently a member of the Alaska Water Level Water Steering Committee. Recently Nathan was tentatively approved for appointment to the National Oceanic and Atmospheric Administrations' Hydrographic Services Review Panel Federal Advisory Committee.

Friday, March 4, 2022
11:45 am - 12:45 pm
Online Via YouTube Live