A year on since adopting ArcGIS ...

... what benefits have we realised?
Improved web maps

Maps for staff:
- Archaeology (SAS)
- Biosecurity (ICM)
- CMO Assets (ICM)
- Community Biodiversity Projects
- Contours
- Dam Register (RUD)
- Drainage Assets (ICM)
- Find It
- Flood Hazards (ICM)
- Healthy Rivers/Wai Ora
- Lake Taupo (RUD)
- Land Resource Inventory (SAS)
- Marine Farms (RUD)
- Monitoring (RUD)
- Monitoring (SAS)
- Moonage (RUD)
- OSH Call In
- Oblique Photos (ICM)
- River Assets (ICM)
- SULS (SAS)
- Soil Risk for FDE (RUD)
- Tairawhina Watershed
- The SNA, Terrestrial Biodiversity
- Water Allocation (RUD)

Maps and tools for the public:

WAIKATO MAPS: Use our suite of user-friendly, dynamic maps that give fast public access to a range of Waikato regional information.

https://www.waikatoregion.govt.nz/services/maps/
Improved web maps

Groundwater
Groundwater map shows the location and number of groundwater wells in the Waikato region and related lithology information of each well.

https://www.waikatoregion.govt.nz/services/maps/

Variation 5 Taupo
Lake Taupo catchment boundary and near shore zone boundary as used for the Waikato Regional Plan Variation 5 – Lake Taupo Catchment.

Vegetation Biodiversity
A range of biodiversity information including land cover, biodiversity vegetation, bioclimatic zones, soil group classification and soil drainage.

Water Classification
This map displays river boundary areas in the coastal regions and the classification of water bodies as set by the Waikato Regional Plan.
Mobile technology

- Survey123 & ArcCollector
- User-driven data capture forms
- User can provide draft design via Excel
- Uses common base layers
- Sync AGOL data as required
- Easily deployable – smart phones
Mobile technology

Combining Collector & Survey123 in one app
Biodiversity Community Group Survey
- Capture planting area in Collector ...
- Automatically populates that field in Survey123 with that activity!
- Continue point and attribute capture in S123

Some applications

- Alligator Weed Survey
- Bio-Security Property Identification
- Biodiversity Community Group Survey
- Bus Stop Identification Survey
- Catchment Condition Survey
- Coastal Structures Survey
- Evergreen Buckthorn Weed Survey
- Farm Environment Plan Survey
- Navigation Aides and Signage Survey
- Riparian Weed Survey
- Taupo Wave Extent Survey
- Scallop and Fishing Hotspot Survey
Network analysis for route optimisation

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Shortest length/smallest variation
Middle length/variation
Longest length/biggest variation

Waikato River Monitoring Programme

Regional River Monitoring Programme
Network analysis for public transport

Tracking levels of service targets as set out in the RLTP.

Identifying properties that qualify for the targeted PT rate.
Network analysis combined with temporal analysis

- Identifying areas in the PT network with consistently low or no service.
- Temporal analysis (10min time periods across 24/7.)
3D mapping using ArcPro

- Drone captures elevation data and images.
- Build DEM and drape image over.

Terrain mapping of catchments.
Automation using python scripting

- Automation of loading feature classes in .GDB into Oracle.
- Running the post load processing of views and tables.
Automation using python scripting

Data supply: extraction of LiDAR derived contours or 5m contours clipped to a property boundary or area of interest.
Automation using python scripting

Generation of random point transects for possum monitoring and extracting property details.
Automation using python scripting

- Processing of multiple .GPX files.
- Convert waypoints and tracklogs and plot data.
- Option to split tracks out a gap parameter (time or distance).
Summary of benefits

- Better support & professional services
- Better GIS workflows for users
- Far greater online resources
- Improved raster analysis
- Easier to recruit – bigger pool of ESRI-trained users
- More tools > greater capacity
- Python > automation > efficiency gains
- Web services & AGOL
- Easier data access > more data sharing, more automated
- Formation of NZGIS4EM + CDEM tools
- Route optimization
- 3D, 4D analysis
- Web apps & mobile integration
- Easier software admin
- Story maps
- Better cartographic tools
- Better web maps > more web map requests
- Increased organizational uptake of GIS
- More timely data through increased use of web services
- Increased productivity
- Reduced costs and lag time to bring new staff up to speed
What next?

- ArcGIS Open Data
- More web maps & web services – self serve
  e.g. HAIL map & data service
- Insights / MS Power BI
- More: story maps, mobile apps, 3D utilisation
- More: python automation, library of tools
- ArcGIS Image Server
- Cloud services
- Healthy Rivers Wai Ora (HRWO) project
- Better integration – IRIS, LAWA, RCs & TAs, portals …
- Develop CDEM tools, gec-locator, dashboards …
- Operational dashboards across Council business
- Open maps from other apps
  – zoom to business data inside a web map
- e-Plans – GIS as integral part of Council planning tools

- Go fishing …!